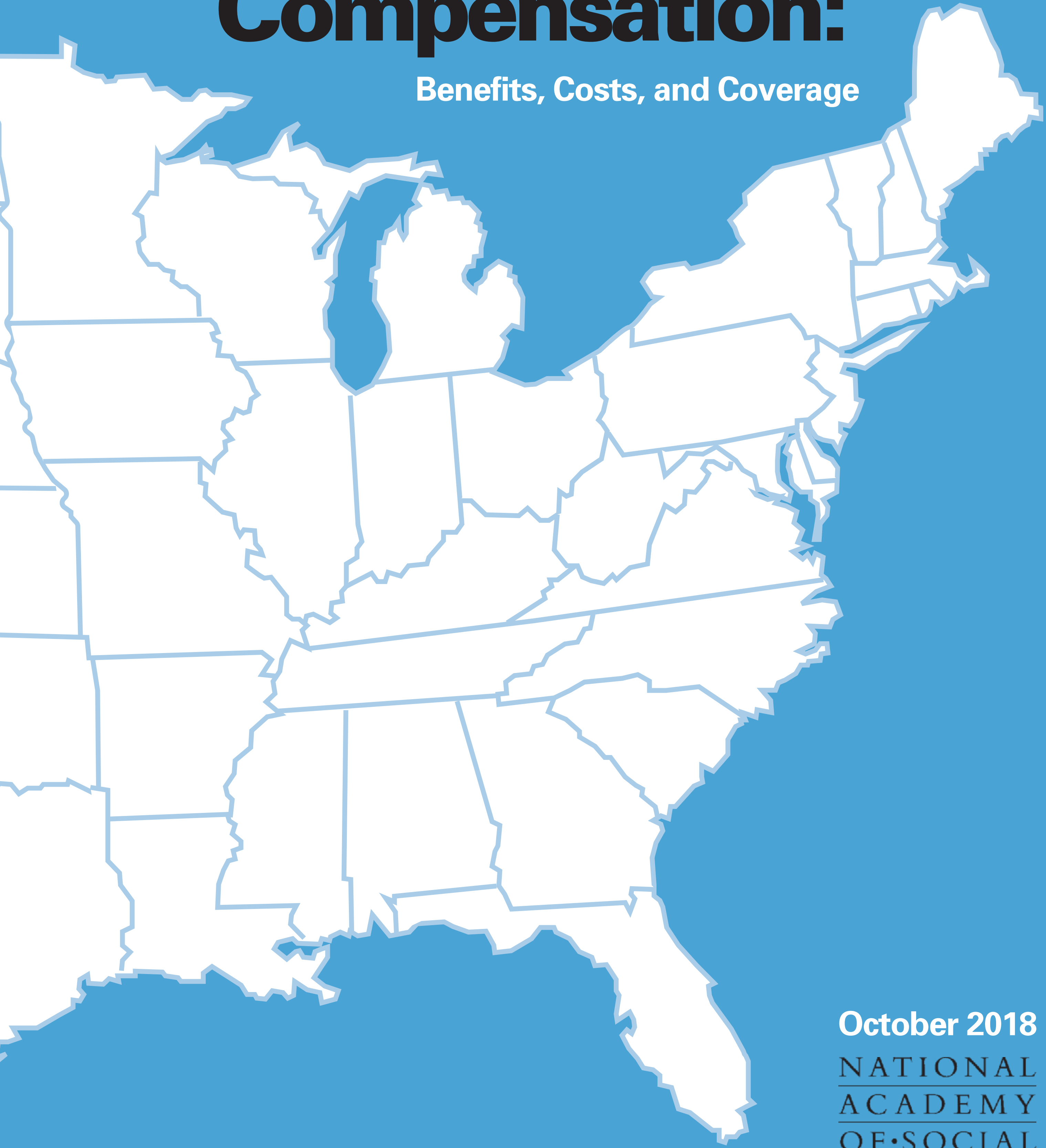
Workers' Compensation:

Benefits, Costs, and Coverage



October 2018

NATIONAL ACADEMY OF•SOCIAL INSURANCE

Washington, DC

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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 2016. 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 Social Security Administration provides partial funding to support the collection, processing, and validation of data for this report. The data are also used in tables for its *Annual Statistical Supplement to the Social Security Bulletin*. The Centers for Medicare & Medicaid Services 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 Office of Workers' Compensation Programs in the U.S. Department of Labor and in-kind support from the National Council on Compensation Insurance and the National Association of Insurance Commissioners.

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Benefits, Costs, and Coverage (2016 data)

by

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with advice from the

Study Panel on Workers' Compensation Data

October 2018

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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. Unlike most other U.S. social insurance programs, workers' compensation programs are regulated by the states, with no federal financing. The programs were established by state statute or within state constitutions beginning in 1911, before most federal social insurance programs were enacted. The federal government provides workers' compensation insurance for federal employees and for workers in some high-risk industries, but no federal laws set standards for workers' compensation programs or require comprehensive reporting of workers' compensation data.

The lack of 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 21st annual report on workers' compensation benefits, costs, and coverage. This report presents new data on state and federal workers' compensation programs for 2016 and updated estimates for 2012-2015. 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 may not capture the full economic and human costs of work-related injuries, illnesses, and fatalities. These costs – borne by workers, families, and communities – are significant but are 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, 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 Academy also acknowledges support from the U.S. Social Security Administration (SSA), Centers for Medicare & Medicaid Services (CMS), and the Office of Workers' Compensation Programs of the U.S. Department of Labor (DOL).

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: Terry Bogyo, John F. Burton Jr., Jeff Eddinger, Doug Holmes, Mike Manley, Nicole Nestoriak, and Frank Neuhauser. We also thank Elliot Schreur (Academy), Griffin Murphy, the Academy's workers' compensation summer intern, and Amy Zhou, for their research assistance. Finally, we appreciate comments from Michael Duff (University of Wyoming), Michael Dworsky (RAND Corporation), and Scott Syzmendera who reviewed a final draft for the Board.

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Table of Contents

Tables

Figures

Additional Appendices On-line

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*
- 2012 to 2016 trends in benefits paid by second injury funds, special funds, and guaranty funds
- State summary tables that report key metrics from 2012 to 2016

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 to facilitate policymaking that improves the system for both injured workers and employers. This report provides new data for 2016, with comparison data for the five-year period 2012-2016.

National Trends (Table 1)

- **Covered employment and wages continued to rise at a steady pace**
  - More than 138 million U.S. jobs were covered by workers' compensation in 2016, representing a 7.9 percent increase across the five years reported in the study (2012-2016).
  - Covered payroll was estimated to be $7.4 trillion, a 17.3 percent increase across the five-year period.

- **Benefits paid to injured workers and their health care providers declined by a small percentage**
  - In 2016, workers' compensation total benefits paid were $61.9 billion, a decrease of 1.1 percent from 2012.
    - — Medical benefits decreased 0.5 percent over the five-year period.
    - — Cash benefits decreased 1.8 percent.
  - Adjusting for the increase in coverage, total benefits were $0.83 per $100 of covered payroll in 2016, a decrease of $0.16 since 2012. (Figures 1 & 2)
    - — Medical benefits declined by $0.07 from 2012.
    - — Cash benefits declined by $0.09.

- **Employer costs increased in total, but decreased as a percentage of covered payroll**
  - In 2016, employers' costs for workers' compensation were $96.5 billion, a 14.0 percent increase from 2012.
  - Adjusting for the increase in coverage, employers' costs were $1.30 per $100 of covered payroll in 2016, down $0.04 from 2012. (Figure 1)

State Trends

- **Workers' compensation covered employment and wages increased in almost every state between 2012 and 2016**
  - Covered jobs increased in all jurisdictions except West Virginia, Wyoming, and the federal system. The largest percentage increase occurred in Utah (14.6%). (Table 3)
  - Covered payroll increased in all jurisdictions except Wyoming. The largest percentage increase occurred in Washington state (26.8%). (Table 4)

- **Workers' compensation benefits per $100 of covered payroll decreased in most states**
  - Benefits per $100 of covered payroll decreased in all jurisdictions except Hawaii, Missouri, North Dakota, and Wyoming. (Table 12)
  - The largest decrease occurred in Oklahoma, where benefits declined by $0.48 per $100 of covered payroll between 2012 and 2016.

- **Employers' costs per $100 of covered payroll decreased in most states**
  - Costs per $100 of covered payroll decreased in 39 jurisdictions, with the largest decrease in Oklahoma (down $0.79 per $100 of covered payroll). (Table 14)
  - Costs per $100 of covered payroll increased in 12 states and the federal system. Among the states, the largest increases were in Delaware and Hawaii (both up $0.22 per $100 of covered payroll).

Table 1

Overview of Workers' Compensation Benefits, Costs, and Coverage, 2012-2016

Aggregate Benefits, Coverage, and Costs	2016	Percent Change 2012-2014	Percent Change 2014-2016	Percent Change 2012-2016
Covered Jobs (in thousands)	138,251	3.7	4.0	7.9
Covered Payroll (in billions)	$7,422	8.0	8.7	17.3
Workers' Compensation Benefits Paid (in billions)	61.9	0.4	-1.5	-1.1
Medical Benefits	31.1	2.2	-2.6	-0.5
Cash Benefits	30.8	-1.5	-0.3	-1.8
Employer Costs for Workers' Compensation (in billions)	96.5	9.8	3.8	14.0

Benefits and Costs per $100 of Covered Payroll	2016	Dollar Change 2012-2014	Dollar Change 2014-2016	Dollar Change 2012-2016
Workers' Compensation Benefits Paid	$0.83	-$0.07	-$0.09	-$0.16
Medical Benefits	0.42	-0.02	-0.05	-0.07
Cash Benefits	0.41	-0.05	-0.04	-0.09
Employer Costs for Workers' Compensation	1.30	0.02	-0.06	-0.04

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 2016 begins on page 16 and a glossary of terms used in this report is found on page 57.[1]

History of Workers' Compensation

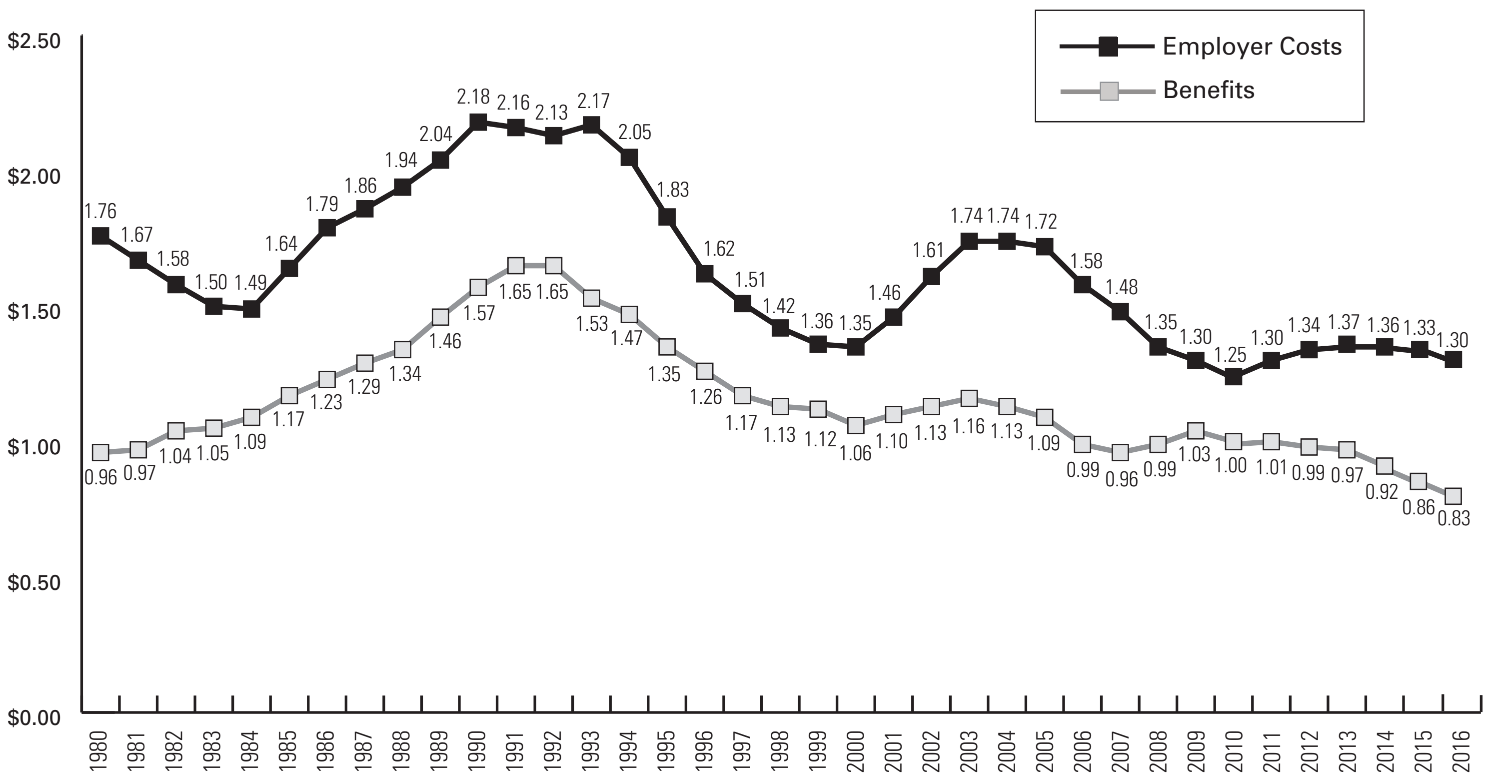
Workers' compensation was the first social insurance program adopted in most developed countries. The first modern workers' compensation laws, based on the principle of employer liability for workplace injuries, were adopted in Germany in 1884 under Chancellor Otto von Bismarck (Clayton, 2004). In 1897, England passed a similar law, holding employers liable so long as the worker 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

1 This report tracks benefits, costs, and coverage in the 50 states plus the District of Columbia. For brevity, we refer to the District of Columbia as a state.

Figure 1

Workers' Compensation Benefits and Costs Per $100 of Covered Payroll, 1980-2016



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.

civilian workers. The first state laws that survived constitutional challenges were enacted in 1911.[2] Most states adopted workers' compensation laws in a relatively short period between 1910 and 1920. Of the contiguous 48 states, the last to pass a workers' compensation law was Mississippi in 1948.

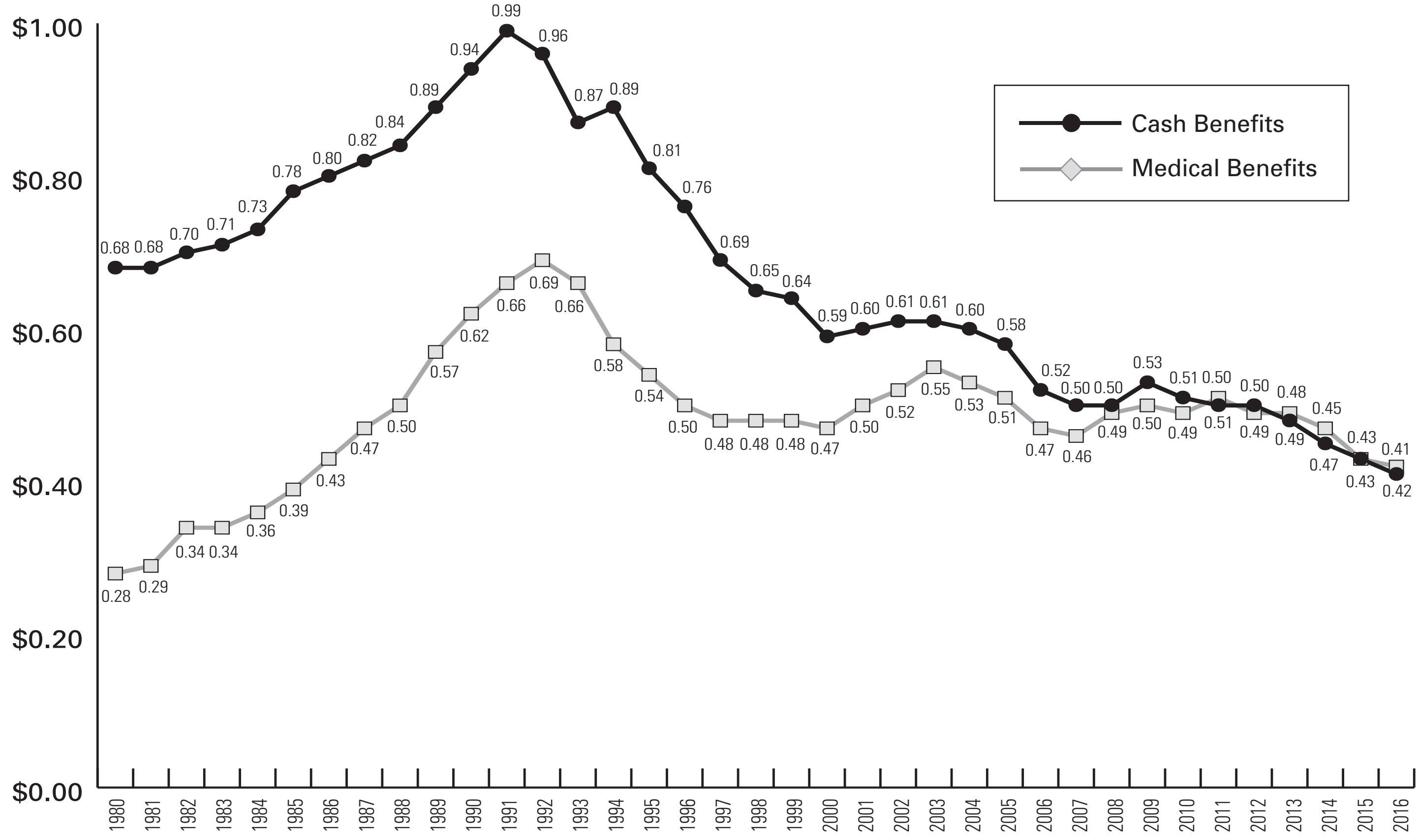
Before workers' compensation laws were enacted, injured workers' primary legal remedy for a work-related injury was to file a tort suit claiming negligence on the part of their employer.[3] Employers could use three common law defenses to avoid liability: assumption of risk (showing the injury resulted from the risks of employment of which the

2 In 1910 New York became the first state to adopt a workmen's compensation [as the program was then known] statute of general application, which was compulsory for certain especially hazardous jobs and optional for others…"[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 grounds of deprivation of property without due process of law," (Wilborn et al., 2017). In 1911, nine states, including Kansas, New Jersey and Wisconsin, enacted elective laws in order to avoid the *Ives* type of decision, and Washington adopted a compulsory statute, which was upheld by the Washington Supreme Court (Somers and Somers, 1954). 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).

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

Figure 2

Workers' Compensation Medical and Cash Benefits Per $100 of Covered Payroll, 1980-2016



Source: National Academy of Social Insurance estimates.

worker should have been aware);[4] the fellow servant rule (showing the injury was caused by a fellow worker's negligence); or contributory negligence (showing the worker's own negligence contributed to the injury, regardless of any fault of the employer). Given the available defenses, it was not surprising that employers often prevailed in court. Employers were, however, at risk for substantial and unpredictable losses if a worker's lawsuit was successful. Litigation also created friction between employers and workers so that both sides became increasingly dissatisfied with the status quo, setting the stage for reform.

Initial reforms came in the form of employer liability acts, which eliminated some of the employer's common law defenses. Nonetheless, employees still had the burden of proving negligence on the part of the employer, which remained a significant obstacle to recovery of damages (Burton and Mitchell, 2003).[5] Ultimately, both employers and employees favored workers' compensation legislation to ensure that workers who sustained occupational injuries or contracted occupational diseases received 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

4 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."

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

benefits specified in a state workers' compensation act.[6]

The adoption of state workers' compensation programs has been called a significant event in the nation's economic, legal, and political history. Passage of the laws required prodigious efforts on the part of business and labor leaders in each state to reach agreements on the specifics of the laws. Essentially, business and labor reached a grand compromise: Injured workers gave up the right to sue their employers in return for guaranteed benefits. Employers agreed to pay compensation for covered injuries on a no-fault basis in return for statutory limits on coverage.

> *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, the District of Columbia, and the U.S. territories has its own workers' compensation program. Separate U.S. government programs cover federal civilian employees, long shore and harbor workers, and specific high-risk workers (e.g., coal miners with black lung disease, energy employees exposed to certain materials such as beryllium, workers exposed to radiation, and veterans of military service). State workers' compensation programs vary in terms of who is allowed to provide insurance, which injuries or illnesses are compensable, and the level of benefits provided. However, there is consistency across states in central features of the programs:

- With the exception of Texas, workers' compensation insurance coverage is mandatory for private-sector employers in all states, with limited exemptions for small employers and for workers in specific classifications, such as agricultural or domestic employees.[7] Oklahoma implemented a law in 2014 that allowed employers to opt-out of a traditional workers' compensation plan by adopting an alternative benefit plan. This Opt-Out Act was in place in 2015, but the Supreme Court of the State of Oklahoma ruled that it was unconstitutional in September 2016.[8]
- Workers' compensation pays 100 percent of injury-related medical costs for injured workers and cash benefits for lost work time. 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. Wage-replacement rates vary by state but, on average, replace about two-thirds of a worker's pre-injury gross wage up to state-specified limits. Lost-time compensation is tax-exempt and typically restricted by minimums and maximums established by state law.

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6 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. A suit is also possible if the employer is uninsured.

7 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. Wyoming statute §27-14-108 exempts employers from purchasing workers' compensation insurance if their employees are not engaged in extra-hazardous employment. However, the Statute's classification of extra-hazardous employment is so extensive that almost every occupation is covered.

8 Oklahoma passed sweeping workers' compensation statutory amendments in 2013 when Senate Bill 1062 was signed into law. The bill, which became effective January 1, 2014, allowed employers to provide insurance for injured workers under alternative benefit systems while maintaining their immunity from tort litigation by injured employees. Under the Oklahoma Employee Injury Benefit Act (OEIBA also known as the "Opt-Out Act") a "qualified employer" could opt-out of the state workers' compensation system if it provided the State Insurance Commissioner with a written private benefit plan that offered comparable coverage consistent with the state constitution and showed proof that the employer was financially capable of paying the required compensation.

The Opt-Out Act was reviewed in Vasquez v. Dillard's by the Oklahoma Workers' Compensation Commission (OK WCC), which found that the Act was unconstitutional. The ruling was appealed to the Oklahoma State Supreme Court, which confirmed the Commission's finding that the Opt-Out Act was unconstitutional (Vasquez v. Dillard's, Inc. 381 P. 3d 768, 2016). The State Supreme Court, in its decision, wrote: "The core provision of the Opt Out Act, 85A O.S. Supp.2015 203, creates impermissible, unequal, disparate treatment of a select group of injured workers. Therefore, we hold that the Oklahoma Employee Benefit Injury Act, 85A O.S. 2014 201-213, is an unconstitutional special law under the Oklahoma Constitution."

- Workers' compensation is financed exclusively by employers except in three states where workers pay part of the cost of workers' compensation benefits and services through direct payroll deductions or charges.[9] Employers purchase workers' compensation insurance from private insurers or from a state workers' compensation insurance fund, and many large employers self-insure.[10]

Workers' Compensation Benefits

There are three basic types of workers' compensation claims through which injured workers or their medical providers may collect benefits: (1) medical-only; (2) temporary disability; and (3) permanent disability. The type of claim is determined by the severity of injury and whether or not the claim involves an injury-related work absence.

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 not 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.

Temporary disability claims. When a work-related injury or illness *temporarily* prevents a worker from returning to their pre-injury job or to another job for the same employer, temporary total disability (TTD) benefits are paid in addition to medical benefits. Benefits replace approximately two-thirds of the worker's gross, pre-injury weekly earnings from the time-of-injury employer up to state-specified limits. If the worker had concurrent employment at the time of injury – an additional job (or jobs) with another employer – earnings from a second or other job may or may not be covered by temporary disability benefits.

Compensation for temporary disability is subject to maximum and minimum benefit levels that vary from state to state. As of January 2017, the maximum weekly TTD benefit ranged from a high of $1,688 in Iowa to a low of $478 in Mississippi. The minimum weekly benefit ranged from a high of $583 in North Dakota to a low of $20 in Arkansas, Florida, and Wisconsin.[11]

Most workers who receive TTD benefits fully recover and return to work, at which time benefits end. In many cases, however, employers make accommodations allowing 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 shorter hours at lower wages. When injured workers return to work at less than their pre-injury wage, they may be eligible for *temporary partial disability* (TPD) benefits in some states.

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).[12] Permanent total disability (PTD) benefits are paid to workers who are considered legally unable to work at all because of a work-related

9 In Washington, workers pay part of workers' compensation premium costs through payroll deductions (See page 36 and footnote to Table 14). Oregon assesses employers and employees for the Workers Benefit Fund, which pays monthly cost-of-living increases for certain beneficiaries and provides funding for return to work policies that provide incentives to improve employment for injured workers. Between 2014 and 2016, the Oregon Workers Benefit Fund Assessment was 3.3 cents per hour worked – employers paid 1.65 cents per hour and workers paid 1.65 cents per hour. 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. The majority of the total fee ($4.00 – $2.00 from employers and $2.00 from employees) is used primarily to fund the operation of the New Mexico Workers' Compensation Administration. The additional $0.30 per covered worker paid by employers is used to fund the Workers' Compensation Uninsured Employers Fund.

10 Some economists argue that workers pay a substantial portion of program costs indirectly in the form of lower wages (Leigh, et al. 2000; Gruber and Krueger, 1991).

11 Colorado, Iowa, Maine, Michigan, Montana, 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.

12 In most claims where 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.

injury or illness.[13] Permanent partial disability (PPD) benefits are paid to workers whose injuries result in permanent impairments, even though they are able to work in some capacity.

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. 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 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.[14] Most states impose limits on either the maximum duration or maximum amount of permanent disability benefits.[15]

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, and cash benefits for the worker's family or dependents. For workers who die without dependents, benefits are designed to cover funeral and burial expenses.

Sources of Workers' Compensation Insurance

Non-federal employers pay for workers' compensation by purchasing insurance from a private insurance carrier, a state workers' compensation insurance plan (called a state fund), or by self-insuring. Federal workers' compensation insurance covers federal civilian employees and some private-sector workers employed either in high-risk jobs or jobs related to national defense (see *Federal Programs* on page 8). 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, which varies according to expected risk. There are two types of policies: (1) a policy that requires the insurer to pay all workers' compensation benefits; and (2) a policy with a deductible that requires the employer to reimburse the insurer for benefits paid up to the specified deductible amount. In return for accepting a policy with a deductible, the employer 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 both. Most states permit deductible policies in workers' compensation insurance, but state regulations vary regarding specifics (e.g. the maximum deductible allowed and the minimum premium volume eligible for a deductible policy).

State funds. State workers' compensation funds are established by an act of a state legislature and may be designated as *exclusive* or *competitive*. An *exclusive* state fund is, by statute, the sole provider of workers' compensation insurance in a state (although some states with an exclusive state fund allow large employers to self-insure). A *competitive* state fund competes with private insurers. For 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.[16] In 2016, four states had exclusive state funds

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13 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 lifetime 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.

14 A few states do not pay permanent disability benefits if the injured worker returns to work at a wage that is at least 80 percent of their pre-injury wage.

15 Many PPD cases are settled with compromise and release agreements (see glossary for complete definition).

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

and, according to our criteria, 17 states had competitive state funds.[17,18] In addition, South Carolina had a nonexclusive state fund that provided workers' compensation insurance for state and local government employees but did not write policies for private employers. West Virginia discontinued its state fund in 2009. However, the state was still paying benefits in 2016 on some claims involving injuries that occurred before 2009.

Self-insurance. Many large employers choose to self-insure for workers' compensation.[19] 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.[20] Some states permit groups of employers in the same industry or trade association to self-insure through group self-insurance.

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

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 does not have sufficient assets earmarked 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* 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. The current employer is responsible only for workers' compensation benefits associated with the second injury or illness. Second injury funds are financed through assessments on employers, and, in a small number of jurisdictions, with general fund monies.[21]

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17 In 2016, 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, Texas, and Utah.

18 Of the 17 competitive state funds, 12 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 purchase insurance from a private carrier.

19 Employers are allowed to self-insure in all states except for North Dakota and Wyoming, which both require all employers to obtain workers' compensation insurance from their exclusive state funds.

20 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.

21 See Sources and Methods 2016 on the Academy's website for further details on special funds, second injury funds, and guaranty funds.

Estimates for 2016

The workers' compensation system involves numerous stakeholder groups: employers, workers, insurers, attorneys, medical providers and state governments. The estimates presented in this report reflect the aggregate experience of only two groups: workers who rely on compensation for workplace injuries, 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 2016 include payments made in 2016 for injuries and illnesses that occurred in 2016 *and in prior years*. If an employer purchases workers' compensation insurance from a private insurer or state fund, estimates of costs for 2016 include premiums *that incorporate projected future liabilities* for injuries and illnesses that occur in 2016. If an employer is self-insured, the cost estimates include only those payments made in 2016, even though the employer is liable for future costs.

The Academy's measures are designed 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.[22] The estimates are also *not designed* to measure the performance of the workers' compensation system with respect to: the prevention of occupational injuries and illnesses; the adequacy, equity, and affordability of compensation; or the impact of vocational rehabilitation and job accommodations in returning injured workers to work.

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 because their workers' compensation systems differ, but also because states differ in the relative risk of their industry/ occupational mix. A meaningful comparison of benefits or costs across states must control for variation in system features (including waiting periods, compensation rates, limits on insurable earnings and medical fees), the mix of industries and occupations covered (the proportions of employers in different insurance classifications in each state), and worker outcomes (such as claim acceptance rate, return-to-work rate), which is beyond the scope of this report.

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.

Covered Employment and Wages

Methods for Estimating 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 wages must be estimated. The Academy's methodology (for all states except Texas) is designed to count the number of jobs which are legally required to be covered by workers' compensation under state laws.[23]

22 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.

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

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.[24] 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 proportion to the state's UI-covered payroll to obtain total workers' compensation covered payroll. 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 wages) covered because some employers that are not required to carry workers' compensation do so anyway. For example, self-employed persons are not typically required to carry unemployment or workers' compensation insurance, but, in some states, self-employed persons may voluntarily elect to be covered. In states with exemptions for small firms, some 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 are not in compliance with their state's workers' compensation or unemployment insurance laws. 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.)

National Estimates of Covered Employment and Wages

In 2016, workers' compensation covered an estimated 138.3 million U.S. jobs, a 1.8 percent increase from the previous year (Table 2). Covered payroll was $7.4 trillion, an increase of 3.1 percent from 2015. Covered employment and wages have increased steadily since 2011, but the rate of increase declined in 2016.

Workers' compensation covered employment and payroll increased in 2016, but the rate of increase was slower than in the previous year.

Between 2012 and 2016, covered non-federal employment increased by an estimated 10.2 million jobs, or 8.1 percent (Table 3). Covered non-federal wages increased by $1.1 trillion or 17.7 percent (Table 4). Overall, in 2016, workers' compensation coverage extended to an estimated 97.4 percent of all non-federal jobs covered by unemployment insurance (Table A.1),[25] and 86.5 percent of all jobs in the U.S. (Table A.2).

In contrast to the trend in the non-federal sector, coverage in the federal workers' compensation program declined by 27,000 jobs between 2012 and 2016 (Table 3). Federal covered employment fell by 2.3 percent between 2012 and 2014, but increased by 1.3 percent between 2014 and 2016, for an overall reduction of 1.0 percent over the time period. With respect to covered payroll, there was virtually no change in the federal system between 2012 and 2014 (0.0%) but covered wages increased by 5.8 percent between 2014 and 2016 (Table 4).

24 Unemployment Insurance (UI) programs, under the U.S. Department of Labor, provide cash benefits to workers who become unemployed (through no fault of their own) and meet specific eligibility requirements.

25 According to unpublished estimates provided by the BLS, 3 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 2017 (DOL, 2018). 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 UI covered jobs in 2016, which is virtually identical to the workers' compensation coverage shown by the NCS.

Table 2

Workers' Compensation Covered Jobs and Covered Payroll, 1996-2016

Year	Covered Jobs (thousands)	Covered Jobs Percent Change	Covered Payroll (billions)	Covered Payroll Percent Change
1996	114,773	1.7	3,337	6.9
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	128,141	1.8	6,326	4.4
2013	130,368	1.7	6,501	2.8
2014	132,902	1.9	6,831	5.1
2015	135,850	2.2	7,198	5.4
2016	138,251	1.8	7,422	3.1

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

Table 3
Workers' Compensation Covered Jobs by State, 2012-2016

	Number of Jobs (in thousands)					Percent Change			Ranking
State	2012	2013	2014	2015	2016	2012-2014	2014-2016	2012-2016	(1=largest percent increase, 2012-2016)
Alabama	1,698	1,717	1,737	1,765	1,789	2.3	3.0	5.3	29
Alaska	311	313	315	317	311	1.4	-1.3	0.0	49
Arizona	2,374	2,431	2,485	2,555	2,625	4.7	5.6	10.6	12
Arkansas	1,098	1,098	1,109	1,129	1,143	1.0	3.0	4.1	39
California	14,674	15,139	15,567	16,051	16,471	6.1	5.8	12.2	6
Colorado	2,200	2,271	2,353	2,428	2,485	6.9	5.6	13.0	4
Connecticut	1,611	1,623	1,636	1,645	1,649	1.6	0.8	2.4	46
Delaware	398	407	417	427	432	4.7	3.5	8.3	16
District of Columbia	506	519	532	545	556	5.1	4.5	9.8	13
Florida	6,866	7,045	7,278	7,561	7,817	6.0	7.4	13.9	2
Georgia	3,659	3,737	3,849	3,968	4,076	5.2	5.9	11.4	9
Hawaii	569	583	593	605	614	4.3	3.6	8.0	19
Idaho	602	618	634	652	675	5.3	6.5	12.1	7
Illinois	5,537	5,590	5,669	5,754	5,801	2.4	2.3	4.8	36
Indiana	2,762	2,799	2,842	2,892	2,936	2.9	3.3	6.3	22
Iowa	1,443	1,464	1,483	1,497	1,506	2.8	1.5	4.4	37
Kansas	1,285	1,303	1,322	1,332	1,335	2.9	1.0	3.9	40
Kentucky	1,718	1,738	1,765	1,794	1,820	2.7	3.1	5.9	23
Louisiana	1,833	1,858	1,889	1,896	1,873	3.1	-0.9	2.2	47
Maine	565	569	573	578	585	1.4	2.1	3.5	42
Maryland	2,363	2,384	2,406	2,443	2,477	1.8	3.0	4.8	33
Massachusetts	3,190	3,244	3,315	3,382	3,448	3.9	4.0	8.1	17
Michigan	3,788	3,873	3,944	4,016	4,094	4.1	3.8	8.1	18
Minnesota	2,597	2,643	2,682	2,727	2,765	3.3	3.1	6.5	21
Mississippi	1,008	1,018	1,027	1,041	1,051	1.9	2.3	4.2	38

Missouri	2,436	2,467	2,496	2,541	2,578	2.4	3.3	5.8	24
Montana	414	421	424	432	438	2.4	3.3	5.8	25
Nebraska	892	905	918	931	940	2.9	2.4	5.4	28
Nevada	1,112	1,140	1,182	1,224	1,262	6.4	6.7	13.5	3
New Hampshire	605	611	619	629	640	2.3	3.3	5.7	26
New Jersey	3,725	3,769	3,793	3,841	3,905	1.8	2.9	4.8	34
New Mexico	730	738	746	755	756	2.3	1.2	3.5	41
New York	8,428	8,549	8,710	8,878	9,015	3.3	3.5	7.0	20
North Carolina	3,744	3,814	3,899	4,002	4,097	4.1	5.1	9.4	14
North Dakota	399	414	432	424	404	8.3	-6.5	1.3	48
Ohio	4,967	5,033	5,108	5,182	5,242	2.8	2.6	5.5	27
Oklahoma	1,406	1,435	1,461	1,472	1,454	3.9	-0.5	3.4	43
Oregon	1,612	1,651	1,699	1,760	1,813	5.3	6.7	12.4	5
Pennsylvania	5,458	5,482	5,529	5,576	5,621	1.3	1.7	3.0	44
Rhode Island	441	445	452	459	462	2.6	2.1	4.8	35
South Carolina	1,717	1,755	1,804	1,858	1,903	5.1	5.5	10.8	11
South Dakota	385	389	395	400	404	2.7	2.2	5.0	31
Tennessee	2,507	2,550	2,607	2,677	2,742	4.0	5.2	9.4	15
Texas	8,477	8,678	8,903	9,238	9,472	5.0	6.4	11.7	8
Utah	1,177	1,216	1,253	1,301	1,348	6.5	7.6	14.6	1
Vermont	290	292	295	298	298	1.8	1.0	2.9	45
Virginia	3,375	3,400	3,416	3,490	3,542	1.2	3.7	4.9	32
Washington	2,822	2,889	2,972	3,049	3,141	5.3	5.7	11.3	10
West Virginia	674	668	665	661	649	-1.3	-2.4	-3.7	51
Wisconsin	2,601	2,628	2,666	2,701	2,733	2.5	2.5	5.1	30
Wyoming	271	272	277	275	264	2.3	-4.6	-2.4	50
Total Non-Federal	125,321	127,597	130,146	133,057	135,458	3.8	4.1	8.1	
Federal Employees	2,820	2,771	2,756	2,793	2,793	-2.3	1.3	-1.0	
TOTAL	128,141	130,368	132,902	135,850	138,251	3.7	4.0	7.9	

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

Table 4

Workers' Compensation Covered Payroll by State, 2012-2016

State	Covered Payroll (in millions)					Percent Change			Ranking (1=largest percent increase, 2012-2016)
	2012	2013	2014	2015	2016	2012-2014	2014-2016	2012-2016	
Alabama	$69,543	$70,928	$73,424	$76,375	$78,405	5.6	6.8	12.7	37
Alaska	15,367	15,822	16,499	17,008	16,316	7.4	-1.1	6.2	49
Arizona	106,986	110,455	115,300	121,117	126,025	7.8	9.3	17.8	19
Arkansas	41,475	42,297	43,869	45,693	47,036	5.8	7.2	13.4	33
California	831,610	861,194	914,844	986,111	1,033,048	10.0	12.9	24.2	4
Colorado	110,073	114,426	122,942	130,421	134,653	11.7	9.5	22.3	8
Connecticut	99,935	101,064	104,441	107,652	108,469	4.5	3.9	8.5	46
Delaware	20,553	21,108	22,104	22,963	23,117	7.5	4.6	12.5	38
District of Columbia	38,542	39,756	41,850	44,245	45,668	8.6	9.1	18.5	16
Florida	293,327	304,273	322,822	346,215	364,259	10.1	12.8	24.2	5
Georgia	167,072	172,639	183,067	194,315	204,327	9.6	11.6	22.3	9
Hawaii	23,760	24,753	25,911	27,455	28,671	9.1	10.7	20.7	11
Idaho	21,463	22,475	23,768	25,003	26,421	10.7	11.2	23.1	6
Illinois	287,520	292,573	305,179	320,627	325,926	6.1	6.8	13.4	34
Indiana	113,017	115,798	120,024	126,044	130,020	6.2	8.3	15.0	29
Iowa	57,861	59,873	62,775	65,691	67,335	8.5	7.3	16.4	24
Kansas	52,268	53,607	55,958	57,907	58,383	7.1	4.3	11.7	41
Kentucky	68,692	70,161	73,262	77,074	79,531	6.7	8.6	15.8	27
Louisiana	78,716	81,171	84,992	86,388	84,735	8.0	-0.3	7.6	48
Maine	21,426	21,976	22,783	23,734	24,489	6.3	7.5	14.3	31
Maryland	122,148	123,586	127,741	133,953	137,952	4.6	8.0	12.9	35
Massachusetts	193,733	200,044	211,967	225,054	232,040	9.4	9.5	19.8	14
Michigan	175,830	181,351	190,005	199,827	207,375	8.1	9.1	17.9	18
Minnesota	127,560	132,003	137,888	145,477	149,647	8.1	8.5	17.3	21
Mississippi	35,511	36,491	37,457	38,485	39,380	5.5	5.1	10.9	43

Missouri	102,953	105,206	109,409	114,664	117,818	6.3	7.7	14.4	30
Montana	15,008	15,492	16,159	16,969	17,472	7.7	8.1	16.4	23
Nebraska	34,687	35,821	37,450	39,527	40,613	8.0	8.4	17.1	22
Nevada	48,160	49,922	52,491	55,562	59,063	9.0	12.5	22.6	7
New Hampshire	29,005	29,762	31,506	32,889	34,090	8.6	8.2	17.5	20
New Jersey	217,495	223,167	229,085	238,725	244,360	5.3	6.7	12.4	39
New Mexico	28,828	29,316	30,466	31,291	31,312	5.7	2.8	8.6	45
New York	527,111	538,418	572,923	598,418	611,626	8.7	6.8	16.0	25
North Carolina	160,075	165,770	173,996	184,809	192,257	8.7	10.5	20.1	12
North Dakota	18,187	19,693	21,884	21,396	19,611	20.3	-10.4	7.8	47
Ohio	217,773	222,973	232,924	242,199	247,780	7.0	6.4	13.8	32
Oklahoma	57,466	60,015	62,943	64,185	62,733	9.5	-0.3	9.2	44
Oregon	70,707	73,690	78,393	84,407	89,028	10.9	13.6	25.9	3
Pennsylvania	262,207	267,201	277,707	289,036	292,931	5.9	5.5	11.7	40
Rhode Island	20,254	20,964	22,004	22,940	23,474	8.6	6.7	15.9	26
South Carolina	66,736	69,139	72,860	77,269	80,827	9.2	10.9	21.1	10
South Dakota	13,820	14,263	15,065	15,838	16,401	9.0	8.9	18.7	15
Tennessee	108,865	111,158	116,327	123,676	128,549	6.9	10.5	18.1	17
Texas	425,760	441,226	470,775	498,207	511,121	10.6	8.6	20.0	13
Utah	47,795	50,081	53,039	56,871	60,227	11.0	13.6	26.0	2
Vermont	11,739	12,133	12,533	12,983	13,248	6.8	5.7	12.9	36
Virginia	168,708	171,116	175,107	183,411	188,024	3.8	7.4	11.4	42
Washington	145,246	151,870	162,254	171,473	184,150	11.7	13.5	26.8	1
West Virginia	26,114	26,218	26,741	26,888	26,326	2.4	-1.6	0.8	50
Wisconsin	108,688	111,983	116,352	122,023	125,270	7.1	7.7	15.3	28
Wyoming	11,964	12,143	12,781	12,632	11,752	6.8	-8.1	-1.8	51
Total Non-Federal	$6,119,340	$6,298,567	$6,624,045	$6,983,122	$7,203,293	8.2	8.7	17.7	
Federal Employees	$206,823	$202,017	$206,877	$214,726	$218,918	0.0	5.8	5.8	
TOTAL	$6,326,163	$6,500,585	$6,830,922	$7,197,848	$7,422,210	8.0	8.7	17.3	

Source: National Academy of Social Insurance estimates.

State Estimates of Covered Employment and Wages

Between 2012 and 2016, all states except West Virginia and Wyoming experienced an increase in the number of jobs covered by workers' compensation (Table 3). The three states with the largest percentage gains in covered employment were Utah (14.6%), Florida (13.9%), and Nevada (13.5%). North Dakota, the state with the largest percentage gains in covered employment between 2012 and 2014, experienced the largest percentage decline in covered employment between 2014-2016 (-6.5%), so its overall growth in covered employment over the period was a modest 1.3 percent.

All states except Wyoming and West Virginia experienced substantial increases in covered payroll between 2012 and 2016 (Table 4). Forty-three jurisdictions experienced increases in covered payroll of 10 percent or more; 13 states experienced increases of more than 20 percent. Three western states recorded the largest increases in covered payroll over the period: Washington (26.8%), Utah (26%), and Oregon (25.9%). States with the smallest gains in covered payroll between 2012 and 2016 were Louisiana (7.6%), Alaska (6.2%), West Virginia (0.8%), and Wyoming (-1.8%). In each of these states, covered payroll declined in recent years (2014-16).

Between 2012 and 2016, most states experienced increases in workers' compensation covered employment, and even greater percentage increases in covered payroll.

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 provided in *Sources and Methods: A Companion to Workers' Compensation: Benefits, Costs, and Coverage 2016*, and is available 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.

Academy questionnaire. The primary source of data on benefits paid to injured workers is the response 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 39 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 benefits, 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 across time. If historical data are not available for the specific state we are estimating, we rely on a second method that utilizes covered payroll in the state we are estimating and the ratio of self-insured benefits to payroll 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 2012 through 2016 (A.M. Best, 2018). The data include information for all private carriers in every state and for 17 of the 23 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.[26]

NCCI data. NCCI is the primary source of data on medical benefits in the 38 states in which it is licensed (NCCI, 2018). In states where NCCI data are not available, estimates of medical benefits are based on reports from the states. In cases where state data is incomplete and NCCI is licensed, NCCI is also a source for data on reimbursements paid through deductible policies; and amounts of covered payroll for employers insured by private insurers or a competitive state fund.

Estimating deductibles. The availability of deductible policies varies by state.[27] Among the states that allow deductible policies, some can provide us with complete information on deductible payments, while most cannot. For states that provide information on deductibles, 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 *Sources and Methods 2016* on the Academy's website for a detailed description of the methods used to estimate deductibles.

Benefits incurred. The Academy's estimates of workers' compensation benefits in this report reflect amounts paid for work-related injuries and illnesses in a calendar year 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.

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*.

National Estimates of Benefits Paid

Total benefits paid. Table 5 shows workers' compensation benefits paid by each type of insurer (private insurer, state fund, self-insured, federal government) from 1996 to 2016. Altogether, workers' compensation insurance paid slightly less than $62 billion in benefits in 2016, a 0.2 percent decrease from the total paid in 2015. Private carriers were the largest single payer category, followed by self-insured employers, state funds, and the federal government.

Workers' compensation insurance paid slightly less than $62 billion in benefits in 2016, a 0.2 percent decrease from 2015.

26 A. M. Best does not provide data on the four exclusive state funds (Ohio, North Dakota, Washington, Wyoming), the state fund in South Carolina that only provides benefits to government workers, and the state fund in West Virginia that discontinued in 2009, but was still paying benefits on claims in 2016.

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

Table 5

Workers' Compensation Benefits Paid by Type of Insurer, 1996-2016

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
1996	21,024	50.1	8,042	19.2	9,828	23.4	3,066	7.3	41,960	-0.4	16,739	0.0	39.9
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	33,912	54.1	9,978	15.9	14,965	23.9	3,776	6.0	62,630	1.9	31,266	1.5	49.9
2013	34,986	55.3	9,558	15.1	14,981	23.7	3,693	5.8	63,218	0.9	31,950	2.2	50.5
2014	34,797	55.4	9,279	14.8	15,108	24.0	3,681	5.9	62,866	-0.6	31,963	0.0	50.8
2015	34,266	55.3	9,065	14.6	14,981	24.2	3,706	6.0	62,018	-1.3	31,211	-2.4	50.3
2016	34,404	55.6	8,945	14.4	14,966	24.2	3,603	5.8	61,918	-0.2	31,122	-0.3	50.3

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. In years before 1997, federal benefits also include the part of the black lung program financed by federal funds. In 1997–2016, 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, 1996-2016

Year	Deductibles (millions $) Total	Private Insured	State Fund Insured	Deductibles as a % of Total Benefits
1996	3,716	3,470	246	8.9
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	10,188	9,844	345	16.1
2014	10,328	9,994	334	16.4
2015	10,258	9,905	353	16.5
2016	10,313	9,985	327	16.7

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 2016* available at www.nasi.org for more details).

Source: National Academy of Social Insurance estimates.

Benefits by type of insurer. In 2016, private insurers paid $34.4 billion in workers' compensation benefits (55.6% of total benefits paid), self-insured employers paid $15.0 billion (24.2%), state funds paid $8.9 billion (14.4%), and the federal government paid $3.6 billion (5.8%) (Table 5).

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. As shown in Table 5, private insurance carriers increased their share of benefits paid by five percentage points between 1996 and 2016, while the share of benefits paid by state funds declined by five percentage points.[28]

Over the same period, there has been relatively little change in the share of workers' compensation benefits paid by self-insured employers or the federal government, and over the last 10 years, their shares have stabilized. Self-insured employers accounted for 24 percent of total benefits paid, and the federal government for 6 percent, in every year since 2005.

> *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.*

Deductibles. Employers who have workers' compensation policies with deductibles must reimburse their insurer for benefits paid up to the deductible amount. Hence, part of the benefit payments attributed to private insurers and state funds in Table 5 are actually paid by employers.

In 2016, employers paid $10.3 billion in deductibles, or 16.7 percent of total benefits paid (Table 6). The vast majority of benefits paid under deductible provisions are by employers covered through private insurers (96.8% of total deductibles paid in 2016), as opposed to deductibles paid by employers covered through a state fund (3.2% of total). The share of benefits paid by employers under deductible provisions increased by 55 percent between 1996 and 2006, and by another 21 percent between 2006 and 2016.

Employers who have policies with deductibles are, in effect, self-insured up to the amount of the deductible.[29] 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 workers' compensation benefits directly paid by employers from 1996 to 2016. For 2016, the results indicate that employers paid 40.8 percent of total benefits (as opposed to 24.2% in Table 5), while private insurers paid 39.4 percent (as opposed to 55.6%). The remaining 20 percent of benefits were paid by state funds (14%) and the federal government (6%).

Medical benefits paid. In 2016, workers' compensation insurers paid $31.1 billion in medical benefits, a 0.5 percent decrease from 2012 (Table 8 and Table 10). The small five-year change reflects the cumulative effect of a 2.2 percent increase in medical benefits from 2012-2014, followed by a 2.6 percent decrease between 2014 and 2016.

Historically, medical benefits have been a smaller share of workers' compensation benefits than cash benefits. Since 2008, however, the national experience has been for medical and cash benefits to account for almost equal shares of total benefits (as shown in Figure 3). Between 2012 and 2014, medical benefits increased (Table 5) while cash benefits decreased (Table 11), so the share of medical benefits increased (from 49.9% to 50.8%). Between 2014 and 2016, both medical and cash benefits declined, but medical benefits decreased by a larger percentage, so the share of medical benefits decreased (from 50.8% to 50.3%). Across the five-year period, both medical and cash benefits decreased, but cash benefits decreased by a greater percentage, so the share of medical benefits rose from 49.9 to 50.3 percent (Table 5).

State Estimates of Benefits Paid in 2016

Benefits by type of insurer. Table 8 shows the shares of workers' compensation benefits paid by each type of insurer in each state in 2016. The shares vary considerably across states because: not all states have a state fund and, where state funds exist, their legal status varies; the incentives to self-insure vary across states; and two states do not allow self-insurance.

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28 The decline in 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's 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) and Arizona (in 2012).

29 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 aggregate benefits paid.

Table 7

Percentage Distribution of Workers' Compensation Benefit Payments by Type of Coverage: With and Without Deductibles, 1996-2016

Year	Total Benefits (millions)	Percent of Total Benefits: Private Insured Total	Private Insured Employer Paid Deductibles	Private Insured Insurer Paid after Deductibles	State Fund Insured Total	State Fund Insured Employer Paid Deductibles	State Fund Insured Insurer Paid After Deductibles	Self-Insured	Federal	Total Employer Paid
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)=(2)+(5)+(7)
1996	41,960	50.1	8.3	41.8	19.2	0.6	18.6	23.4	7.3	32.3
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	62,630	54.1	15.2	39.0	15.9	0.7	15.2	23.9	6.0	39.8
2013	63,218	55.3	15.6	39.8	15.1	0.5	14.6	23.7	5.8	39.8
2014	62,866	55.4	15.9	39.5	14.8	0.5	14.2	24.0	5.9	40.5
2015	62,018	55.3	16.0	39.3	14.6	0.6	14.0	24.2	6.0	40.7
2016	61,918	55.6	16.1	39.4	14.4	0.5	13.9	24.2	5.8	40.8

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.

Table 8

Workers' Compensation Benefits Paid by Type of Insurer and State, 2016

State	Private Insured		State Fund Insured		Self-Insured[a]		Total Benefits Paid (thousands)[b]	Medical Benefits Paid (thousands)[c]	Percent Medical	Ranking (1=largest percent medical)
	Benefits (thousands)	Percent Share	Benefits (thousands)	Percent Share	Benefits (thousands)	Percent Share				
Alabama	$298,745	49.7			$302,539	50.3	$601,283	$420,297	69.9	3
Alaska	167,842	73.7			59,788	26.3	227,630	149,781	65.8	10
Arizona	590,185	78.4			162,267	21.6	752,452	509,410	67.7	6
Arkansas	140,513	67.8			66,817	32.2	207,330	133,313	64.3	12
California	7,591,763	62.5	952,791	7.8	3,594,891	29.6	12,139,445	6,721,152	55.4	23
Colorado	239,730	29.9	389,039	48.6	172,379	21.5	801,148	443,035	55.3	24
Connecticut	653,296	72.8			243,969	27.2	897,265	396,591	44.2	45
Delaware	173,119	77.0			51,813	23.0	224,932	123,038	54.7	25
District of Columbia	83,610	69.9			36,034	30.1	119,645	42,474	35.5	47
Florida	2,255,451	71.0			919,633	29.0	3,175,084	2,149,532	67.7	6
Georgia	1,011,001	73.5			364,289	26.5	1,375,290	720,652	52.4	32
Hawaii	142,127	46.4	48,049	15.7	115,881	37.9	306,058	140,786	46.0	42
Idaho	85,557	31.9	172,459	64.4	9,983	3.7	268,000	170,984	63.8	16
Illinois	1,777,422	75.5			576,697	24.5	2,354,119	1,059,354	45.0	44
Indiana	501,144	87.0			75,161	13.0	576,305	408,024	70.8	2
Iowa	514,234	77.4			149,836	22.6	664,070	351,957	53.0	30
Kansas	320,210	76.1			100,531	23.9	420,741	270,116	64.2	13
Kentucky	328,776	50.4	122,597	18.8	201,447	30.9	652,820	353,828	54.2	26
Louisiana	458,544	57.7	123,211	15.5	213,285	26.8	795,040	444,428	55.9	22
Maine	159,168	66.1			81,612	33.9	240,780	115,334	47.9	38
Maryland	442,719	48.7	186,558	20.5	278,902	30.7	908,180	423,212	46.6	40
Massachusetts	851,294	74.3			293,922	25.7	1,145,216	383,981	33.5	49
Michigan	623,342	65.3			331,969	34.7	955,311	466,097	48.8	36
Minnesota	770,437	74.9			258,712	25.1	1,029,149	557,701	54.2	27
Mississippi	225,602	73.8			80,089	26.2	305,690	177,300	58.0	18
Missouri	635,297	62.6	143,957	14.2	236,269	23.3	1,015,523	577,832	56.9	21
Montana	82,854	31.7	136,125	52.1	42,126	16.1	261,105	173,635	66.5	8
Nebraska	249,855	79.7			63,676	20.3	313,531	200,973	64.1	14
Nevada	243,008	68.7			110,536	31.3	353,544	188,793	53.4	29
New Hampshire	146,004	71.0			59,659	29.0	205,663	136,766	66.5	8
New Jersey	1,820,785	77.3			535,751	22.7	2,356,537	1,198,337	50.9	34

New Mexico	173,545	60.2	19,914	6.9	94,747	32.9	288,206	165,142	57.3	19
New York	2,694,801	45.2	1,316,093	22.1	1,953,323	32.8	5,964,217	2,021,817	33.9	48
North Carolina	914,322	76.0			288,566	24.0	1,202,888	559,343	46.5	41
North Dakota[d]	543	0.3	165,400	99.7			165,943	89,869	54.2	28
Ohio[d]	14,157	0.8	1,531,579	82.1	320,013	17.2	1,865,750	728,592	39.1	46
Oklahoma	318,551	51.6	198,821	32.2	100,519	16.3	617,891	305,238	49.4	35
Oregon	190,550	30.1	309,038	48.8	133,172	21.0	632,760	335,363	53.0	30
Pennsylvania	2,260,097	72.5	192,617	6.2	666,637	21.4	3,119,352	1,467,476	47.0	39
Rhode Island	63,584	40.6	71,008	45.3	22,050	14.1	156,642	51,535	32.9	50
South Carolina[e]	629,176	69.7	63,375	7.0	210,344	23.3	902,895	408,109	45.2	43
South Dakota	99,046	96.2			3,956	3.8	103,001	65,612	63.7	17
Tennessee	530,973	85.3			91,486	14.7	622,459	407,088	65.4	11
Texas	777,021	52.9	408,757	27.8	282,531	19.2	1,468,309	839,873	57.2	20
Utah	97,179	35.3	129,160	47.0	48,574	17.7	274,913	190,515	69.3	4
Vermont	122,270	87.4			17,622	12.6	139,893	71,345	51.0	33
Virginia	735,269	77.4			215,301	22.6	950,570	609,316	64.1	14
Washington[d]	11,756	0.5	1,911,029	78.6	507,961	20.9	2,430,746	761,149	31.3	51
West Virginia[f]	158,710	38.4	179,024	43.3	76,031	18.4	413,765	198,194	47.9	37
Wisconsin	1,028,171	87.8			142,766	12.2	1,170,936	915,964	78.2	1
Wyoming[d]	221	0.1	174,831	99.9			175,053	118,514	67.7	5
Total Non-Federal	$34,403,578	59.0	$8,945,432	15.3	$14,966,064	25.7	$58,315,074	$29,918,763	51.3	
All Federal[g]							$3,603,265	$1,202,765	33.4	
Federal Employees[h]							$2,890,670	$1,029,995	35.6	
TOTAL							$61,918,340	$31,121,529	50.3	

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

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

c. For further details see *Sources and Methods 2016* available at www.nasi.org.

d. 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.

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

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

g. 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.

h. 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, 2012-2016

	Total Benefits (thousands)					Percent Change			Ranking (1=largest percent increase, 2012-2016)
State	2012	2013	2014	2015	2016	2012-2014	2014-2016	2012-2016	
Alabama	$643,986	$639,311	$636,575	$617,384	$601,283	-1.2	-5.5	-6.6	35
Alaska	247,862	249,625	232,201	235,470	227,630	-6.3	-2.0	-8.2	38
Arizona	718,122	716,206	734,975	737,165	752,452	2.3	2.4	4.8	14
Arkansas	204,990	222,697	210,199	199,314	207,330	2.5	-1.4	1.1	22
California	11,536,275	12,116,266	12,092,670	12,038,469	12,139,445	4.8	0.4	5.2	10
Colorado	845,663	813,207	788,696	830,590	801,148	-6.7	1.6	-5.3	32
Connecticut	970,079	1,016,739	988,699	981,552	897,265	1.9	-9.2	-7.5	37
Delaware	216,588	240,313	249,385	228,240	224,932	15.1	-9.8	3.9	17
District of Columbia	115,746	130,978	118,259	120,372	119,645	2.2	1.2	3.4	20
Florida	3,381,798	3,435,562	3,371,100	3,188,167	3,175,084	-0.3	-5.8	-6.1	34
Georgia	1,444,882	1,384,625	1,378,169	1,312,739	1,375,290	-4.6	-0.2	-4.8	31
Hawaii	248,433	260,352	270,720	298,237	306,058	9.0	13.1	23.2	1
Idaho	239,812	248,641	254,269	262,832	268,000	6.0	5.4	11.8	4
Illinois	2,677,485	2,637,292	2,722,536	2,399,163	2,354,119	1.7	-13.5	-12.1	44
Indiana	620,875	643,273	590,493	566,269	576,305	-4.9	-2.4	-7.2	36
Iowa	633,096	628,784	640,610	617,253	664,070	1.2	3.7	4.9	13
Kansas	466,571	435,493	433,433	423,553	420,741	-7.1	-2.9	-9.8	41
Kentucky	670,070	670,660	644,484	684,491	652,820	-3.8	1.3	-2.6	25
Louisiana	813,839	809,661	783,699	773,750	795,040	-3.7	1.4	-2.3	24
Maine	250,493	253,060	252,319	231,861	240,780	0.7	-4.6	-3.9	28
Maryland	993,842	977,809	980,011	964,670	908,180	-1.4	-7.3	-8.6	39
Massachusetts	1,022,585	1,118,785	1,127,075	1,096,684	1,145,216	10.2	1.6	12.0	3
Michigan	1,189,483	1,246,512	1,108,978	1,077,947	955,311	-6.8	-13.9	-19.7	49
Minnesota	1,042,478	1,066,026	1,086,696	1,033,268	1,029,149	4.2	-5.3	-1.3	23
Mississippi	336,208	332,790	336,689	331,683	305,690	0.1	-9.2	-9.1	40
Missouri	829,350	831,711	917,459	982,760	1,015,523	10.6	10.7	22.4	2
Montana	250,397	248,044	245,504	252,854	261,105	-2.0	6.4	4.3	15

Nebraska	302,335	298,689	318,429	301,206	313,531	5.3	-1.5	3.7	18
Nevada	373,334	360,808	353,124	340,128	353,544	-5.4	0.1	-5.3	33
New Hampshire	231,235	225,500	212,778	213,923	205,663	-8.0	-3.3	-11.1	42
New Jersey	2,241,989	2,301,992	2,334,823	2,345,701	2,356,537	4.1	0.9	5.1	12
New Mexico	300,743	292,319	298,540	303,248	288,206	-0.7	-3.5	-4.2	29
New York	5,491,981	5,562,085	5,639,860	5,771,658	5,964,217	2.7	5.8	8.6	7
North Carolina	1,439,445	1,412,988	1,278,038	1,215,978	1,202,888	-11.2	-5.9	-16.4	47
North Dakota	151,034	182,405	192,237	180,401	165,943	27.3	-13.7	9.9	6
Ohio	2,248,507	2,132,542	2,089,011	1,978,318	1,865,750	-7.1	-10.7	-17.0	48
Oklahoma	879,879	842,610	759,575	708,176	617,891	-13.7	-18.7	-29.8	51
Oregon	655,705	659,799	656,164	631,737	632,760	0.1	-3.6	-3.5	27
Pennsylvania	2,917,928	2,974,245	2,998,027	2,974,544	3,119,352	2.7	4.0	6.9	9
Rhode Island	178,737	170,134	165,002	161,632	156,642	-7.7	-5.1	-12.4	45
South Carolina	870,907	889,715	895,530	890,175	902,895	2.8	0.8	3.7	19
South Dakota	92,252	99,086	97,434	105,184	103,001	5.6	5.7	11.7	5
Tennessee	777,424	734,672	669,934	659,384	622,459	-13.8	-7.1	-19.9	50
Texas	1,655,827	1,565,307	1,499,024	1,536,018	1,468,309	-9.5	-2.0	-11.3	43
Utah	284,345	270,288	259,108	268,887	274,913	-8.9	6.1	-3.3	26
Vermont	146,041	150,987	150,560	149,681	139,893	3.1	-7.1	-4.2	30
Virginia	929,717	897,601	920,341	922,650	950,570	-1.0	3.3	2.2	21
Washington	2,311,299	2,331,783	2,392,919	2,404,364	2,430,746	3.5	1.6	5.2	11
West Virginia	476,910	435,734	419,669	414,340	413,765	-12.0	-1.4	-13.2	46
Wisconsin	1,123,861	1,166,872	1,204,002	1,169,754	1,170,936	7.1	-2.7	4.2	16
Wyoming	162,304	191,825	184,398	178,444	175,053	13.6	-5.1	7.9	8
Total Non-Federal	$58,854,746	$59,524,411	$59,184,429	$58,312,270	$58,315,074	0.6	-1.5	-0.9	
All Federal[a]	$3,775,592	$3,693,254	$3,681,205	$3,705,848	$3,603,265	-2.5	-2.1	-4.6	
Federal Employees[b]	$3,006,009	$2,948,132	$2,940,811	$2,988,242	$2,890,670	-2.2	-1.7	-3.8	
TOTAL	$62,630,338	$63,217,665	$62,865,633	$62,018,117	$61,918,340	0.4	-1.5	-1.1	

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 2016* 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.

North Dakota and Wyoming have exclusive state funds and do not allow self-insurance. In 2016, 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 2016, their state funds accounted for approximately 80 percent of total benefits paid. Among the 18 other states which have a state fund, the share of benefits accounted for by the fund ranged from less than 10 percent (California, New Mexico, Pennsylvania, South Carolina) to greater than 50 percent (Idaho, Montana) in 2016.

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 to greater than 50 percent in 2016.

Among the states which do not have a state fund, private carriers typically accounted for 70 to 80 percent of benefits paid in 2016, while self-insured employers accounted for 20 to 30 percent. Alabama is an outlier, with self-insured employers accounting for 50.3 percent of benefits paid in 2016 – by far the highest of any state. Hawaii has the second highest share of benefits paid by self-insured employers, accounting for 37.9 percent of total benefits paid in 2016. In the other direction, Indiana, South Dakota, Tennessee, Vermont, and Wisconsin are outliers, with private carriers accounting for more than 85 percent of benefits paid in these states and self-insured employers less than 15 percent.[30]

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 because of differences in state workers' compensation statutes.[31] 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. When premium rates are declining, employers 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 responses to the Academy's survey.

Medical benefits paid. Table 8 also shows, for each state, the amount of medical benefits paid, and medical benefits as a percentage of total benefits. In 2016, the share of medical benefits was highest in Wisconsin (78.2%), Indiana (70.8%), and Alabama (69.9%); and lowest in Washington (31.3%), Rhode Island (32.9%), and Massachusetts (33.5%). The median share of medical benefits was 54.2 percent, indicating that in the majority of jurisdictions (34 of 51), medical benefits exceeded cash benefits in 2016.

Medical benefits accounted for 51 percent of total non-federal workers' compensation benefits paid in 2016. In 2/3 of states, medical benefits were a larger share of total benefits paid than were cash benefits for injured workers.

30 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 might not be permitted to offer employers' liability coverage, federal LHWCA coverage, or excess coverage for authorized self-insurers.

31 Some states, for example, do not collect assessments for special workers' compensation funds from self-insured employers, thereby increasing the incentive to self-insure. Special funds include second injury funds, and funds that pay for certain types of claims, such as claims from commercial fishermen, coal workers with pneumoconiosis, and others. For a detailed list of the special funds included in this report, please refer to the Sources and Methods appendix.

State Trends in Benefits Paid

Table 9 shows total workers' compensation benefits paid in each state in the years 2012 to 2016. Over the five-year period, benefits decreased in 29 jurisdictions, with the largest percentage decreases in Oklahoma (-29.8%), Tennessee (-19.9%), and Michigan (-19.7%). Benefits increased in the remaining 22 jurisdictions, with the largest increases in Hawaii (23.2%) and Missouri (22.4%). No other state experienced an increase in benefits of more than 15 percent.

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 are also affected by changes to a state's legal system for processing claims, such as changes in statutory rules, legal decisions, administrative processes, or reporting requirements. 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 ways stakeholders interact with the system over time (e.g., whether or not employees/employers exercise their right to choose a physician); changes in return to work and vocational rehabilitation efforts; and changes to coverage requirements (e.g. special exclusions for small employers or agricultural employers).

Table 10 shows trends in *medical benefits* in each state between 2012 and 2016. The national trend was a slight (-0.5%) decrease in medical benefits over the period. Among non-federal payers, medical benefits paid increased 2.0 percent between 2012 and 2014 but the trend reversed and medical benefits declined 2.7 percent between 2014 and 2016. Across the entire time-period, medical benefits fell in 30 jurisdictions and total non-federal medical benefits declined 0.8 percent. The states with the largest percentage increases in medical benefits across the five years reported in the study include: Hawaii (30.3%), Missouri (21.6%), and Wisconsin (17.1%). The states with the largest percentage decreases in medical benefits include: Oklahoma (-21.3%), Ohio (-18.4%), West Virginia (-17.5%), and Texas (-17.5%).

Table 11 shows trends in *cash benefits* in each state between 2012 and 2016. Nationally, total cash benefits decreased by 1.8 percent over the five years reported in the study, so it is not surprising that a majority of states (30) experienced a decrease in cash benefits paid. Across states, however, the change in cash benefits varied widely. States with the largest increases in cash benefits include: South Dakota (30.3%), North Dakota (26.5%) and Missouri (23.6%). States with the largest decreases include: Oklahoma (-36.4%), Michigan (-36.2%), and Tennessee (-32.6%).

Nationally, both medical and cash benefits decreased between 2012 and 2016, with a larger percentage decrease in cash benefits. However, the experience of individual states varied widely.

Benefits Per $100 of Covered Payroll

Much of the interstate variation in benefit payments described above can be attributed to different trends in employment and wages across states, rather than to structural differences in state workers' compensation systems. To control for differential changes in employment and wages over the time period we study, we construct a standardized measure of benefits (benefits per $100 of covered payroll). Variations in the standardized measure of benefits capture interstate differences in: (1) the incidence, nature, and severity of work-related injuries and illnesses; (2) the quantity, prices, and effectiveness of medical services provided to injured workers; (3) the dollar value of cash benefits (driven by factors such as the benefit replacement rate, maximum and minimum weekly benefits, the waiting and retroactive periods, and the maximum allowable duration of benefits); and (4) public and private investments to reduce durations of work absence, as well as vocational rehabilitation efforts to reduce the functional impairment associated with work-related injuries.

The reader is cautioned that the data on standardized benefits (benefits paid per $100 of covered

Table 10

Workers' Compensation Medical Benefits Paid and Five-Year Percent Change by State, 2012-2016

State	Medical Benefits (thousands)					Percent Change			Ranking (1=largest percent increase, 2012-2016)
	2012	2013	2014	2015	2016	2012-2014	2014-2016	2012-2016	
Alabama	$434,691	$439,846	$437,327	$421,673	$420,297	0.6	-3.9	-3.3	30
Alaska	167,802	175,237	164,631	164,829	149,781	-1.9	-9.0	-10.7	43
Arizona	471,806	471,980	487,289	488,740	509,410	3.3	4.5	8.0	10
Arkansas	134,474	146,758	137,890	127,163	133,313	2.5	-3.3	-0.9	22
California	6,656,522	7,026,074	6,982,254	6,765,550	6,721,152	4.9	-3.7	1.0	21
Colorado	481,182	474,099	451,134	467,622	443,035	-6.2	-1.8	-7.9	39
Connecticut	450,116	460,583	466,666	441,698	396,591	3.7	-15.0	-11.9	46
Delaware	130,169	142,986	142,399	131,466	123,038	9.4	-13.6	-5.5	34
District of Columbia	40,048	47,938	40,799	44,056	42,474	1.9	4.1	6.1	15
Florida	2,238,750	2,284,649	2,278,863	2,183,895	2,149,532	1.8	-5.7	-4.0	31
Georgia	731,110	700,620	682,193	643,242	720,652	-6.7	5.6	-1.4	26
Hawaii	108,069	111,431	121,553	133,610	140,786	12.5	15.8	30.3	1
Idaho	155,638	161,368	161,461	170,053	170,984	3.7	5.9	9.9	6
Illinois	1,175,416	1,186,782	1,227,864	1,086,821	1,059,354	4.5	-13.7	-9.9	41
Indiana	455,723	471,519	432,831	397,521	408,024	-5.0	-5.7	-10.5	42
Iowa	357,066	337,657	336,320	330,847	351,957	-5.8	4.6	-1.4	27
Kansas	272,944	258,248	268,295	258,791	270,116	-1.7	0.7	-1.0	23
Kentucky	372,559	366,851	358,333	379,893	353,828	-3.8	-1.3	-5.0	33
Louisiana	428,893	435,597	423,197	429,431	444,428	-1.3	5.0	3.6	17
Maine	116,730	121,469	120,104	111,061	115,334	2.9	-4.0	-1.2	25
Maryland	451,204	456,637	457,665	446,642	423,212	1.4	-7.5	-6.2	36
Massachusetts	357,089	375,334	379,676	374,091	383,981	6.3	1.1	7.5	13
Michigan	422,455	531,556	507,046	536,562	466,097	20.0	-8.1	10.3	5
Minnesota	566,776	591,929	599,523	558,168	557,701	5.8	-7.0	-1.6	28
Mississippi	189,958	198,343	198,983	197,351	177,300	4.8	-10.9	-6.7	37
Missouri	475,218	470,749	522,034	551,328	577,832	9.9	10.7	21.6	2
Montana	157,249	158,748	159,823	169,159	173,635	1.6	8.6	10.4	4

Nebraska	185,936	183,993	198,381	191,266	200,973	6.7	1.3	8.1	9
Nevada	182,933	181,847	175,503	172,105	188,793	-4.1	7.6	3.2	19
New Hampshire	153,540	146,800	142,349	137,980	136,766	-7.3	-3.9	-10.9	44
New Jersey	1,151,149	1,171,198	1,208,561	1,215,413	1,198,337	5.0	-0.8	4.1	16
New Mexico	175,934	173,345	162,406	173,458	165,142	-7.7	1.7	-6.1	35
New York	1,877,169	1,839,020	1,960,803	1,957,315	2,021,817	4.5	3.1	7.7	12
North Carolina	659,266	648,562	593,009	562,998	559,343	-10.1	-5.7	-15.2	47
North Dakota	90,894	109,455	110,983	99,034	89,869	22.1	-19.0	-1.1	24
Ohio	893,121	889,709	817,137	775,374	728,592	-8.5	-10.8	-18.4	50
Oklahoma	388,027	380,017	353,202	336,384	305,238	-9.0	-13.6	-21.3	51
Oregon	361,294	348,374	351,048	337,979	335,363	-2.8	-4.5	-7.2	38
Pennsylvania	1,349,850	1,411,841	1,437,701	1,392,057	1,467,476	6.5	2.1	8.7	7
Rhode Island	56,481	54,103	57,586	48,813	51,535	2.0	-10.5	-8.8	40
South Carolina	380,586	411,938	407,466	407,700	408,109	7.1	0.2	7.2	14
South Dakota	63,561	67,081	66,353	70,473	65,612	4.4	-1.1	3.2	18
Tennessee	457,903	440,803	408,660	413,434	407,088	-10.8	-0.4	-11.1	45
Texas	1,018,334	965,795	903,912	895,499	839,873	-11.2	-7.1	-17.5	48
Utah	200,463	188,931	182,412	182,843	190,515	-9.0	4.4	-5.0	32
Vermont	73,021	73,984	78,442	77,834	71,345	7.4	-9.0	-2.3	29
Virginia	561,549	545,742	567,850	572,965	609,316	1.1	7.3	8.5	8
Washington	742,658	741,875	762,486	733,882	761,149	2.7	-0.2	2.5	20
West Virginia	240,363	227,889	205,638	204,270	198,194	-14.4	-3.6	-17.5	49
Wisconsin	781,897	899,879	934,385	903,160	915,964	19.5	-2.0	17.1	3
Wyoming	110,008	132,291	130,452	119,383	118,514	18.6	-9.2	7.7	11
Total Non-Federal Medical Benefits	$30,155,592	$30,839,458	$30,762,878	$29,992,883	$29,918,763	2.0	-2.7	-0.8	
All Federal[a]	$1,110,074	$1,110,860	$1,200,519	$1,217,995	$1,202,765	8.1	0.2	8.4	
Federal Employees[b]	$924,622	$923,564	$1,011,450	$1,041,353	$1,029,995	9.4	1.8	11.4	
TOTAL	$31,265,666	$31,950,317	$31,963,396	$31,210,877	$31,121,529	2.2	-2.6	-0.5	

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 2016* available at www.nasi.org.

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

b. Included in the federal benefits total.

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 Paid and Five-Year Percent Change by State, 2012-2016

	Cash Benefits (thousands)					Percent Change			Ranking (1=largest percent increase, 2012-2016)
State	2012	2013	2014	2015	2016	2012-2014	2014-2016	2012-2016	
Alabama	$209,295	$199,465	$199,248	$195,711	$180,986	-4.8	-9.2	-13.5	42
Alaska	80,059	74,388	67,571	70,641	77,850	-15.6	15.2	-2.8	27
Arizona	246,316	244,226	247,687	248,425	243,042	0.6	-1.9	-1.3	23
Arkansas	70,517	75,940	72,308	72,152	74,017	2.5	2.4	5.0	15
California	4,879,753	5,090,192	5,110,416	5,272,920	5,418,293	4.7	6.0	11.0	9
Colorado	364,481	339,107	337,562	362,968	358,113	-7.4	6.1	-1.7	26
Connecticut	519,962	556,156	522,033	539,853	500,674	0.4	-4.1	-3.7	29
Delaware	86,418	97,327	106,986	96,774	101,894	23.8	-4.8	17.9	4
District of Columbia	75,698	83,040	77,460	76,316	77,171	2.3	-0.4	1.9	16
Florida	1,143,048	1,150,913	1,092,236	1,004,273	1,025,552	-4.4	-6.1	-10.3	37
Georgia	713,772	684,005	695,975	669,497	654,638	-2.5	-5.9	-8.3	34
Hawaii	140,365	148,921	149,167	164,627	165,271	6.3	10.8	17.7	5
Idaho	84,174	87,273	92,808	92,780	97,016	10.3	4.5	15.3	6
Illinois	1,502,069	1,450,511	1,494,672	1,312,342	1,294,765	-0.5	-13.4	-13.8	43
Indiana	165,153	171,754	157,662	168,748	168,281	-4.5	6.7	1.9	17
Iowa	276,030	291,127	304,290	286,405	312,113	10.2	2.6	13.1	8
Kansas	193,627	177,246	165,138	164,762	150,625	-14.7	-8.8	-22.2	47
Kentucky	297,511	303,809	286,151	304,599	298,991	-3.8	4.5	0.5	21
Louisiana	384,946	374,063	360,502	344,319	350,613	-6.4	-2.7	-8.9	36
Maine	133,763	131,591	132,215	120,799	125,447	-1.2	-5.1	-6.2	32
Maryland	542,638	521,172	522,346	518,028	484,968	-3.7	-7.2	-10.6	38
Massachusetts	665,496	743,451	747,399	722,593	761,235	12.3	1.9	14.4	7
Michigan	767,028	714,956	601,932	541,386	489,214	-21.5	-18.7	-36.2	50
Minnesota	475,703	474,098	487,173	475,100	471,448	2.4	-3.2	-0.9	22
Mississippi	146,251	134,447	137,706	134,332	128,390	-5.8	-6.8	-12.2	40
Missouri	354,133	360,963	395,425	431,432	437,690	11.7	10.7	23.6	3
Montana	93,148	89,296	85,681	83,695	87,470	-8.0	2.1	-6.1	30
Nebraska	116,399	114,697	120,048	109,940	112,558	3.1	-6.2	-3.3	28

Nevada	190,400	178,961	177,622	168,023	164,752	-6.7	-7.2	-13.5	41
New Hampshire	77,695	78,699	70,430	75,943	68,897	-9.4	-2.2	-11.3	39
New Jersey	1,090,840	1,130,794	1,126,263	1,130,288	1,158,200	3.2	2.8	6.2	13
New Mexico	124,808	118,974	136,134	129,790	123,064	9.1	-9.6	-1.4	24
New York	3,614,812	3,723,065	3,679,057	3,814,343	3,942,400	1.8	7.2	9.1	10
North Carolina	780,179	764,427	685,028	652,980	643,545	-12.2	-6.1	-17.5	46
North Dakota	60,139	72,950	81,254	81,368	76,074	35.1	-6.4	26.5	2
Ohio	1,355,386	1,242,833	1,271,874	1,202,944	1,137,158	-6.2	-10.6	-16.1	45
Oklahoma	491,853	462,593	406,372	371,792	312,653	-17.4	-23.1	-36.4	51
Oregon	294,412	311,425	305,116	293,758	297,397	3.6	-2.5	1.0	18
Pennsylvania	1,568,078	1,562,404	1,560,326	1,582,488	1,651,876	-0.5	5.9	5.3	14
Rhode Island	122,256	116,031	107,416	112,819	105,107	-12.1	-2.2	-14.0	44
South Carolina	490,320	477,777	488,064	482,475	494,786	-0.5	1.4	0.9	19
South Dakota	28,690	32,005	31,082	34,711	37,390	8.3	20.3	30.3	1
Tennessee	319,521	293,869	261,274	245,950	215,371	-18.2	-17.6	-32.6	49
Texas	637,493	599,513	595,113	640,520	628,436	-6.6	5.6	-1.4	25
Utah	83,882	81,357	76,696	86,044	84,398	-8.6	10.0	0.6	20
Vermont	73,021	77,003	72,118	71,847	68,547	-1.2	-5.0	-6.1	31
Virginia	368,168	351,860	352,491	349,684	341,255	-4.3	-3.2	-7.3	33
Washington	1,568,641	1,589,908	1,630,432	1,670,482	1,669,597	3.9	2.4	6.4	12
West Virginia	236,547	207,845	214,031	210,071	215,572	-9.5	0.7	-8.9	35
Wisconsin	341,964	266,993	269,617	266,594	254,972	-21.2	-5.4	-25.4	48
Wyoming	52,296	59,534	53,946	59,061	56,539	3.2	4.8	8.1	11
Total Non-Federal Cash Benefits	$28,699,153	$28,684,953	$28,421,551	$28,319,387	$28,396,311	-1.0	-0.1	-1.1	
All Federal[a]	$2,665,518	$2,582,394	$2,480,686	$2,487,853	$2,400,500	-6.9	-3.2	-9.9	
Federal Employees[b]	$2,081,387	$2,024,568	$1,929,360	$1,946,890	$1,860,675	-7.3	-3.6	-10.6	
TOTAL	$31,364,671	$31,267,347	$30,902,237	$30,807,240	$30,796,811	-1.5	-0.3	-1.8	

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 2016* 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.

Table 12

Workers' Compensation Total Benefits Paid Per $100 of Covered Payroll by State, 2012-2016

State	2012	2013	2014	2015	2016	Dollar Amount Change 2012-2014	Dollar Amount Change 2014-2016	Dollar Amount Change 2012-2016	Ranking (1=largest percent increase, 2012-2016)
Alabama	$0.93	$0.90	$0.87	$0.81	$0.77	-$0.06	-$0.10	-$0.16	27
Alaska	1.61	1.58	1.41	1.38	1.40	-0.20	-0.01	-0.21	42
Arizona	0.67	0.65	0.64	0.61	0.60	-0.03	-0.04	-0.07	12
Arkansas	0.49	0.53	0.48	0.44	0.44	-0.01	-0.04	-0.05	9
California	1.39	1.41	1.32	1.22	1.18	-0.07	-0.14	-0.21	39
Colorado	0.77	0.71	0.64	0.64	0.59	-0.13	-0.05	-0.18	34
Connecticut	0.97	1.01	0.95	0.91	0.83	-0.02	-0.12	-0.14	25
Delaware	1.05	1.14	1.13	0.99	0.97	0.08	-0.16	-0.08	14
District of Columbia	0.30	0.33	0.28	0.27	0.26	-0.02	-0.02	-0.04	5
Florida	1.15	1.13	1.04	0.92	0.87	-0.11	-0.17	-0.28	49
Georgia	0.86	0.80	0.75	0.68	0.67	-0.11	-0.08	-0.19	36
Hawaii	1.05	1.05	1.04	1.09	1.07	-0.01	0.03	0.02	3
Idaho	1.12	1.11	1.07	1.05	1.01	-0.05	-0.06	-0.11	21
Illinois	0.93	0.90	0.89	0.75	0.72	-0.04	-0.17	-0.21	41
Indiana	0.55	0.56	0.49	0.45	0.44	-0.06	-0.05	-0.11	20
Iowa	1.09	1.05	1.02	0.94	0.99	-0.07	-0.03	-0.10	19
Kansas	0.89	0.81	0.77	0.73	0.72	-0.12	-0.05	-0.17	30
Kentucky	0.98	0.96	0.88	0.89	0.82	-0.10	-0.06	-0.16	27
Louisiana	1.03	1.00	0.92	0.90	0.94	-0.11	0.02	-0.09	15
Maine	1.17	1.15	1.11	0.98	0.98	-0.06	-0.13	-0.19	36
Maryland	0.81	0.79	0.77	0.72	0.66	-0.04	-0.11	-0.15	26
Massachusetts	0.53	0.56	0.53	0.49	0.49	0.00	-0.04	-0.04	6
Michigan	0.68	0.69	0.58	0.54	0.46	-0.10	-0.12	-0.22	43
Minnesota	0.82	0.81	0.79	0.71	0.69	-0.03	-0.10	-0.13	24
Mississippi	0.95	0.91	0.90	0.86	0.78	-0.05	-0.12	-0.17	29
Missouri	0.81	0.79	0.84	0.86	0.86	0.03	0.02	0.05	2

Montana	1.67	1.60	1.52	1.49	1.49	-0.15	-0.03	-0.18	31
Nebraska	0.87	0.83	0.85	0.76	0.77	-0.02	-0.08	-0.10	16
Nevada	0.78	0.72	0.67	0.61	0.60	-0.11	-0.07	-0.18	34
New Hampshire	0.80	0.76	0.68	0.65	0.60	-0.12	-0.08	-0.20	38
New Jersey	1.03	1.03	1.02	0.98	0.96	-0.01	-0.06	-0.07	12
New Mexico	1.04	1.00	0.98	0.97	0.92	-0.06	-0.06	-0.12	22
New York	1.04	1.03	0.98	0.96	0.98	-0.06	0.00	-0.06	11
North Carolina	0.90	0.85	0.73	0.66	0.63	-0.17	-0.10	-0.27	47
North Dakota	0.83	0.93	0.88	0.84	0.85	0.05	-0.03	0.02	3
Ohio	1.03	0.96	0.90	0.82	0.75	-0.13	-0.15	-0.28	50
Oklahoma	1.53	1.40	1.21	1.10	0.98	-0.32	-0.23	-0.55	51
Oregon	0.93	0.90	0.84	0.75	0.71	-0.09	-0.13	-0.22	44
Pennsylvania	1.11	1.11	1.08	1.03	1.06	-0.03	-0.02	-0.05	10
Rhode Island	0.88	0.81	0.75	0.70	0.67	-0.13	-0.08	-0.21	39
South Carolina	1.30	1.29	1.23	1.15	1.12	-0.07	-0.11	-0.18	31
South Dakota	0.67	0.69	0.65	0.66	0.63	-0.02	-0.02	-0.04	6
Tennessee	0.71	0.66	0.58	0.53	0.48	-0.13	-0.10	-0.23	45
Texas	0.39	0.35	0.32	0.31	0.29	-0.07	-0.03	-0.10	18
Utah	0.59	0.54	0.49	0.47	0.46	-0.10	-0.03	-0.13	23
Vermont	1.24	1.24	1.20	1.15	1.06	-0.04	-0.14	-0.18	31
Virginia	0.55	0.52	0.53	0.50	0.51	-0.02	-0.02	-0.04	6
Washington	1.59	1.54	1.47	1.40	1.32	-0.12	-0.15	-0.27	47
West Virginia	1.83	1.66	1.57	1.54	1.57	-0.26	0.00	-0.26	46
Wisconsin	1.03	1.04	1.03	0.96	0.93	0.00	-0.10	-0.10	16
Wyoming	1.36	1.58	1.44	1.41	1.49	0.08	0.05	0.13	1
Total Non-Federal	$0.96	$0.95	$0.89	$0.84	$0.81	-$0.07	-$0.08	-$0.15	
Federal Employees	$1.45	$1.46	$1.42	$1.39	$1.32	-$0.03	-$0.10	-$0.13	
TOTAL	$0.99	$0.97	$0.92	$0.86	$0.83	-$0.07	-$0.09	-$0.16	

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

Source: National Academy of Social Insurance estimates.

payroll) *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). Standardized benefits could be high or low in a given state for a number of reasons completely unrelated to the adequacy of benefits injured workers receive.[32] For example, if a state has a disproportionate share of risky occupations (e.g., mining), all else 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 12 shows benefits paid per $100 of covered payroll, by state, from 2012 through 2016. Nationwide, total benefits paid were $0.83 per $100 of covered payroll in 2016, down $0.16 from 2012. Benefits per $100 of covered payroll decreased by $0.07 between 2012 and 2014, and by $0.09 between 2014 and 2016. As shown in Figure 1, standardized benefits have decreased nearly 30 percent from the 20-year high of $1.26 per $100 of covered payroll in 1996.

Nationwide, workers' compensation benefits were $0.83 per $100 of covered payroll in 2016, down from $1.26 in 1996.

Between 2012 and 2016, benefits per $100 of covered payroll decreased in 47 jurisdictions. Thirteen states experienced a decrease in standardized benefits of between $0.20 to $0.55 over the five-year period. Benefits per $100 of covered payroll increased in only four states: Wyoming, Missouri, Hawaii, and North Dakota.

State outliers. Between 2012 and 2016, the states experiencing the largest decreases in standardized benefits were Oklahoma (-$0.55 per $100 of covered payroll), Tennessee (-$0.23), and Michigan (-$0.22). Only one state, Wyoming, experienced a double-digit increase in standardized benefits ($0.13 per $100 of covered payroll).

In addition to the opt-out law that was in effect from 2014 through part of 2016, Oklahoma implemented other significant changes to its workers' compensation statutes during the study period. The revisions included: 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 the maximum TTD benefit amount and duration, and adoption of a new administrative system governed by a three-member Workers' Compensation Commission.[33] Overall in Oklahoma, medical benefits declined by 21.3 percent and cash benefits by 36.4 percent over the study period. The majority of the decline occurred after the new legislation was passed – medical and cash benefits were 19.7 and 32.4 percent lower, respectively, in 2016 compared to 2013.

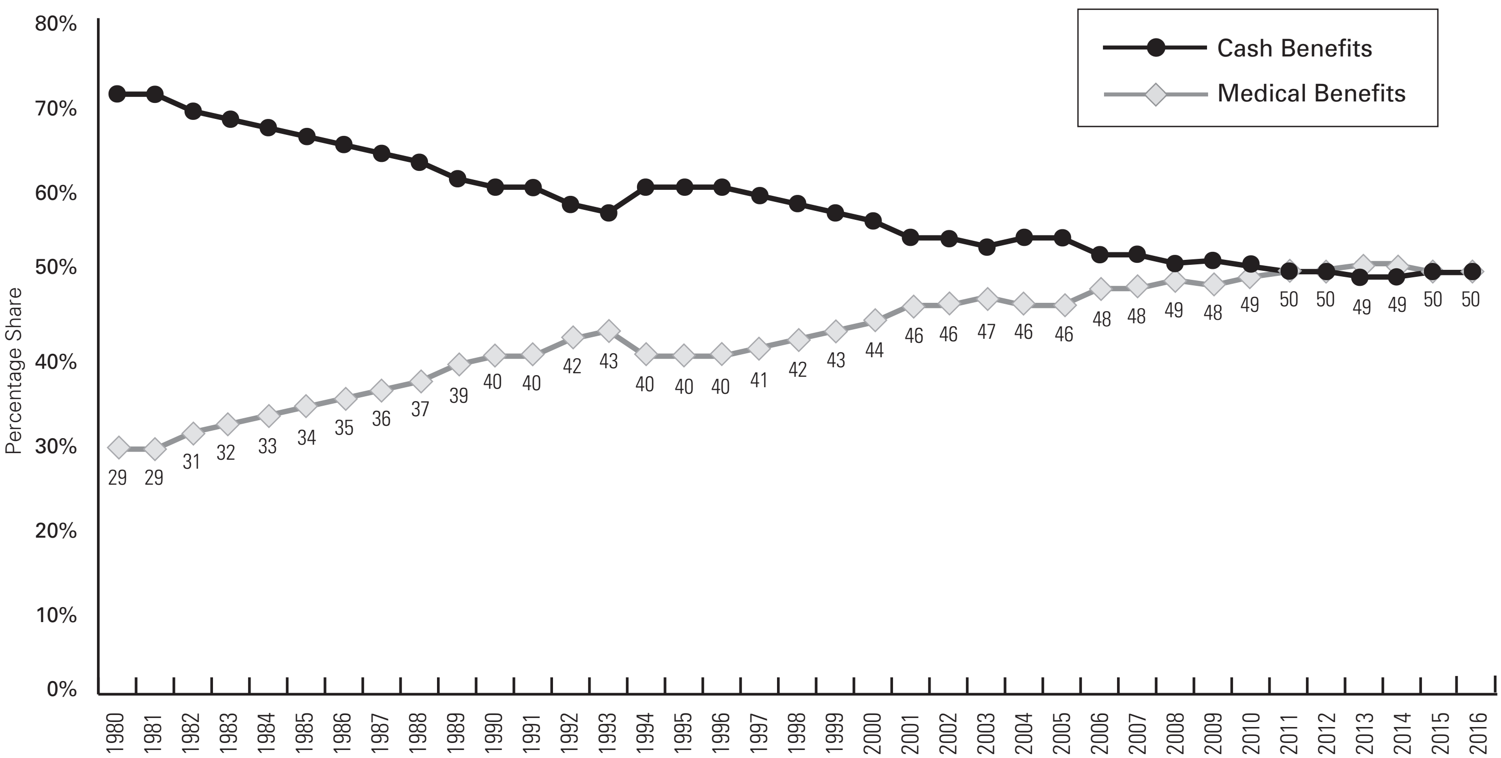
In 2013, Tennessee enacted a Workers' Compensation Reform Act which took effect on January 1, 2014 (Tennessee Bureau of Workers Compensation, 2017). The legislation established a new administrative process for resolving claims, overseen by a new Court of Workers' Compensation Claims and a Workers' Compensation 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

32 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, Washington, Wisconsin), but the data for estimating wage losses are not available for most states. Please refer to Savych and Hunt (2017), Seabury et al. (2014), Hunt and Dillender (2014), Boden et al. (2005), and Hunt (2004) for a review of studies evaluating benefit adequacy.

33 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 since the legislative changes were implemented in 2014. There were 7,705 claims filed in 2016, down 48 percent from 2012 (Oklahoma Workers' Compensation Commission, 2017). Employer's first notice of injury filings also declined 35 percent over the same time period. The decline is not due to a decline in employment – the rate of claims filed per 100 workers also fell from 0.94 to 0.47 from 2012 to 2016. The statutory changes did make some previously compensable injuries non-compensable and there is anecdotal evidence that the claimant attorney or claimant population may have forgone filing claims, including fraudulent claims that have been discouraged or weeded out by the statutory changes (Personal communication with Stormy Moore, Director of Permitting Services, Oklahoma Workers' Compensation Commission).

Figure 3

Percentage Share of Medical and Cash Benefits, 1980-2016



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

benefit rates were reduced, although the maximum duration of 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. Medical benefits decreased by 11.1 percent and cash benefits by 32.6 percent over the study period.

In 2011, Michigan enacted changes to its workers' compensation laws that included: redefining disability and post-injury work capacity, and strengthening the criteria required to establish disability and/or wage loss.[34] In contrast to the experience of Oklahoma and Tennessee, the decrease in benefits in Michigan between 2012 and 2016 is entirely due to a decline in cash benefits (cash benefits decreased by 36.2 percent over the study period, while medical benefits increased by 10.3 percent).

In July 2009, Wyoming instituted workers' compensation reforms that increased cash benefits paid to injured workers and their families.[35] The reforms increased the duration of death benefits paid to a spouse from 4.5 to 8 years, and increased the amount of death benefits paid to surviving children. For injured workers, the reforms established a minimum weekly benefit for TTD claims, increased awards for PPD claims, and tied future benefits for PTD claims to inflation. Following these reforms,

34 Before the change in law, "disability" was defined 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." After the new law was passed in 2011, "limitation of wage earning capacity" was defined as 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.

35 Wyoming State Legislature, 2009 General Session, HB 54.

the Office of Administrative Hearings experienced a significant decrease in the numbers of workers' compensation claims contested by the state, which likely also contributed to the increase in benefits paid per $100 of covered payroll. Medical benefits increased by 7.7 percent and cash benefits by 8.1 percent between 2012 and 2016.

Cash Benefits by Type of Claim

The National Council on Compensation Insurance (NCCI) provides data on the relative incidence of each type of disability claim (temporary total, permanent partial, permanent total, and fatalities) as a proportion of the total number of cases receiving cash benefits, and total benefits *incurred* (NCCI 2018a). 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 2014, 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.[36] The bulk of total benefits for workers' compensation go to permanent disability claims, of which permanent partial disability claims are most common.[37] In 2014, temporary total disability (TTD) claims accounted for 61.2 percent of all indemnity claims, but only 33.9 percent of benefits incurred (Figures 4a & 4b). PPD claims accounted for 38.2 percent of indemnity claims, but 56.1 percent of benefits incurred.

Between 1996 and 2014, TTD claims *decreased* as a share of all indemnity claims (-11.0 percentage points), but *increased* as a share of benefits incurred (+8.7 percentage points). At the same time, PPD claims *increased* as a share of indemnity claims (+11.3 percentage points) but *decreased* as a share of benefits incurred (-5.8 percentage points). Over this time period, 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 2014). However, these claims tend to be expensive. In 2014, PTD and fatality claims represented 0.6 percent of total indemnity claims, but 9.9 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 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). A detailed, state-by-state explanation of how the cost estimates are produced is provided in *Sources and Methods: A Companion to Workers' Compensation Benefits, Costs, and Coverage, 2016*, available on the Academy's website (www.nasi.org/research/workers-compensation). 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 cost of workers' compensation in any year

36 In 2014, medical-only claims accounted for 75 percent of all workers' compensation claims, but less than 10 percent of all benefits paid (NCCI, 2018a). Since 1999, there has been a gradual decline in the share of medical-only claims from 78.3 percent to the current 75.0 percent. On the other hand, the share of benefits paid for medical only claims has increased from 6.2 percent in 1999 to 7.5 percent of overall benefits in 2014.

37 Workers' compensation claims are typically classified 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 4a

Types of Disabilities in Workers' Compensation Cases with Cash Benefits, 1996-2014

Percentage of Cases

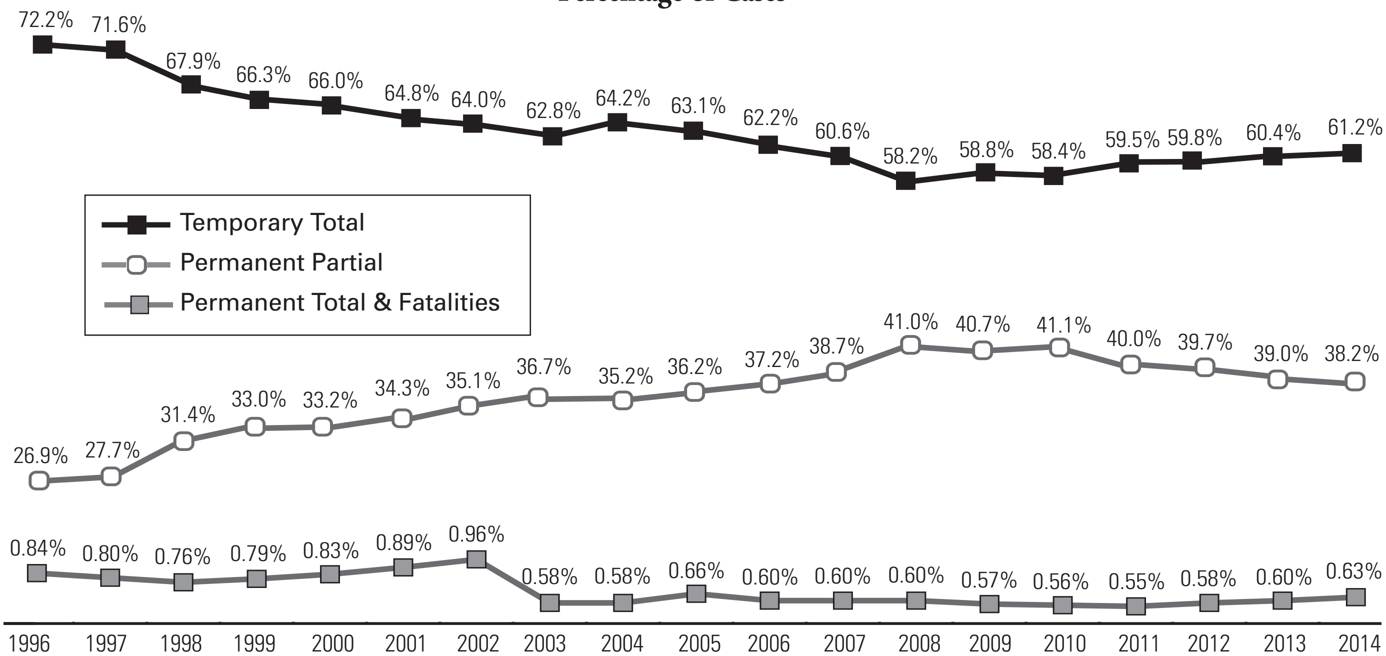
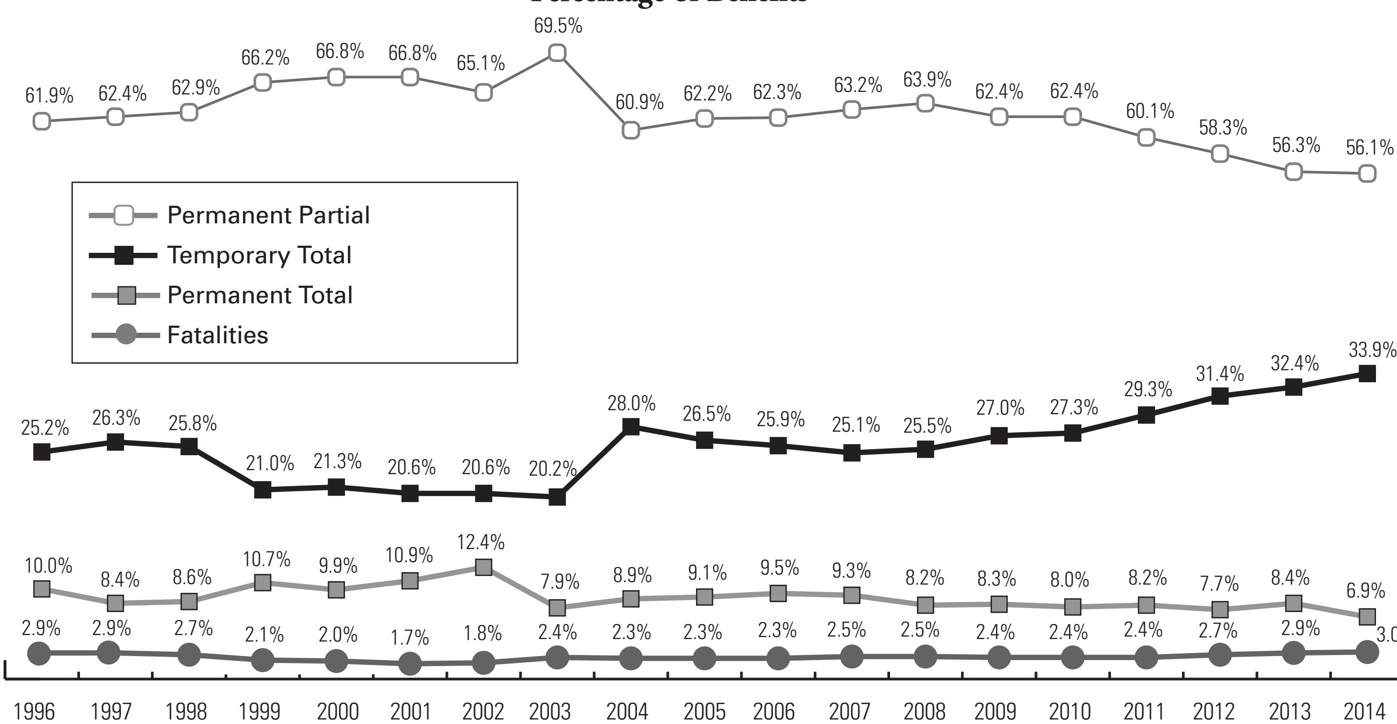


Figure 4b

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 fatalites 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 1995-2017, *Annual Statistical Bulletin*, Exhibits X and XII.

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, taxes, licenses, and fees. Self-insured employers generally do not report 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, 2018). 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.[38]

For the federal employee workers' compensation program, employer costs are benefits paid plus administrative costs, as reported by the Department of Labor (DOL, 2018).

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 estimated 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.

Because the Academy compiles data on employer costs from a variety of sources, there are some limitations. First, there may be some direct workers' compensation costs not captured in the estimates. We may, for example, miss 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 salary during periods of light duty or other post-injury job accommodation. Some of this voluntary payment is a loss to the employer because of the reduced productivity of the workers being accommodated. Finally, our estimates do not include the costs imposed on workers, families, and society in the form of pain and suffering, and losses of productivity. 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 1996 through 2016. In 2016, total employer costs were $96.5 billion, an increase of 1.1 percent from 2015, and 14.0 percent from 2012.

The increase in total employer costs is largely explained by trends in labor markets over the study period. When costs are standardized to control for changes in employment and payrolls, the results show that employer costs actually decreased by $0.04 per $100 of covered payroll between 2012 and 2016 (Table 14). Among non-federal employers, costs per $100 of covered payroll decreased $0.05 across the study time-period, and the downward trend is concentrated more in recent years. After increasing to $1.34 in 2013, non-federal employer costs per $100 of covered payroll declined $0.08 to $1.26 in 2016.

In 2016, costs for employers insured through private carriers were 62.0 percent of total costs ($59.9 billion); costs for employers insured through state funds were 13.5 percent ($13.0 billion); costs for self-insured employers were 18.6 percent ($18.0 billion); and costs to federal government programs were 5.9 percent ($5.7 billion) (Table 13). Over the five-year

38 Private insurers face some cost factors, such as commissions, profit allowances, and taxes on premiums that self-insurers do not face. The 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 2016). 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).

In previous reports, the national average of NAIC's estimates of administrative costs was used to calculate self-insurer costs for each state. This report updates the 2012-2016 estimates of administrative costs using NAIC's state-by-state estimates (for more detail see Sources and Methods 2016).

Table 13

Workers' Compensation Employer Costs by Type of Insurer, 1996-2016

Year	Total (millions)	% Change	Private Insured[a] (millions)	Private Insured[a] % of total	State Fund Insured[a] (millions)	State Fund Insured[a] % of total	Self-Insured[a] (millions)	Self-Insured[a] % of total	Federal[b] (millions)	Federal[b] % of total
1996	53,898	-5.6	31,081	57.7	8,480	15.7	11,736	21.8	2,601	4.8
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	88,821	4.9	54,680	61.6	12,057	13.6	17,480	19.7	4,604	5.2
2014	92,993	4.7	56,943	61.2	13,256	14.3	17,879	19.2	4,914	5.3
2015	95,530	2.7	58,886	61.6	13,266	13.9	17,945	18.8	5,432	5.7
2016	96,534	1.1	59,883	62.0	13,020	13.5	17,973	18.6	5,658	5.9

a Costs for second injury funds and special funds are included in the totals from 1996 onwards. 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 2016.

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 1997–2016 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.

study period (2012-2016), the share of costs paid by self-insured employers decreased by 2.5 percentage points, while the shares accorded to private insured, state funds, and the federal government increased slightly.

State Estimates of Employer Costs

Table 14 reports estimates of employer costs for workers' compensation per $100 of covered payroll by state from 2012 to 2016. Costs are aggregated across all types of insurers (excluding the federal government). Consistent with the national trend, employer costs per $100 of covered payroll decreased in 39 jurisdictions.

States that experienced the largest decreases in standardized costs include: Oklahoma (-$0.79), West Virginia (-$0.43), Alaska (-$0.39), North Dakota ($-0.36), and Montana (-$0.36).

The large decline in standardized costs in Oklahoma is likely the result of multiple factors. First, as described earlier, Oklahoma implemented significant changes to its workers' compensation laws (see pg. 28 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 payroll would *over-estimate* coverage, which would result in lower standardized costs (and benefits) than they should be.[39]

In West Virginia, the reductions continued a downward trend that began when the state changed from an exclusive state fund in 2008 to a private carrier system after 2009, along with substantial reductions in the statutory levels of benefits. The effects of the changes appear to be stabilizing, however. Employer costs declined by $0.29 per $100 of covered payroll between 2012 and 2014, compared to only $0.14 per $100 between 2014 and 2016.

The large decrease in employer costs in Alaska occurred between 2012 and 2014 (-$0.39 per $100 of covered payroll. In 2014, the state approved legislation tightening its medical fee schedule and reducing time limits for filing or appealing claims for medical services (NCSL, 2014). In North Dakota, there were large decreases in standardized employer costs in 2012-2014 (-$0.13) and 2014-2016 (-$0.23). The decline in standardized costs likely reflect changes to its workers' compensation law, enacted in 2013, that affected both medical and cash benefits.[40] In Montana, the cost reductions occurred primarily in the first half of the study period (-$0.25 in 2012-2014 vs. -$0.11 in 2014-2016), after the state implemented a number of changes to its workers' compensation laws in 2011.[41]

Employer costs per $100 of covered payroll increased in only 12 states between 2012 and 2016. The largest increases occurred in Hawaii ($0.22 per $100 of covered payroll), Delaware ($0.22), and Wyoming ($0.18). The increases in Hawaii likely reflect increases in the fee schedule for medical services enacted in 2013 (NCSL, 2013). Indeed, Hawaii experienced the highest percent increase in total medical benefits paid (30.3%) in the country between 2012 and 2016 (Table 10). The increase in standardized employer costs in Delaware occurred entirely in the 2012-2014 period. In June 2013, Delaware enacted legislative changes to its worker's compensation law intended to control workers' compensation costs, after which standardized

39 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, 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 (compared to $0.98) in 2016. It is possible that the number of employers opting-out of OK's workers' compensation system increased in 2015 and 2016, which would lead to a greater difference in standardized costs and benefits.

40 In April 2013, the North Dakota legislature approved changes to the state's workers' compensation statute which included: 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).

41 Effective July 1, 2011, Montana established utilization review and treatment guidelines for medical care and instituted a cap on medical benefits at 260 weeks. Other changes during this period limited eligibility for indemnity benefits (Personal communication from Richard Martin, workers' compensation attorney.)

employer costs have stabilized.[42] The increase in employer costs as a share of payroll in Wyoming occurs mostly in the 2012-2014 period, and likely reflects changes to the state's workers' compensation law enacted in 2009 (see pg. 35 for more details).

> *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, because the Academy's estimates do not control for differences across states in the relative risk of their industry/ occupation mix.*

Although there is considerable inter-state variation in employer costs for workers' compensation per $100 of covered payroll, 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 employer 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 industries. Consider, for example, two industries: logging, for which the workers' compensation rate is $40 per $100 of payroll, and banking, for which the rate is $1 per $100 of payroll. 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 payroll. State B has 20 percent of its employees in logging and 80 percent in banking, so average employer costs for workers' compensation are $8.20 per $100 of payroll. If Timber-R-Us moved from State A to State B to take advantage of the lower average costs of workers' compensation, they would not save on workers' compensation costs. Timber-R-Us would continue to pay workers' compensation premiums of $40 per $100 of payroll.

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 (based on industries and occupations) in each state. Such comparisons are beyond the scope of this report.

Furthermore, the cost data reported here may 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 2016 include a substantial proportion of cash benefits paid for injuries that occurred in prior years, under legal regimes and economic conditions that may have been quite different from the current conditions in a state.

Benefits Paid Relative to Employer Costs

Table 15 reports ratios of workers' compensation benefits paid relative to employer costs, from 1996 to 2016. The benefits and costs measures are standardized estimates, that is, per $100 of covered payroll, so their ratio represents benefits paid per $1 of employer costs.

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 *and for some injuries that occurred in prior years*. The costs measure (premiums paid to insurers and state funds) includes projected future liabilities for injuries/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.[43]

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42 In 2013, in response to recommendations of the Workers' Compensation Task Force, Delaware increased medical cost controls and requirements for utilization review; and expanded return-to-work options and workplace safety programs (NCSL, 2013).

43 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 injuries that occur in the same year and 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 (some are modified to account for previous workers' compensation liability experience) and may incorporate insurers' past and anticipated investment returns on reserves set aside to cover future liabilities.

Table 14

Employer Costs for Workers' Compensation Per $100 of Covered Payroll by State, 2012-2016

						Dollar Amount Change			Ranking
State	2012	2013	2014	2015	2016	2012-2014	2014-2016	2012-2016	(1=largest percent increase, 2012-2016)
Alabama	$1.19	$1.17	$1.17	$1.14	$1.10	-$0.02	-$0.07	-$0.09	32
Alaska	2.71	2.55	2.32	2.26	2.32	-0.39	0.00	-0.39	49
Arizona	0.90	0.98	1.01	0.98	0.95	0.11	-0.06	0.05	11
Arkansas	0.78	0.86	0.80	0.79	0.76	0.02	-0.04	-0.02	17
California	1.86	1.97	2.02	1.98	1.97	0.16	-0.05	0.11	6
Colorado	0.95	0.98	1.03	1.05	1.02	0.08	-0.01	0.07	7
Connecticut	1.22	1.30	1.31	1.30	1.23	0.09	-0.08	0.01	12
Delaware	1.25	1.45	1.44	1.43	1.47	0.19	0.03	0.22	1
District of Columbia	0.52	0.60	0.53	0.63	0.48	0.01	-0.05	-0.04	21
Florida	1.47	1.50	1.51	1.36	1.32	0.04	-0.19	-0.15	39
Georgia	1.17	1.16	1.14	1.11	1.10	-0.03	-0.04	-0.07	26
Hawaii	1.45	1.51	1.57	1.64	1.67	0.12	0.10	0.22	1
Idaho	1.63	1.67	1.66	1.70	1.70	0.03	0.04	0.07	7
Illinois	1.32	1.31	1.29	1.21	1.15	-0.03	-0.14	-0.17	42
Indiana	0.85	0.88	0.85	0.84	0.81	0.00	-0.04	-0.04	20
Iowa	1.60	1.63	1.60	1.56	1.54	0.00	-0.06	-0.06	25
Kansas	1.33	1.35	1.31	1.22	1.14	-0.02	-0.17	-0.19	44
Kentucky	1.16	1.15	1.10	1.08	1.02	-0.06	-0.08	-0.14	38
Louisiana	1.57	1.52	1.53	1.46	1.45	-0.04	-0.08	-0.12	35
Maine	1.45	1.42	1.40	1.37	1.37	-0.05	-0.03	-0.08	30
Maryland	1.07	1.07	1.09	1.07	1.00	0.02	-0.09	-0.07	27
Massachusetts	0.78	0.77	0.74	0.71	0.74	-0.04	0.00	-0.04	21
Michigan	0.97	1.04	0.97	0.92	0.81	0.00	-0.16	-0.16	40
Minnesota	1.07	1.07	1.07	1.06	1.06	0.00	-0.01	-0.01	13
Mississippi	1.37	1.41	1.51	1.42	1.29	0.14	-0.22	-0.08	31
Missouri	1.09	1.12	1.22	1.22	1.21	0.13	-0.01	0.12	5

Montana	2.48	2.24	2.23	2.15	2.12	-0.25	-0.11	-0.36	47
Nebraska	1.32	1.35	1.34	1.28	1.25	0.02	-0.09	-0.07	27
Nevada	0.98	1.01	1.02	0.99	0.95	0.04	-0.07	-0.03	18
New Hampshire	1.29	1.31	1.25	1.16	1.10	-0.04	-0.15	-0.19	43
New Jersey	1.39	1.48	1.56	1.52	1.51	0.17	-0.05	0.12	4
New Mexico	1.46	1.48	1.55	1.54	1.41	0.09	-0.14	-0.05	24
New York	1.44	1.45	1.41	1.43	1.50	-0.03	0.09	0.06	9
North Carolina	1.18	1.20	1.15	1.09	1.06	-0.03	-0.09	-0.12	33
North Dakota	1.81	1.81	1.68	1.63	1.45	-0.13	-0.23	-0.36	48
Ohio	1.02	1.01	1.07	0.87	0.75	0.05	-0.32	-0.27	46
Oklahoma	2.24	2.15	1.89	1.68	1.45	-0.35	-0.44	-0.79	51
Oregon	1.14	1.16	1.11	1.01	1.02	-0.03	-0.09	-0.12	33
Pennsylvania	1.51	1.52	1.48	1.47	1.44	-0.03	-0.04	-0.07	27
Rhode Island	1.11	1.11	1.13	1.14	1.17	0.02	0.04	0.06	10
South Carolina	1.84	1.83	1.81	1.74	1.72	-0.03	-0.09	-0.12	35
South Dakota	1.34	1.37	1.31	1.28	1.21	-0.03	-0.10	-0.13	37
Tennessee	1.10	1.09	0.99	0.91	0.88	-0.11	-0.11	-0.22	45
Texas	0.74	0.75	0.73	0.67	0.57	-0.01	-0.16	-0.17	41
Utah	0.92	0.92	0.92	0.88	0.88	0.00	-0.04	-0.04	21
Vermont	1.82	1.96	1.80	1.82	1.79	-0.02	-0.01	-0.03	18
Virginia	0.77	0.75	0.75	0.75	0.76	-0.02	0.01	-0.01	13
Washington[a]	1.71	1.71	1.65	1.67	1.70	-0.06	0.05	-0.01	13
West Virginia	1.87	1.72	1.58	1.60	1.44	-0.29	-0.14	-0.43	50
Wisconsin	1.75	1.72	1.69	1.72	1.74	-0.06	0.05	-0.01	13
Wyoming	1.85	2.03	2.01	2.04	2.03	0.16	0.02	0.18	3
Total Non-Federal	$1.31	$1.34	$1.33	$1.29	$1.26	$0.02	-$0.07	-$0.05	
Federal Employees	$2.19	$2.28	$2.38	$2.53	$2.58	$0.19	$0.20	$0.39	
TOTAL	$1.34	$1.37	$1.36	$1.33	$1.30	$0.02	-$0.06	-$0.04	

* *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 Washington state both employers and employees contribute to workers' compensation premiums. In 2016, employees contributed 22 percent of total premiums (25 percent of state fund premiums and 11 percent of self-insured employer cost-of-living-adjustment premiums).

Source: National Academy of Social Insurance estimates.

Table 15

Workers' Compensation Benefit/Cost Ratios, 1996-2016

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
1996	0.50	0.76	1.26	1.62	0.78
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	1.36	0.68
2015	0.43	0.43	0.86	1.33	0.65
2016	0.42	0.41	0.83	1.30	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.

Source: National Academy of Social Insurance estimates.

In 2016, total workers' compensation benefits paid were $0.83 per $100 of covered payroll, $0.42 for medical benefits and $0.41 for cash benefits. Employer costs were $1.30 per $100 of covered payroll. As shown in Figure 1, these figures represent the lowest level of standardized benefits in the last 35 years, and one of the lowest levels of standardized costs. The benefit/cost ratio was 0.64 in 2016, that is, $0.64 of benefits were paid per $1 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 include a risk premium to compensate for the expected variance in costs from year to year.

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

The benefit/cost ratio in 2016 (0.64) was at its lowest point since 2006. The ratio increased by $0.17 per $100 of covered payroll between 2006 and 2010, then declined by $0.16 between 2010 and 2016. 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.

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, 2018a). 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, supplemental 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 estimates of employer costs per hour worked, inclusive of wages, salaries, and employee benefits.[44]

The purpose of the Academy's report is quite different. The BLS collects data on a broad range of employee benefits while the Academy focuses on workers' compensation. The Academy seeks to provide summary data on workers' compensation benefits paid to workers, and costs borne by employers, at a state and national level. Our estimates of $61.9 billion in benefits paid and $96.5 billion in costs borne by employers in 2016 are the only data that answer questions about aggregate benefits and costs of workers' compensation.

The Academy's estimates compared to Oregon Rate Ranking estimates. The Oregon Workers' Compensation Rate Ranking study (Oregon Department of Consumer and Business Services, 2016), 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.[45] The standardized rates are based on the Oregon mix of insurance classifications, hence the rankings could be somewhat different if standardized based on another state.

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.[46]

44 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 now published by the National Institute of Occupational Safety and Health (NIOSH), is derived from different methods of data collection compared to the Academy.

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

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

Direct and Indirect Costs to Workers

In some states a portion of the costs of workers' compensation are explicitly paid by workers. In Washington, for example, workers contribute directly to the insurance premiums for workers' compensation. In 2016, about 22 percent of the total costs of workers' compensation in Washington were paid directly by workers.[47] In some states, workers' pay a portion of special funds. For example, in Oregon, workers pay into the Workers' Benefit Fund. New Mexico has a quarterly assessment per worker. This report primarily covers the employer paid portion of workers' compensation. However, the workers' compensation costs to employees in Washington are included in our estimates.

The costs to workers also include the portion of lost wages that are not replaced by workers' compensation benefits because of the formulae used to calculate benefits. Most workers' compensation statutes provide that weekly benefits are two-thirds of pre-injury wages. However, the statutes also include weekly maximum and minimum benefit amounts, so that in the aggregate, the mean replacement rate is less than the two-thirds nominal replacement rate. In addition, many states impose limits on the duration of permanent partial disability benefits (so that benefits may ceases while workers are still experiencing lost earnings from a workplace injury or illness). The duration limits further reduce the real replacement rate of cash benefits.[48]

In addition, there are costs borne by workers 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, 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, however in Alaska and New Mexico the retroactive period is 28 days, and in Nebraska it 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 may constitute costs to the worker. The financial costs of uncompensated waiting periods are not routinely tracked or reported by individual states 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 (FMLA), 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 claim disputes; attorney fees can siphon off 20 percent or more of the indemnity payment to their clients. Insured employers are represented by their insurance carrier in legal proceedings, but time off work for managers and other witnesses to participate in hearings is a cost borne by the employer.

47 Employees contributed 24.7 percent of state fund premiums and paid half of the cost-of-living-adjustment premium for self-insured employers in 2016, which accounted for 10.6 percent of self-insured workers' compensation costs.

48 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.

Table 16

Fatal Occupational Injuries and Fatal Injury Rates, All and Wage & Salary Workers, 1996-2016

	Number of Fatal Injuries		Fatal Injury Rates	
Year	All	Wage & Salary Workers	All	Wage & Salary Workers
1996	6,112	4,905	4.8	4.2
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	4.0	3.6
2007[b]	5,657	4,613	4.0	3.5
2008	5,214	4,183	3.7	3.2
2009	4,551	3,488	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

Notes: 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 fataly 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 (2017).

Finally, a large portion of costs borne by workers are for work-related injuries and illnesses that never result in a workers' compensation claim. In particular, occupational illnesses are frequently uncompensated (see, e.g., Boden and Ozonoff, 2008; Fan et al., 2006; Rosenman et al., 2006; 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 2017). According to the BLS data, 5,190 fatal work-related injuries occurred in 2016, an *increase* of 7.3 percent from 2015, and the highest number of fatalities recorded since 2008 (Table 16). Over the 20-year period from 1996-2016, however, total workplace fatalities declined by 15 percent, and the fatality *rate* (controlling for employment) declined by approximately 25 percent.[49]

In 2016, the total number of fatalities included 4,098 (79%) wage and salary workers and 1,092 (21%) self-employed workers. Self-employed workers, who represented 10 to 12 percent of the U.S. workforce between 1996 and 2016 (Hipple and Hammond, 2016), accounted for 18 to 22 percent of fatal workplace injuries (but would not be covered by workers' compensation).

The leading cause of work-related fatalities in 2016 was transportation incidents, accounting for almost half (40.1%) of all fatal injuries. Other leading causes of fatalities were: falls, slips, and trips (16.4%); contact with objects and equipment (14.7%); exposure to harmful substances or environments (10.0%); and injuries by persons or animals (8.7%). Homicides accounted for 417 (8.0%) work-related fatalities in 2016 (DOL, 2017).

Annual work-related fatalities have declined 15 percent over the last two decades, despite a slight uptick in recent years in response to the expanding economy.

Nonfatal injuries and illnesses. The BLS collects information on reported nonfatal work-related injuries or illnesses from a sample survey of employers (Survey of Occupational Injuries and Illnesses) (DOL 2017a). The survey reported 2.86 million recordable nonfatal workplace injuries and illnesses in *private industry* workplaces in 2016, and roughly one-third (892,270) involved days away from work (DOL, 2017a). Both metrics declined from 2015 – nonfatal workplace injuries and illnesses declined 1.7 percent and cases involving days away from work fell 1.1 percent – despite the increases in employment.

The incidence rate per 100 FTE workers, which controls for changes in employment levels, also declined from 3.0 per 100 workers in 2015 to 2.9 in 2016 (Table 17 and Figure 5). 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 1996, the incidence rate has decreased 61 percent from 7.4 per 100 FTE workers, to 2.9 per 100 in 2016. Since 2002, after the Occupational Safety and Health Administration (OSHA) changed recordkeeping requirements, the incidence rate per 100 FTE workers is down 45 percent.[50]

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 employers 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, 2017a).

The incidence of reported injuries or illnesses involving days away from work has also declined, down from 2.2 per 100 FTE workers in 1996 to 0.9 per 100 in 2016, the second year in which the rate has been below 1.0 per 100 workers across the entire time-period (Table 17 and Figure 5). While the incidence rate of injuries or illnesses involving days away from work has declined steadily since 1996, the

49 Prior to 2007, BLS fatal injury rates represented the number of fatal occupational injuries per 100,000 employed workers. Since 2007, 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). Hence, rates before and after are 2007 are not strictly comparable, and the 25 percent reduction in fatalities is an approximation.

50 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, 1996-2016

	Number of Cases (millions)			Incidence Rate (per 100 full-time workers)		
Year	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
1995	6.6	2.0	0.9	8.1	2.5	1.1
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

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

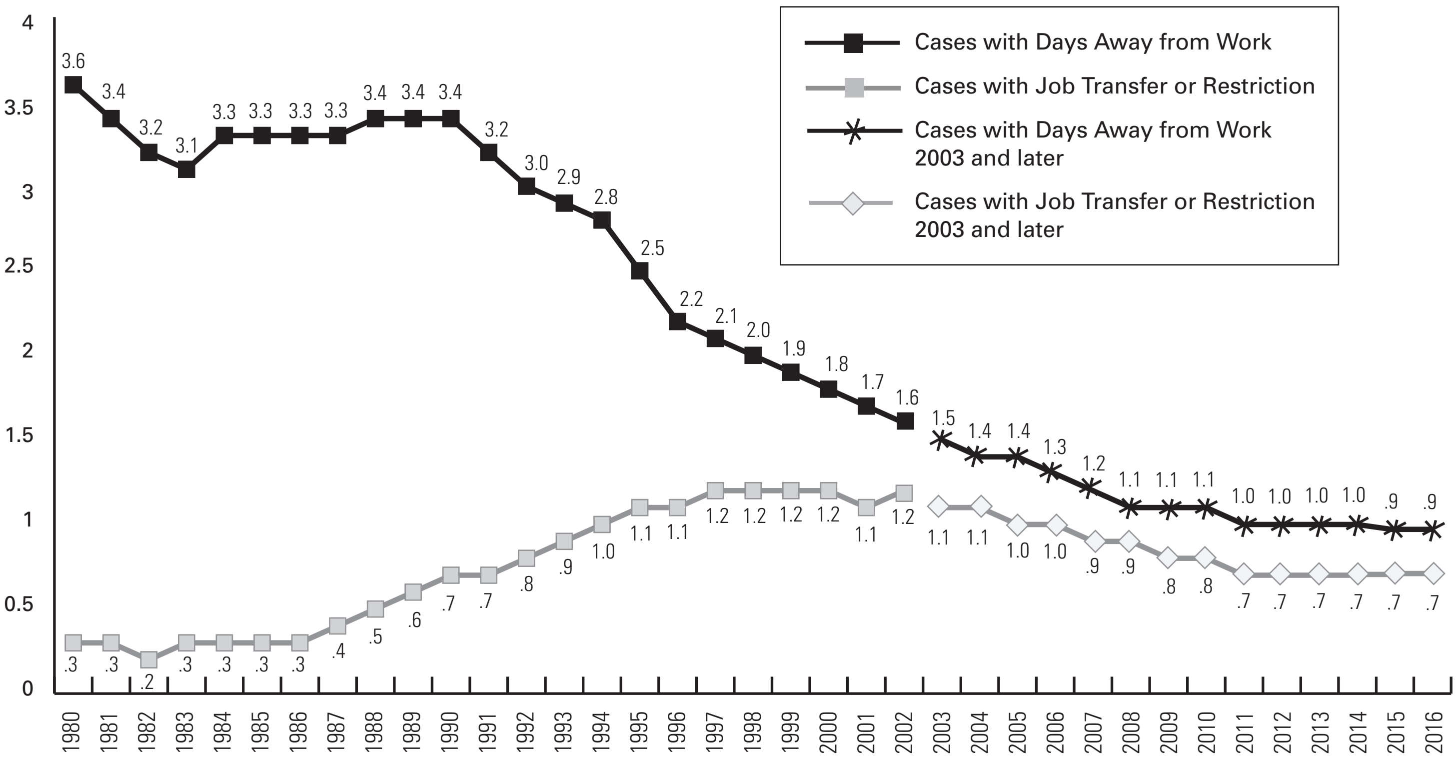
Source: U.S. Department of Labor (2017a).

incidence of cases resulting in job transfers or work restrictions has fluctuated. The rate of cases with a job transfer or restriction held consistent at about 1.1 per 100 FTE workers until 2004, after which time the rate dropped 36 percent to reach 0.7 in 2011, where it has remained until 2016.

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

Figure 5

Private Industry Occupational Injuries and Illnesses: Incidence Rates, 1980-2016



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).

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 any days away from work or with a job transfer or restriction. This suggests that injured workers today have a higher probability of benefiting from employer accommodations compared to the past.

In 2016, the most common nonfatal workplace injuries and illnesses that resulted in days away from work in private industry were: sprains, strains, and tears (36.3 per 10,000 FTE workers); soreness or pain, including back pain (16.8); cuts, lacerations, and punctures (9.3); bruises and contusions (8.8); and fractures (8.5) (DOL, 2017a). The three occupational groups with the highest incidence of injuries and illnesses involving days away from work in private industry were: transportation and material moving occupations (229.3 per 10,000 FTE); installation, maintenance, and repair occupations (175.9); and building and grounds cleaning and maintenance occupations (169.2). Each of these occupational groups had incidence rates that were more than 180 percent of the incidence rate (91.7 per 10,000 FTE) for the private sector as a whole (DOL, 2017a).

Table 18

Number of Workers' Compensation Claims Per 100,000 Insured Workers: Private Carriers in 38 Jurisdictions, 1996-2014

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%
Percent change, 1996-2014							
	-55.0		-56.3		-58.2		-30.1

Source: National Council on Compensation Insurance, 1997-2018, Exhibit XII, *Annual Statistical Bulletin*. The most recent data available is 2014.

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, 2018a).[51] The data, replicated in Table 18 for years 1996-2014 (the most recent year reported), show declining trends in the incidence of

51 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.

claims similar to the declining trends in incidence of work-related injuries reported by the BLS.

According to the NCCI data, the number of workers' compensation claims covered by private-insured employers declined by 55.0 percent between 1996 and 2014 (compared to the BLS estimate of a 51.9 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 58.2 percent between 1996 and 2014 (compared to the BLS estimate of a 52.1 percent decline in injuries and illnesses involving days away from work for private industry employers) (Tables 17 & 18).[52]

The reader is cautioned that injury rates which have been extrapolated from workers' compensation claims data may be biased, because key stakeholders have incentives to under-report or over-report occupational injuries and illnesses.[53] There are many reasons to suspect under-reporting on the part of workers, employers, and/or medical providers. *Workers* may not report injuries because: they do not know an injury is covered by workers' compensation; they believe filing for benefits is too time-consuming, difficult, or stressful; they believe 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 not 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). *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 a workplace connection.[54]

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).

52 While the trends in private sector injury or illness claims from the BLS and NCCI are similar across 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 worker misses at least one day away from work is classified as a "days away from work" (DAFW) case by OSHA and reflected 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 the NCCI only records workers' compensation claims for private insurers and competitive state funds in 38 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 OSHA recordkeeping or Survey of Occupational Injury and Illness reporting instructions, leading to underreporting of workers' compensation eligible claims in BLS data (Rappin et al., 2016).

53 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.

54 Studies have typically shown much less reporting of these types of conditions as work-related than 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 they have been pressured to provide less treatment in order to avoid the need to report an injury or illness as work-related (GAO, 2009).

Addendum

Other Disability Benefit Programs

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. 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.

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 64 percent of all private-sector employees had access to some type of paid sick leave in 2016, 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. Sick leave can be used to cover wage losses for the waiting period (three to seven days) of a 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 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).[55] All these factors 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). Some private employers offer short-term disability insurance to their workers even in states where such insurance is not required. About 40 percent of private industry workers had access to short-term disability insurance in 2016, and 39 percent were covered (DOL, 2017c). 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 benefits. Long-term disability insurance covered 32 percent of private-sector employees in 2016 (DOL, 2017c). Such coverage is most common among relatively high-paying management, professional, and related occupations. About 56 percent of workers in management and professional-related occupations were covered by long-term disability plans as of 2016, compared to 31 percent of workers in sales and office occupations, and 11 percent of workers in service occupations (DOL, 2017c). 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.

55 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.

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, 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.[56]

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 experience.

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 2016, workers' compensation benefits paid (cash benefits plus medical payments) totaled $61.9 billion. SSDI paid $142.7 billion in wage replacement benefits to disabled persons and their dependents, and Medicare paid $96.3 billion for medical care for disabled persons under age 65, for a total of $239.0 billion (SSA, 2017b; CMS, 2018).

Dual beneficiaries. If a worker becomes eligible for both SSDI and workers' compensation cash benefits, one or both programs will reduce benefits to avoid making excessive payments relative to the worker's past earnings.[57] 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.[58] The offset provision affects 35 states; 15 states which had

56 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.

57 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 improving the interaction between the two programs.

58 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)).

Table 19

Dual Eligible Individuals: Social Security Disability Insurance (SSDI) Beneficiaries with Workers' Compensation (WC) or Public Disability Benefits (PDB), 2016

	Total		Workers		Dependents	
Type of Case	Number	Percent	Number	Percent	Number	Percent
All Disability Insurance Beneficiaries	10,610,070	100.0	8,808,738	100.0	1,801,334	100.0
Total Dual Eligibles	1,212,604	11.7	997,113	11.3	215,491	12.0
Currently Receiving SSDI and WC or PDB	593,606	5.6	490,412	5.6	103,194	5.7
SSDI Reduced by Cap	97,674	0.9	74,167	0.8	23,507	1.3
SSDI Not Reduced by Cap	378,779	3.6	318,604	3.6	60,175	3.3
Reverse Jurisdiction	47,244	0.4	39,132	0.4	8,112	0.5
Pending Decision on WC or PDB	69,909	0.7	58,509	0.7	11,400	0.6
SSDI Previously Offset by WC or PDB	618,998	5.8	506,701	5.8	112,297	6.2

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, 2017a).

established reverse-offset laws prior to the 1965 legislation received exemptions.[59] In reverse-offset states, workers' compensation benefits are reduced (or "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 law. Medicare is the secondary payer for medical costs after the workers' compensation insurer's obligation is met.

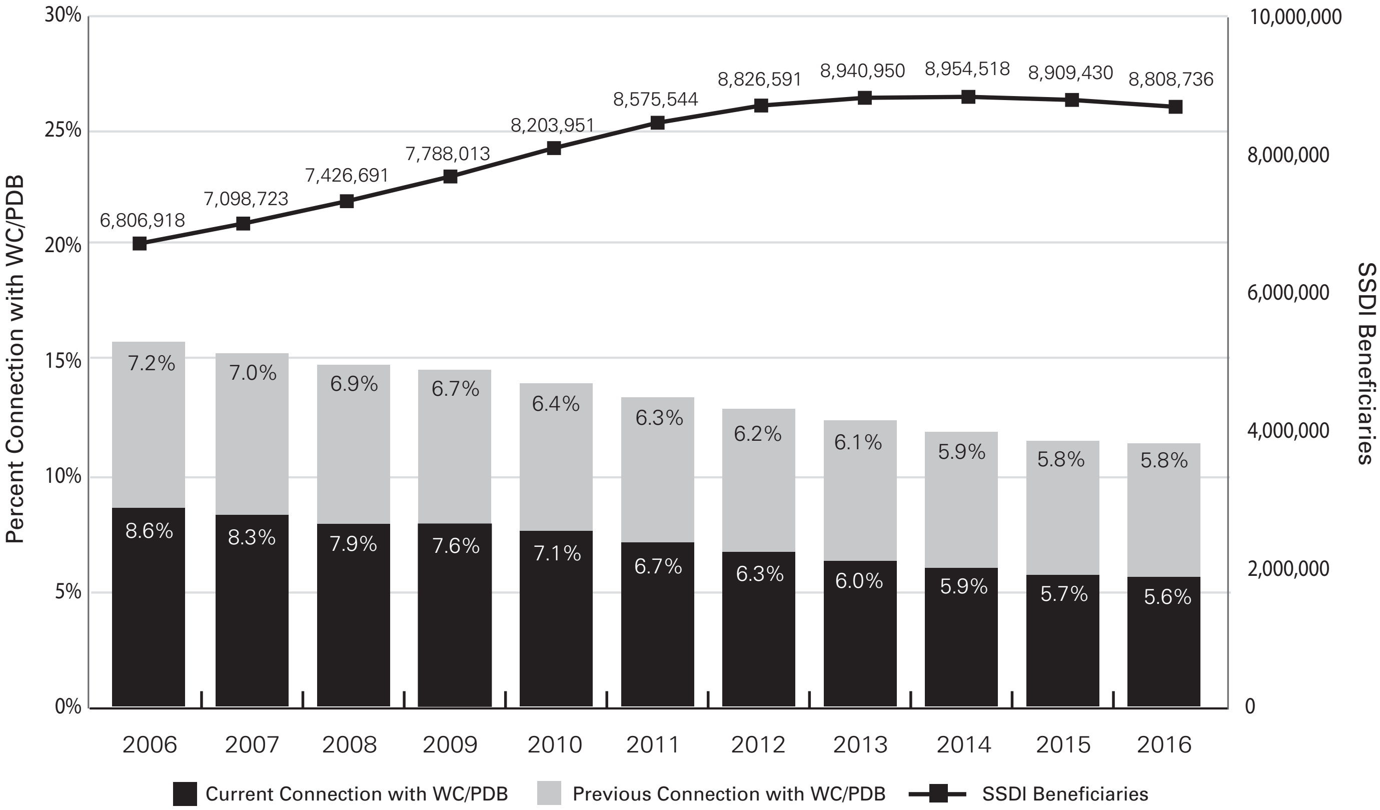
As of December 2016, about 8.8 million workers with disabilities and 1.8 million dependents received SSDI benefits (SSA, 2018a) (Table 19). About 594,000 (5.6%) of these individuals were dual beneficiaries of workers' compensation or other public disability benefit (PDB) programs in 2016.[60] Of these, about 98,000 persons (0.9% of total

59 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 only apply 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 52105.001). Legislation in 1981 eliminated the states' option to adopt reverse offset laws.

60 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 Disabilty Benefits, 2006-2016



beneficiaries; 16.5% of beneficiaries currently receiving SSDI and WC or PDB) were currently receiving reduced SSDI benefits because of the offset provision.

Between 2006 and 2016, the total number of disabled workers receiving SSDI benefits increased 29.4 percent, though there was a 1.6 percent decline from 2014 to 2016 (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 percentage points to 5.6 percent of all SSDI recipients in 2016. The decline in the proportion of SSDI recipients with a current connection to WC or PDB is a result 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 15.7 percent over the time-period. The proportion of SSDI recipients with a previous connection to WC or PDB also declined between 2006 and 2016, 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 4.2 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.[61]

61 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. Similarly, if a state raises benefits or expands the range of compensable injuries, benefits would be expected to increase 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.

Despite the advantages of tracking benefits incurred, there are 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. 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.

Deductibles: Under deductible policies written by private carriers or state funds, the insurer is responsible for paying all of 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.

Foreign Assistance Act: An act to promote the foreign policy, security, and general welfare of the United States by assisting peoples of the world in their efforts toward economic development and internal and external security, and for other purposes.

Guaranty Fund: 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.

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 strict 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 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: 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. 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 form of government insurance, mandated for most employers, that provides statutory 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, 2017b). 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 payroll 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, 2016b).

Key assumptions underlying the Academy's estimates of workers' compensation coverage, shown in Table A.1, 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, 2016).

(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 eight states: Arkansas, Georgia, Michigan, New Mexico, North Carolina, Virginia, West Virginia, and Wisconsin. 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 five states: Alabama, Mississippi, Missouri, Oklahoma, and Tennessee (IAIABC-WCRI, 2016). 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 an annual data series that reports national and state-level employment by enterprise size and industry.[62]

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62 Last year'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 using the SUSB for consistency.

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 2015 (the most recent year the data are available), these proportions were: Alabama, 4.4 percent; Mississippi, 4.7 percent; Missouri, 4.9 percent; Oklahoma, 5.2 percent; and Tennessee, 3.7 percent (Census SUSB, 2016).

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 (2016), 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 eight states that exempt firms with fewer than three workers, the proportions of jobs in small firms were reported to be: Arkansas, 4.8 percent; Georgia, 4.6 percent; Michigan, 4.4 percent; New Mexico, 5.1 percent; North Carolina, 4.5 percent; Virginia, 4.5 percent; West Virginia, 4.6 percent; and Wisconsin, 3.9 percent (Census SUSB, 2016). 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 2.1 percent (4.8% x 43.9%).

For the two states that exempt firms with fewer than four workers, the proportions of jobs in small firms were: Florida, 5.8 percent, and South Carolina, 4.6 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 (4.6% x 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 1.09 million jobs were excluded from workers' compensation coverage in 2016 because of small firm exemptions from mandatory coverage.

Agricultural Exemptions. We assume 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.[63] In states with agricultural exemptions, we identify the number of agricultural jobs using the Quarterly Census of Employment and Wages (DOL, 2016b). The Quarterly Census provides estimates of total employment by state and industry using North American Industry Classification System (NAICS) codes. We estimated that 436,597 jobs were excluded from workers' compensation in 2016 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, 2016). Their most recent survey estimated that 82 percent of private-sector jobs were covered by workers' compensation in 2016. 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' compensation. In 2016, 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

63 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…"

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 151.4 million in 2016 (DOL, 2017d). 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.[64,65] 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 85.6 percent of the total jobs in the economy in 2016. Since 2012, the proportion of total jobs covered by workers' compensation remained relatively stable, with a slight increase of roughly one percentage point. 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 2012 and 2016, total employment and total jobs increased 6.3 and 6.5 percent, respectively, while workers' compensation covered jobs increased 7.9 percent. The number of multiple-job holders as reported by the CPS increased to 7.5 million in 2016, up 8.5 percent since 2012 and almost reaching a pre-recession high of 7.7 million in 2007 (DOL, 2017d).

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64 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, 2017e). 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 last year's report. 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.

65 The BLS reports that 5.0 percent of the U.S. employed workforce held more than one job in 2016.

Table A.1

Documenting Workers' Compensation Coverage Estimates, 2016 Annual Averages

	Unemployment Insurance (UI) Covered Jobs[a]		Workers' Compensation (WC) Exemptions			
State	Total (1)	Private, Non-Farm Firms (2)	Small Firm[b] (3)	Agriculture[c] (4)	WC Covered Jobs (6)	WC as a Percent of UI (7)
Alabama	1,862,012	1,550,395	68,036	5,159	1,788,817	96.1
Alaska	311,031	249,687	-	-	311,031	100.0
Arizona	2,624,829	2,281,644	-	-	2,624,829	100.0
Arkansas	1,171,499	986,532	21,004	7,457	1,143,038	97.6
California	16,471,365	14,087,563	-	-	16,471,365	100.0
Colorado	2,498,641	2,133,702	-	13,303	2,485,338	99.5
Connecticut	1,648,713	1,431,154	-	-	1,648,713	100.0
Delaware	432,605	374,942	-	1,096	431,509	99.7
District of Columbia	556,177	517,165	-	-	556,177	100.0
Florida	8,172,016	7,208,131	300,567	54,053	7,817,396	95.7
Georgia	4,162,581	3,605,785	72,083	14,452	4,076,046	97.9
Hawaii	614,328	519,620	-	-	614,328	100.0
Idaho	675,091	553,346	-	-	675,091	100.0
Illinois	5,815,366	5,097,418	-	14,750	5,800,616	99.7
Indiana	2,949,519	2,582,325	-	13,243	2,936,276	99.6
Iowa	1,522,047	1,286,015	-	16,230	1,505,817	98.9
Kansas	1,345,637	1,118,195	-	10,978	1,334,659	99.2
Kentucky	1,824,560	1,561,963	-	5,013	1,819,547	99.7
Louisiana	1,877,756	1,594,608	-	4,761	1,872,995	99.7
Maine	588,775	504,676	-	3,427	585,348	99.4
Maryland	2,481,378	2,137,852	-	3,943	2,477,435	99.8
Massachusetts	3,448,413	3,059,496	-	-	3,448,413	100.0
Michigan	4,190,495	3,659,978	70,039	26,182	4,094,274	97.7
Minnesota	2,783,362	2,420,546	-	17,932	2,765,430	99.4
Mississippi	1,099,520	881,749	41,628	7,237	1,050,655	95.6
Missouri	2,700,713	2,330,677	113,550	9,568	2,577,595	95.4

Montana	441,542	367,051	-	3,943	437,599	99.1
Nebraska	951,872	795,796	-	11,729	940,143	98.8
Nevada	1,264,827	1,129,187	-	2,781	1,262,046	99.8
New Hampshire	639,727	561,390	-	-	639,727	100.0
New Jersey	3,904,586	3,373,848	-	-	3,904,586	100.0
New Mexico	778,058	618,917	13,883	8,566	755,609	97.1
New York	9,038,039	7,760,099	-	22,582	9,015,457	99.8
North Carolina	4,187,766	3,545,166	69,596	20,803	4,097,367	97.8
North Dakota	407,712	341,962	-	3,727	403,985	99.1
Ohio	5,242,197	4,592,688	-		5,242,197	100.0
Oklahoma	1,527,980	1,242,993	64,523	9,645	1,453,812	95.1
Oregon	1,812,650	1,526,171	-		1,812,650	100.0
Pennsylvania	5,641,039	5,042,419	-	20,255	5,620,784	99.6
Rhode Island	462,721	413,773	-	653	462,068	99.9
South Carolina	1,963,013	1,645,894	54,614	5,508	1,902,891	96.9
South Dakota	409,149	342,505	-	4,997	404,152	98.8
Tennessee	2,838,564	2,473,050	90,821	5,741	2,742,002	96.6
Texas[d]	11,607,943	9,914,156	-	46,331	9,472,182	81.6
Utah	1,352,803	1,160,647	-	4,767	1,348,036	99.6
Vermont	301,132	252,288	-	2,728	298,404	99.1
Virginia	3,611,642	3,086,669	61,274	8,487	3,541,881	98.1
Washington	3,140,527	2,592,776	-	-	3,140,527	100.0
West Virginia	660,877	545,869	11,122	811	648,944	98.2
Wisconsin	2,799,147	2,424,075	41,948	23,759	2,733,440	97.7
Wyoming	264,312	202,635	-	-	264,312	100.0
Total Non-Federal	139,078,254	119,687,188	1,094,688	436,597	135,457,539	97.4
Federal Employees	2,793,087				2,793,087	100.0
TOTAL	141,871,341	119,687,188	1,094,688	436,597	138,250,626	97.5

a. UI-covered employment reported in the ETA-202 data produced by the Bureau of Labor Statistics (U.S. DOL, 2017b).
b. Data on employees at small firms came from the U.S. Census Bureau (2005; 2016).
c. Data on agricultural workers came from the Quarterly Census of Employment and Wages (U.S. DOL, 2017b).
d. In 2016 there were 2,089,430 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, 2016).

Source: National Academy of Social Insurance estimates.

Table A.2

Workers' Compensation Coverage as a Percent of the Employed Workforce, 2006-2016 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)
2006	144,427	152,746	130,109	85.2	90.1
2007	146,047	154,435	131,421	85.1	90.0
2008	145,362	153,715	130,742	85.1	89.9
2009	139,877	147,872	125,053	84.6	89.4
2010	139,064	146,655	124,668	85.0	89.6
2011	139,869	147,408	126,088	85.5	90.1
2012	142,469	150,080	128,141	85.4	89.9
2013	143,929	151,711	130,368	85.9	90.6
2014	146,305	154,171	132,875	86.2	90.8
2015	148,834	156,886	135,814	86.6	91.3
2016	151,436	159,800	138,251	86.5	91.3

a. Data on total employment as reported in the Current Population Survey (DOL, 2017d).

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

c. Workers' compensation covered jobs from Table A.1 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 Academy's Estimates

Federal Employees

The Federal Employees' Compensation Act of 1916 (FECA) provided the first comprehensive workers' compensation program for federal civilian employees. In 2016, total FECA benefits were approximately $2.9 billion (Table B.1). Thirty-six percent of benefits were for medical care, a five percentage point increase from 2012. 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 $161 million in calendar year 2016, or 5.6 percent of total benefits paid (DOL, 2018). 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

Table B.1

Federal Employees' Compensation Act, Benefits and Costs, 2012-2016 (in thousands)

	2012	2013	2014	2015	2016
Total Benefits	$3,006,009	$2,948,132	$2,940,811	$2,988,242	$2,890,670
Compensation Benefits	2,081,387	2,024,568	1,929,360	1,946,890	1,860,675
Medical Benefits	924,622	923,564	1,011,450	1,041,353	1,029,995
% Medical	31	31	34	35	36
Direct Administrative Costs	157,922	158,625	173,570	156,233	161,130
Total Costs	3,163,931	3,106,757	3,114,380	3,144,475	3,051,800
Indirect Administrative Costs[a]	7,566	7,299	8,426	10,444	9,014

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 (2018).

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.

Table B.2 shows benefits paid under the LHWCA and its extensions from 2012-2016. Total benefits paid were approximately $2.1 billion, including $881 million paid by private insurance carriers, $416 million paid by self-insured employers, $110 million paid from the special fund, and $673 million paid under the DBA and other extensions. Over the five-year period, benefits under the LWHCA increased from approximately $1.9 billion in 2012 to a high of more than $2.2 billion in 2014, then declined between 2014 and 2016. Benefits under the DBA and other extensions of the Act also peaked in 2014 ($707.5 million), but the number of death claims filed declined by nearly 70 percent over the period (from 280 in 2012 to 88 in 2016).

The costs of the LHWCA program include premiums and deductibles paid by employers covered by private insurers, benefit payments and administrative costs of self-insured employers, employer assessments for the special fund, and administrative costs to the federal government that are not covered by the fund. Costs to employers covered by private insurers are included with the state estimates in this report. Other costs (excluding the administrative costs to self-insured employers, which we do not estimate) are included in the federal totals.

As shown in Table B.2, employers paid $110 million to the LWHCA special fund in 2016, which covered benefit payments of $109 million. Direct and indirect administrative costs to the federal government totaled approximately $14.6 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.

Table B.3 shows benefits paid under both parts of the black lung program from 2012 through 2016. Total benefits in 2016 were $278.6 million, of which $98.7 million was paid under Part B and $179.9 million under Part C. Part C benefits included $36.7 million for medical care (20% 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 B.3 also shows accounting data for the black lung trust fund, and federal costs for administering the program. In 2016, direct administrative costs for Part C were $33.2 million. Together with benefit payments of $179.9 million, expenditures under Part C were $213.3 million. Employers paid $436.9 million into the trust fund in 2016, but payments on past debt far exceeded the extra revenues.

Table B.2

Longshore and Harbor Workers' Compensation Act (LHWCA), Benefits, Costs, and Death Claims,[a] 2012-2016 (in thousands)

	2012	2013	2014	2015	2016
Total LHWCA Benefits	$1,363,677	$1,475,916	$1,516,786	$1,435,641	$1,414,142
Insurance Carriers	801,962	927,417	961,542	893,226	881,492
Self-Insurance Employer	430,926	420,016	429,307	421,030	416,151
LHWCA Special Fund	122,133	120,100	117,694	113,307	109,643
DCCA Special Fund	8,656	8,383	8,243	8,078	6,856
DBA benefits	540,283	665,943	707,468	667,644	673,083
Number of DBA Death Claims[b]	280	211	146	100	88
Total Annual Assessments	132,000	132,000	123,000	118,000	118,000
LHWCA	124,000	123,000	118,000	110,000	110,000
DCCA	8,000	9,000	5,000	8,000	8,000
Administrative Expenses	13,330	13,302	14,164	14,280	14,588
General Revenue	11,229	11,190	12,029	12,116	12,423
Trust Fund	2,101	2,112	2,135	2,164	2,166
Indirect Administrative Costs[c]	1,632	1,211	1,534	1,471	1,163

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 (2018).

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 B.3 and are not included in national estimates.

Federal Programs Not Included in the Academy's 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 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 B.4 provides information on benefits and costs of both Parts B and E of the EEOICPA for 2012-

Table B.3

Black Lung Benefits Act, Benefits and Costs, 2012-2016 (in thousands)

	2012	2013	2014	2015	2016
Total Benefits	$368,661	$337,282	$312,814	$287,841	$278,596
Part C Compensation	176,886	162,410	148,926	141,290	143,212
Part C Medical Benefits	30,982	34,213	36,224	33,900	36,733
Part B Compensation	160,793	140,659	127,664	112,651	98,651
Total Direct Administrative Costs	37,875	35,950	35,408	36,020	38,201
Part C (DOL)	32,486	31,085	30,633	31,198	33,236
Part B (SSA)	5,389	4,865	4,775	4,822	4,964
Trust Fund Advances from U.S. Treasury[a]	260,750	424,750	518,250	666,250	1,003,750
Bond Payments[b]	436,724	457,542	477,757	498,739	523,262
Interest Payments on Past Advances[c]	134,491	261,128	549,181	1,037,392	1,335,288
Coal Tax Revenues Received by the Black Lung Trust Fund	636,536	512,866	573,694	524,230	436,889
Indirect Administrative Costs[d]	25,767	24,661	25,489	28,972	29,430

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 (2018).

2016. In 2016, total benefits paid under Part B were $802.7 million, of which $301.6 million (38%) were paid as compensation benefits (DOL, 2018). Part E benefits in 2016 were $342.4 million, of which $278.9 million (81%) 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 B.5 shows cumulative payments

Table B.4

Benefits and Costs of the Energy Employees Occupational Illness Compensation Program Act: Parts B and E 2012-2016 (in thousands)

	2012	2013	2014	2015	2016
Total Benefits Part B	864,272	850,126	739,887	688,105	802,734
Medical Benefits[a]	316,058	353,258	383,084	392,453	501,090
Compensation Benefits	548,213	496,868	356,803	295,653	301,644
Direct Administrative Costs[b]	49,577	49,555	51,937	52,079	54,318
Total Benefits Part E[c]	331,089	351,842	302,672	308,647	342,392
Medical Benefits[d]	35,071	45,237	42,504	44,703	63,534
Compensation Benefits	296,019	306,604	260,168	263,944	278,859
Direct Administrative Costs[b]	72,259	68,523	66,752	67,530	68,500

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 2009-14 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. Part E costs for 2005-16 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; and 2016, $0.7 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 (2018).

under the Radiation Exposure Compensation Act since its enactment in 1990. From the beginning of the program through June 2018, 34,518 claims were paid for a total of $2.3 billion, or roughly $65,239 per claim (DOJ, 2018). The program is financed with federal general revenues and is not included in national totals in this report.

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 2016. As shown in Table B.6, 4.4 million veterans were receiving monthly compensation payments for service-connected disabilities in 2016. Of these, 60.4 percent of veterans had a disability rating of 30 percent or more. Total monthly payments for disabled veterans and their dependents were $5.4 billion in 2016, or about $64.7 billion for the year (VA, 2017). Hence, annual cash benefits paid under the veterans' compensation program in 2016 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

Table B.5

Radiation Exposure Compensation Act, Benefits Paid as of June, 2018 (in thousands)

Claim Type	# Claims	Benefits Approved
Downwinder	21,575	$1,078,720
Onsite Participant	4,432	322,829
Uranium Miner	6,403	639,575
Uranium Miller	1,751	175,100
Ore Transporter	357	35,700
TOTAL	34,518	$2,251,924

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

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.

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.6

Federal Veterans' Compensation Program: Fiscal Year 2016

Class of Dependent	Number	Monthly Value (in thousands)
Veteran Recipients - Total	4,356,443	$5,392,500
Veterans Less Than 30 Percent Disabled (no dependency benefit)	1,723,875	420,323
Veterans 30 Percent Disabled or More	2,632,568	4,972,518

Source: U.S. Department of Veterans Affairs (2017).

Appendix C: Workers' Compensation under State Laws

Table C identifies the parameters that determine workers' compensation benefits *under the current laws* (as of January 2018) in each jurisdiction. The table is adapted from the IAIABC (International Association of Industrial Accident Boards and Commissions) and WCRI (Workers Compensation Research Institute) joint publication of *Workers' Compensation Laws* (IAIABC-WCRI 2016), as well as the U.S. Chamber of Commerce's *Analysis of Workers' Compensation Laws* (COC, 2018). In many instances, the parameters were obtained from specific state workers' compensation agencies.

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 January 2018

	Waiting Period		Temporary Total Disability (TTD)			Permanent Total Disability (PTD)				Permanent Partial Disability (PPD)		Death Benefits (DB)	
State	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	$843	Duration of TTD disability	66 2/3% PIWW	$843	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	$710[d]	Duration of TTD disability	66 2/3% AMW	$710	No	None	$710	None unless rearranged by Industrial Commission	$1,156	None
Arkansas	7 days	14 days	$20	$673	450 weeks	66 2/3% PIWW	$673	No	Limit on weekly amount but not total amount	$505	450 weeks	$673	$214,825; benefit in excess payable from Death and PD Trust Fund
California	3 days	14 days	$183	$1,215	104 weeks[e]	66 2/3 of AWW	$1,215	No	None	$290	n/a	$1,215	320,000 Spouse plus Children[f]
Colorado	3 days	14 days	None	$948	Duration of TTD disability	66 2/3% of AWW	$948	No	None	$298 for scheduled injuries; $521 unscheduled	400[g]	$948	None
Connecticut	3 days	7 days	$257	$1,287	Duration of TTD disability	75% (of after-tax incpme)	$1,287	No	None	$1,023	780 weeks however no unscheduled PPD since 1993	$1,287	None
Delaware	3 days	7 days	$229	$687	Duration of TTD disability	66 2/3% AWW	$687	No	None	$687	300 weeks	Spouse = $666, With Children = $799	None
District of Columbia	3 days	14 days	$367	$1,470	Duration of TTD disability	66 2/3% PIWW	$1,470	No	First $75,000 in benefits paid by employer / insurer. Amounts over $75,000 paid from PTD Trust Fund	1,470	500 weeks; may petition for additional 167 weeks	1,470, Max 100% SAWW	None

Florida	7 days	21 days	$20	$917	104 weeks	66 2/3% PIWW	$917	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%	Spouse = $886[l] With Children = $917	$150,000
Georgia	7 days	21 days	$503	$575	400 weeks unless catastrophic injury	66 2/3% PIWW	$575	No	None	$575	300 weeks	$575	$220,000 for surviving spouse with no dependents
Hawaii	3 days, TTD only	None	$212	$883	Duration of TTD disability	66 2/3% PIWW	$883	No	None	$883	312 weeks	Spouse = $634 With Children = $883	312 weeks
Idaho	5 days	14 days	$113	$678	Duration of TTD disability. Benefit continues in recovery period.	67% of AWW	$678	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	$414	500 weeks	Spouse = $339 With Children = $452	500 weeks
Illinois	3 days, TTD only	14 days	$220[j]	$1,464	Duration of TTD disability	66 2/3% AWW	$1,464	No	None	$791[k]	500 weeks	$1,464	$500,000 or 25 years
Indiana	7 days	21 days	$50	$780	500 weeks[L]	66 2/3% AWW	$780	500 weeks[L]	$390,000	None	$390,000	$780	$325,000 Spouse Only, $380,000 Spouse plus Children
Iowa	3 days; no waiting period for PPD	14 days	None	$1,720	Duration of TTD disability	80% (of spendable earnings)	$1,720	No	None	$1,583	500 weeks	$1,720	None
Kansas	7 days	21 consecutive days	$25	$630	Duration of TTD disabiliy	66 2/3% AWW	$630	Up to Monetary Limit	$155,000	$630	415 weeks; functional impairment only = $75,000, all other cases = $130,000	$627	$300,000
Kentucky	7 days	14 days	$170	$848	Duration of TTD disability or until injured worker qualifies for normal old age Social Security benefit	66 2/3% AWW	$848	Until injured worker qualifies for normal old age Social Security benefit	None	$848	425 weeks if rating is 50% or less; 520 wks if over 50%; limited to qualification for normal old age Social Security	Spouse = $418 With Children = $637	None

Table C continued

Workers' Compensation State Laws as of January 2018

	Waiting Period		Temporary Total Disability (TTD)			Permanent Total Disability (PTD)				Permanent Partial Disability (PPD)		Death Benefits (DB)	
State	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
Louisiana	7 days	14 days	$174	$653	Duration of TTD disability	66 2/3% PIWW	$653	No	None	$653	520 weeks	$657	None
Maine	7 days[m]	14 days	None	$710.42 for DOI 1/1/93-12/31/12; $789.35 for DOI after 1/1/13	520 weeks[n]	80% (of after-tax AWW) for DOI prior to 1/1/13; 2/3 gross AWW for DOI after, but no more than the maximum benefit.	$710.42 for DOI 1/1/93-12/31/12; $789.35 for DOI after 1/1/13	No	None	$710.42 for DOI 1/1/93-12/31/12; $789.35 for DOI after 1/1/13	None	$710.42 for DOI 1/1/93-12/31/12; $789.35 for DOI after 1/1/13	500 weeks
Maryland	3 days, TTD only	After 14 days	$50 or employee's AWW	$1,094	Duration of TTD disability	66 2/3% PIWW	$1,094	No	$45,000	$821	None	$1,094	144 months[o]
Massachu-setts	5 days	21 days	$258	$1,388	156 weeks	66 2/3% PIWW	$1,388	No	None	SAWW at time of injury, $1,388 until 10/1/18	N/A	$1,292	250 weeks
Michigan	7 days	14 days	$250	$900	Duration of TTD disability	80% (of spendable earnings)	$900	800 weeks[p]	None	[q]	N/A	$900	$322,000 or 500 weeks; time limit does not apply to children
Minnesota	3 days	10 days	$130 or the worker's actual wage, whichever is less	$1,062[r]	90 days after MMI or after end of retraining, up to a total of 130 weeks	66 2/3% PIWW	$1,062[r]	Until age 67	None	$1,062[r]	$515,000	$1,062[r]	10 years or 10 years after the last child is no longer depen-dent, minimum payable is $60,000
Mississippi	5 days[s]	14 days	$25	$487	450 weeks	66 2/3% AWW	$487	450 weeks	$219,168	$487	450 weeks	$487	450 weeks or $219,168
Missouri	3 days	14 days	$105	$923	400 weeks	66 2/3% PIWW	$923	No	None	$496	400 weeks	$923	None
Montana	4 days or 32 hours, whichever less	21 days or more[t]	None	$768	Disability until MMI, restrictions are identified and job analyses are approved, or return to work	66 2/3% PIWW	$768	Until injured worker qualifies for normal old age Social Security benefit	None	$384	400 weeks	$768	500 weeks

Nebraska	7 days	42 days	None	$831	Until MMI or return to work	66 2/3% PIWW	$831	No	None	$831	300 weeks	$831	None
Nevada	5 days[u]	6 days[u]	None	$874	Duration of TTD disability	66 2/3% pre-injury AMW	$874	No	Per maximum compensation limit and formula	$874	Benefits paid for 5 years or to age 70, whichever is later	$854	None
New Hampshire	3 days	14 days or more	$308[v]	$1,538	Duration of TTD disability	60 % PIWW	$1,538	No	None	$1,538	350 weeks for a whole person award	$1,538	None
New Jersey	7 days	7 days	$241	$903	400 weeks	70%	$903	600 weeks	None	$903	600 weeks	$903	Lifetime with exceptions
New Mexico	7 days	28 days	$36	$797	700 weeks	66 2/3% PIWW	$797	No	None	$797	$557,872 if disability rating > 80%; $398,480 if < 80%	$797	700 weeks
New York	7 days, wage replacement benefits only	14 days	$100.00	$871	Duration of TTD disability	66 2/3% PIWW	$871	No	None	$871	$453,768	$871	None
North Carolina	7 days	21 days	$30	$992	Duration of TTD disability	66 2/3% PIWW	$992	500 weeks[w]	None	$992	$20,000	$992	500 weeks
North Dakota	5 days	5 days	$561	$1,168	104 weeks or MMI 260 weeks	66 2/3% PIWW	$1,168	Until injured worker qualifies for normal old age Social Security benefit	None	$327	Based on whole body impairment, up to 100% lump sum payment	$1,168	$300,000 or death
Ohio	7 days	14 days	$301	$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	200 weeks	$932	None
Oklahoma	3 days, TTD only	None	None	$591	104 weeks, with additional 52 weeks if consequential injury found	70% AWW	$844	15 years or upon reaching Social Security retirement age, whichever is longer	None	$323	350 weeks	Spouse = $591 With Children = $844	None
Oregon	3 days	14 days	Not less than $50 or 90% AWW; whichever is less	$1,281	Duration of TTD disability	66 2/3% PIWW	$1,281[x]	Lifetime plus benefits to surviving spouse and children	None	$1,281	$369,111	Spouse = $643 With Children = $1285	None
Pennsylvania	7 days	14 days	90% AWW if AWW is $569.43 or less	$1,025	Duration of TDD disability subject to conversion to partial benefits at 104 weeks[y]	66 2/3%	$1,025	Disability up to 500 weeks	None	$1,025	500 weeks	$1,025	None
Rhode Island	3 days	No payment for waiting period days	None	$1,221, max 80% AWW	Duration of TTD disability	75% (of spendable income)	$1,221	No	None	$1,221	500 weeks	$1,221	None

Table C continued

Workers' Compensation State Laws as of January 2018

	Waiting Period		Temporary Total Disability (TTD)			Permanent Total Disability (PTD)				Permanent Partial Disability (PPD)		Death Benefits (DB)	
State	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
South Carolina	7 days	14 days	$75 if wages are >$75; otherwise, comp rate is equal to wages	$838	Up to 500 weeks	66 2/3% PIWW	$838	500 weeks[z]	403,460	Depends on scheduled body part	340 weeks	$838	500 weeks
South Dakota	7 consecutive days, TTD only	7 days	$391	$781	Duration of TTD disability	66 2/3% PIWW	$781	No	None	$781	312 weeks	Spouse = $762 With Children = $762 + $11.51 per child	None
Tennessee	7 days	14 days	$136	$992	450 weeks	66 2/3% PIWW	$902	Until age 65	None	$902	450 weeks	$902	$405,900
Texas	7 days	14 days	$137	$913	104 weeks	TTD 70% AWW; PTD 75%; PPD 70%	$913	No	None	$639	401 weeks	$913	None
Utah	3 days	14 days	$45	$855	312 weeks	66 2/3% AWW at time of injury not to exceed 85% of the SAWW	$855	No[aa]	None	$570	312 weeks	$727	None
Vermont	3 days TTD; 8 days PTD; no waiting period for medical benefits	10 days, TTD only	$427	$1,281	Duration of disability; insurer must review after 2 years	66 2/3% PIWW	$1,281	No	None	$1,281	405 weeks for non-spinal; 550 weeks spinal	$1,281	None[ab]
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	$43[ac]	$1,361	Duration of TTD disability	60% to 75% (depending on marital status and number of children)	$1,361	None	There is a maximum payment for lump sums only, up to $8,500	$1,361	$199,247	$1,361	N/A

West Virginia	3 days	7 consecutive days	$193	$787	104 weeks	66 2/3% PIWW	$787	Payable until age 70, for all PTD awards granted on or after 07/1/2003	None	$551	None	$787	N/A
Wisconsin	3 days	7 non-consecutive days	20	994	Duration of TTD disability	66 2/3% PIWW	$994	No	None	$362	1,000 weeks	$994	$298,200 or 1,000 weeks
Wyoming	3 days	9 days	30% of the statewide AMW or 2/3 of the actual monthly earnings at the time of injury, whichever is greater, but shall not exceed the lesser of the 100% of the actual monthly earnings	SAMW; $872.60 in per week terms for 01/18	24 months or in extraordinary circumstances may extend beyond to provide a reasonable recooperation period	66 2/3% PIMW or SAMW	Wages cannot exceed the SAWW for the quarter in which PTD is determined; SAMW of $872.60 in per week terms for 01/18	Paid for 80 months then benefit becomes extended PTD and extended PTD must be renewed annually	None	Depends on the date of Injury	None	Cannot exceed more than 2x the SAMW; $1745.20 per week for 01/18	None

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 $1,463.80.

L After 500 weeks, additional benefits are payable from second injury fund in 150-week incrememnts. TTD benefits subject to child support withholding.

m Does not apply to firefighters.

n 520 weeks under §213. No durational limit under §212.

Table C continued

Workers' Compensation State Laws as of January 2018

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 therefater

q If an individual returns to work but is still on medical restrictions resulting in a wage less than PIWW, he/she may be eligibile 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

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, quadrpalegic, 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 dependent

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: U.S. Chamber of Commerce (2018); Arizona Industrial Commission; Arkansas Workers' Compensation Commission; Colorado Department of Labor and Employment; Connecticut Workers' Compensation Commission; Florida Division of Workers' Compensation; Idaho Industrial Commission; Workers' Compensation Board of Indiana; Maryland Workers' Compensation Commission; Massachusetts Labor and Workforce Department; Missouri Department of Labor & Industrial Relations; Montana Department of Labor & Industry; Nevada Department of Business & Industry; Oregon Workers' Compensation Division; Pennsylvania Department of Labor & Industry; Rhode Island Department of Labor and Training; South Carolina Workers' Compensation Commission; South Dakota Department of Labor & Regulation; Tennessee Department of Labor & Workforce Development; Vermont Department of Labor; Virginia Workers' Compensation Commission; Washington Department of Labor and Industries; West Virginia Offices of the Insurance Commissioner; Wisconsin Department of Workforce Development; Wyoming Department of Workforce Services

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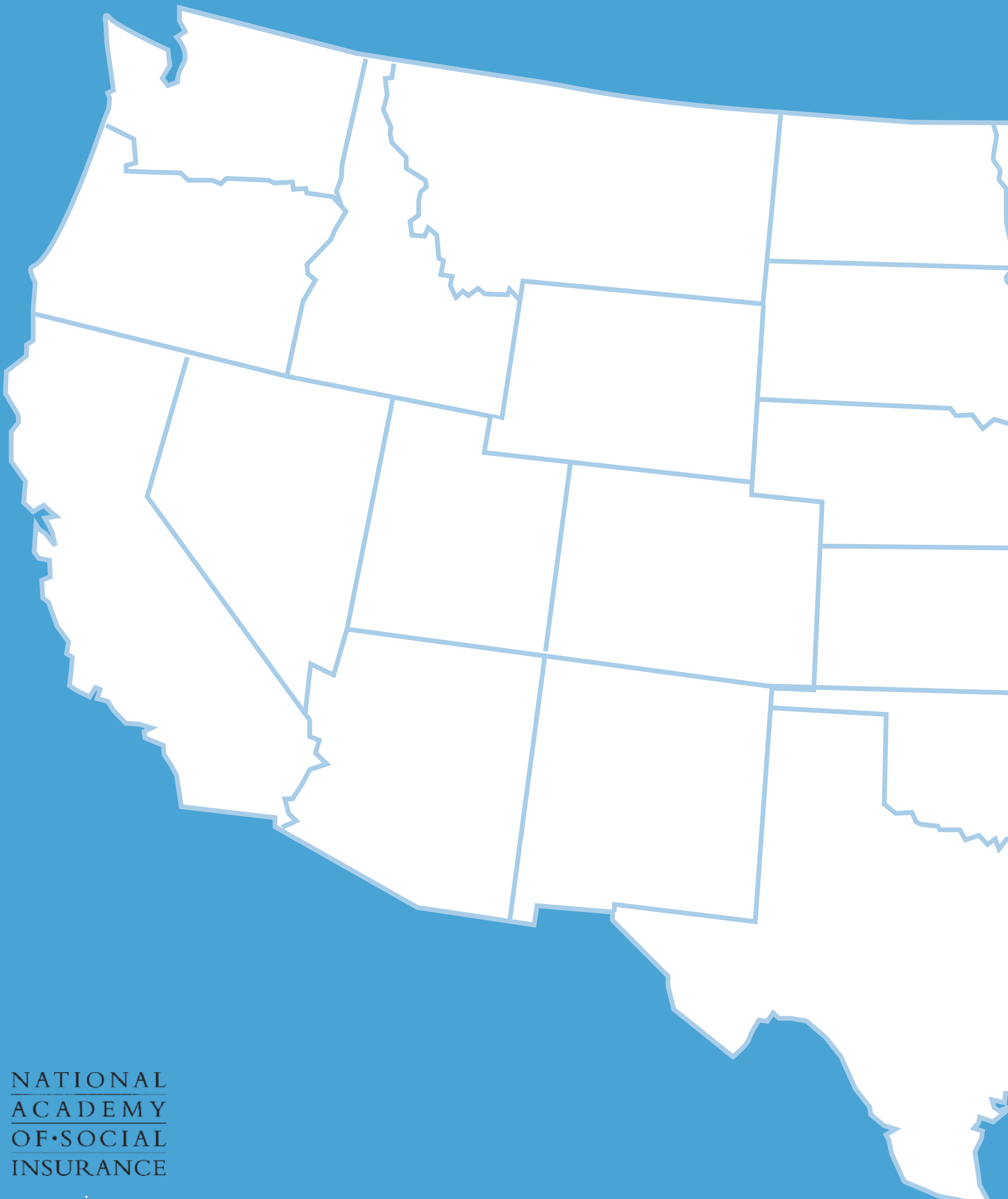

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