Workers' Compensation:

Benefits, Coverage, and Costs

November 2020

NATIONAL ACADEMY OF • SOCIAL INSURANCE
Washington, DC

William M. Rodgers III, Chair
Renée M. Landers, Vice Chair

1200 New Hampshire Ave., NW
Suite 830
Washington, DC 20036
Telephone (202) 452-8097
Facsimile (202) 452-8111

www.nasi.org
Twitter: @socialinsurance

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 2018. The report was prepared with the guidance of the Study Panel on Workers' Compensation Data and, in accordance with procedures of the Academy, has been reviewed for completeness, accuracy, clarity, and objectivity by a committee selected by the Board of Directors. The purpose of the report is to present the data and describe trends over time, but not to make policy recommendations.

The Centers for Medicare & Medicaid Services (CMS) provide funding to produce selected tables for this Report that are also used in its own estimates. The project also receives 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 (2018 data)

by

Griffin Murphy, Jay Patel, Elaine Weiss, and Leslie I. Boden

with advice from the

Study Panel on Workers' Compensation Data

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Preface

Workers' compensation programs provide funding for medical care, rehabilitation, and cash benefits for workers who are injured on the job or who contract work-related illnesses. The programs also pay benefits to families of workers who die of work-related injuries or illnesses. The programs were established by state statute or within state constitutions beginning in 1911, before most federal social insurance programs were enacted. Unlike most other U.S. social insurance programs, workers' compensation is primarily a state program. (As described below, a number of federal programs, such as the Longshore and Black Lung funds, insure workers in specific occupations.) No federal laws set standards for the state workers' compensation programs or require comprehensive reporting of workers' compensation data, nor is there any federal financing of these state programs.[1]

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

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

This is the Academy's 23rd annual report on workers' compensation benefits, costs, and coverage. This report presents new data on state and federal workers' compensation programs for 2018 and updated estimates for 2014-2017. 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, as we acknowledge in the report, there are limitations to the data in the report. It is important to note, for example, that our estimates of workers' compensation costs may not capture the full cost of work-related injuries borne by employers through insurance or other payments made outside the workers' compensation reporting system. Nor do our estimates capture other economic and human costs of work-related injuries, illnesses, and fatalities borne by workers, families, and communities. These costs are significant but beyond the scope of this report. Moreover, the report does not evaluate the degree to which 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 injured workers to work at an affordable cost.

The audience for the Academy's annual report on workers' compensation includes: actuaries; insurers; journalists; business and labor leaders; employee benefit specialists; federal and state policymakers; students; and researchers working in universities, government, and private consulting firms. The data from some tables are published by the National Safety Council (NSC) (in *Injury Facts*) and the Employee Benefit Research Institute (in *Employee Benefit News, Fundamentals of Employee Benefit Programs*). They are also referenced in the annual *Workers' Compensation Fiscal Data Bulletin* published by the National Foundation for Unemployment Compensation and Workers' Compensation.

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

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1 There are, however, federal reporting requirements with respect to the Medicare Secondary Payer provisions in Section 111 of the Medicare, Medicaid and SCHIP Extension Act of 2007 and subsequent amendments to this act.

of health care spending in the United States. The National Institute for Occupational Safety and Health (NIOSH) uses the data to track the costs of workplace injuries in the United States. The International Association of Industrial Accident Boards and Commissions (IAIABC), the organization of state and provincial agencies that administer workers' compensation in the United States and Canada, uses the information to track and compare the performance of workers' compensation programs in the United States with similar systems in Canada.

Acknowledgements

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

The authors gratefully acknowledge the time and expertise contributed by members of the Academy's Study Panel on Workers' Compensation Data. All members of the Panel are listed on page iii, but we especially acknowledge the contributions of: Terry Bogyo, John F. Burton Jr., Jeff Eddinger, Doug Holmes, and Jennifer Wolf-Horejsh. Finally, we appreciate comments from Marcus Dillender (UIC), Stephanie Rennane (RAND), and Jeanne Sears (University of Washington), who reviewed a final draft for the Board.

Griffin Murphy
Research Assistant,
NASI

Jay Patel
Research Assistant,
NASI

Elaine Weiss
Lead Policy Analyst,
Income Security, NASI

Leslie I. Boden
Chair, Study Panel on
Compensation Data

Study Panel on Workers' Compensation Data

Leslie Boden, *Chair*
Professor, School of Public Health, Boston University

Christine Baker
Principal Consultant, Baker & Welsh

Marjorie Baldwin
Professor, W. P. Carey School of Business, Department of Economics, Arizona State University

Terry Bogyo
Independent Workers' Compensation Researcher, Canada

Aaron Brandenburg
Assistant Director, Data Coordination and Statistical Analysis, National Association of Insurance Commissioners

John F. Burton, Jr.
Professor Emeritus, School of Management & Labor Relations, Rutgers University, and School of Industrial and Labor Relations, Cornell University

Aaron Catlin
Deputy Director, National Health Statistics Group, Office of the Actuary, Centers for Medicare & Medicaid Services

Charles Davoli
Louisiana Workers' Advocate Labor Representative of the Governor's Workers' Compensation Advisory Council

Michael Duff
Professor of Law University of Wyoming College of Law

Jeff Eddinger
Senior Divisional Executive Regulatory Services, National Council on Compensation Insurance

Eric Frumin
Director, Safety and Health, Change to Win

Douglas J. Holmes
President, UWC Strategic Services on Unemployment and Workers' Compensation

Kate Kimpan
Vice President, Workers' Compensation Programs, Dade Moeller & Associates

Mike Manley
Independent Workers' Compensation Researcher, Oregon

Nicole Nestoriak
Research Economist, Bureau of Labor Statistics, U.S. Department of Labor

Frank Neuhauser
Researcher, Institute for the Study of Societal Issues University of California, Berkeley

Seth A. Seabury
Associate Professor of Ophthalmology;
Director, Keck-Schaeffer Initiative for Population Health, University of Southern California

Hilery Simpson
Assistant Commissioner, Office of Safety, Health, and Working Conditions, U.S. Bureau of Labor Statistics

Emily A. Spieler
Professor of Law, Northeastern University School of Law

Gary Steinberg
Retired, Deputy Director, Office of Workers' Compensation Programs, U.S. Department of Labor

Alex Swedlow
President, California Workers' Compensation Institute

Ramona Tanabe
Executive Vice President, Workers Compensation Research Institute

David B. Torrey
Workers' Compensation Judge PA Dept. of Labor & Industry Adjunct Professor of Law University of Pittsburgh School of Law

Benjamin Washington
Economist, National Health Statistics Group, Office of the Actuary, Centers for Medicare & Medicaid Services

Jennifer Wolf Horejsh
Executive Director, International Association of Industrial Accident Boards and Commissions

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Additional Appendices Online

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

- Data sources for each state
- Methods used to estimate workers' compensation benefits and costs by type of coverage, including:
  - Deductibles
  - Self-insured benefit payments and administrative costs
  - Medical benefits
- Updated version of Table 9.B1 of the *Annual Statistical Supplement to the Social Security Bulletin*
- 2014 to 2018 trends in benefits paid by second injury funds, special funds, and guaranty funds
- State summary tables that report key metrics from 2014 to 2018
  - Other supplemental tables as indicated in the text
- State summary tables that report key metrics from 2014 to 2018

Highlights

For more than two decades, the National Academy of Social Insurance has produced an annual report on workers' compensation benefits, costs, and coverage. The report provides summary statistics on state and federal workers' compensation programs, with the aim of facilitating policymaking that improves the system for both injured workers and employers. This report provides new data for 2018, with comparison data for the five-year period from 2014 to 2018.

National Trends (Table 1)

- **Covered employment and wages continued to rise, albeit at a slower rate than in the past few years**
  - The number of U.S. workers covered by workers' compensation continues to grow, with that growth slowing slightly from 4.0 percent between 2014 and 2016 to 3.0 percent between 2016 and 2018. (Table 3)
  - A different trend is seen with respect to covered wages, which grew by 8.7 percent between 2014-2016, and then by 10.0 percent in the two subsequent years. (Table 4)
- **Benefits paid to injured workers and their health care providers continued to decline**
  - In 2018, workers' compensation total benefits paid were $62.9 billion, a decrease of 1.2 percent from 2014. After falling by 2.5 percent from 2014-2016, benefits increased by 1.3 percent from 2016-2018. (Table 9)
  - Adjusting for the increase in covered wages, however, total benefits were $0.77 per $100 of covered wages in 2018, a decrease of $0.16 since 2014. (Table 12). The overall decrease reflects a 19.2 percent decline in medical benefits per $100 of covered wages (Table 10) and a 15.5 percent decline in cash benefits per $100 of covered wages. (Table 11)
- **Employer costs increased in total, but decreased as a percentage of covered wages**
  - In 2018, employers' costs for workers' compensation were $98.6 billion, a 5.01 percent increase since 2014. (Table 13) When adjusted for the increase in covered wages, however, employers' costs were $1.21 per $100 of covered wages, down $0.16 (12.2%) from 2014. (Table 14)
- **Declines in standardized benefits and costs – benefits and costs per $100 of payroll – were substantial**. The $0.16 decline in benefits since 2014 represents a 17.4 percent decline in benefits per $100 of payroll, and the $0.16 decline in costs represents a 12.2 percent decline in costs per $100 of payroll.[2]

State Trends

- **Workers' compensation covered employment and wages increased in almost every state between 2014 and 2018[3]**
  - Covered jobs increased in all jurisdictions except Alaska, Louisiana, North Dakota, West Virginia, and Wyoming. The largest percentage increase (14.7%) occurred in Utah. (Table 3)
  - Covered wages increased in all jurisdictions except North Dakota and Wyoming. The largest percentage increase occurred in Washington (33.7%), with seven states having increases greater than 25%. (Table 4)
- **Workers' compensation benefits per $100 of covered wages decreased in almost all states**
  - Benefits per $100 of covered wages decreased in all jurisdictions except Hawaii. (Table 12)
  - The largest percentage decrease occurred in Tennessee, where benefits declined by 35.5 percent between 2014 and 2018. (Table 12)
- **Employers' costs per $100 of covered wages decreased in almost all states**
  - Costs per $100 of covered wages decreased in every state but Hawaii, with the largest percent decrease (39.4 percent) in Ohio. (Table 14)

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

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

Table 1

Overview of Workers' Compensation Benefits, Costs, and Coverage, 2014-2018

		Percent Change		
Aggregate Benefits, Coverage, and Costs	**2018**	**2014-2018**	**2016-2018**	**2014-2018**
Covered Jobs (in thousands)	142,618	4.0	3.0	7.2
Covered Wages (in billions)	$8,177	8.7	10.0	19.6
Workers' Compensation Benefits Paid (in billions)	62.9	-1.7	0.5	-1.2
Medical Benefits	31.3	-3.5	0.1	-3.4
Cash Benefits	31.6	0.0	1.1	1.1
Employer Costs for Workers' Compensation (in billions)	$98.6	3.5	1.5	5.0

		Dollar Change		
Benefits and Costs per $100 of Covered Wages	**2018**	**2014-2016**	**2016-2018**	**2014-2018**
Workers' Compensation Benefits Paid	$0.77	-$0.10	-$0.06	-$0.16
Medical Benefits	0.38	-0.05	-0.04	-0.09
Cash Benefits	0.39	-0.04	-0.03	-0.07
Employer Costs for Workers' Compensation	$1.21	-0.06	-0.10	-0.16

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 2018 begins on page 9, and a glossary of terms used in this report is available on page 62.

History of Workers' Compensation

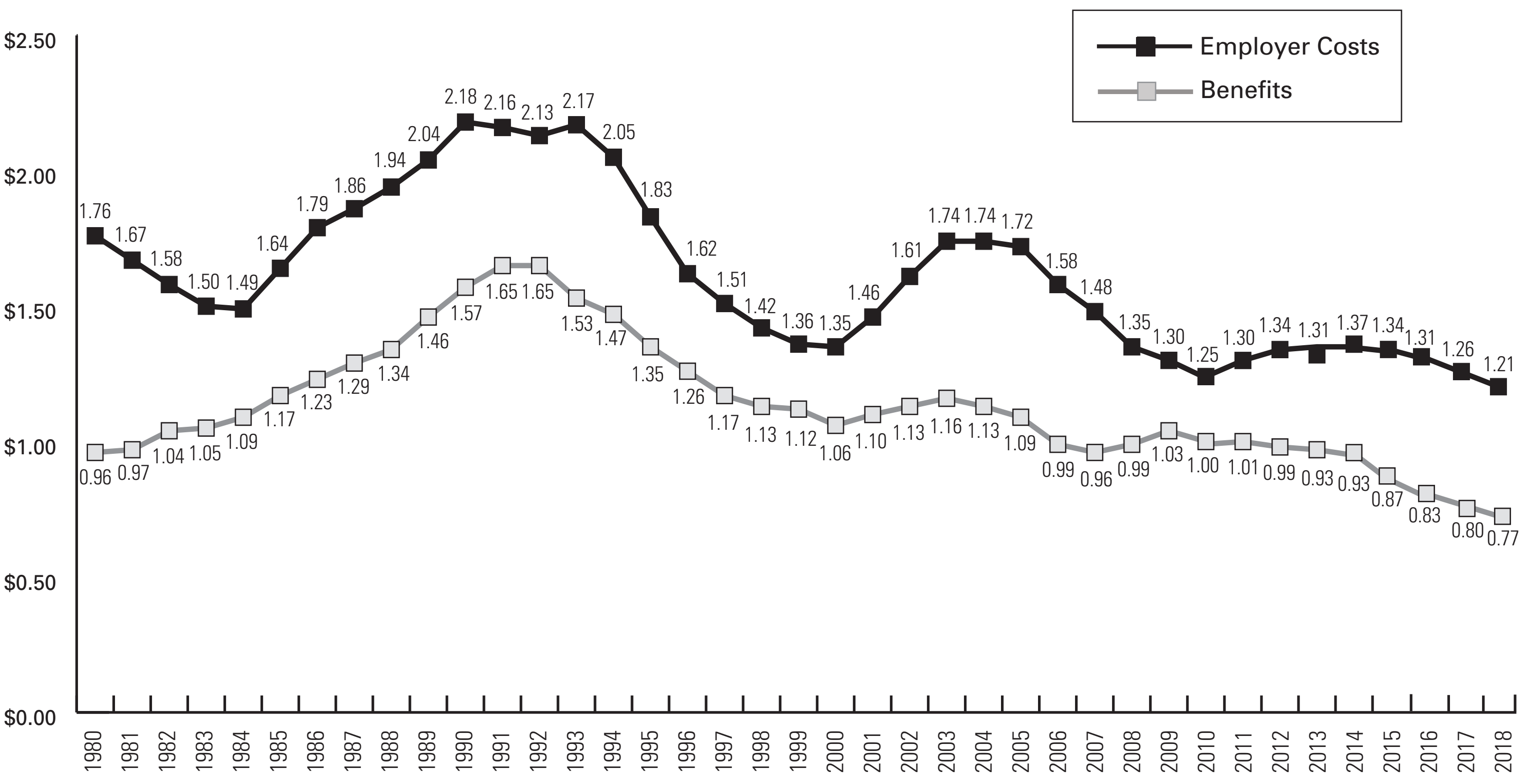
Workers' compensation was the first social insurance program adopted in most developed countries. The first modern workers' compensation laws, known as Sickness and Accident Laws based on the principle of employer liability for workplace injuries, were adopted in Germany in 1884 under Chancellor Otto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

The first workers' compensation law in the United States was enacted in 1908 to cover certain federal civilian workers. The first state law, passed by New York in 1910, which was compulsory for certain very risky jobs, was struck down as unconstitutional by the state's court of appeals in 1911.[4] That same year, Kansas and Washington passed the first state laws

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

Figure 1

Workers' Compensation Benefits and Costs Per $100 of Covered Wages, 1980-2018[5]



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

Source: National Academy of Social Insurance estimates.

that survived constitutional challenges (though New Jersey and Wisconsin both claim the "first in WC" title), with five other states also enacting laws that went into effect that year.[6] Most other states then adopted workers' compensation laws by 1920, though the last of the 48 contiguous states to pass one, Mississippi, did so only in 1948.

Before the enactment of these laws, the primary legal remedy for a worker who was injured on the job was to file a tort suit claiming negligence by his or her employer.[7] Employers had three commonly used legal defenses to shield themselves from liability: assumption of risk (showing that the injury resulted from an ordinary risk of employment of which the worker should have been aware);[8] the fellow servant

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

5 See Footnote 53 for an explanation of why costs and benefits in a given year are not perfectly aligned.

6 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).

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

8 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."

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

Given the available defenses, along with a worker's very limited resources to bring suits, employers prevailed in court in the vast majority of cases. In the minority of cases in which employees won, however, employers could be held liable for substantial and unpredictable amounts. Litigation also created friction between employers and employees and dissatisfaction on both sides with the status quo set the stage for reform.

Initial reforms came in the form of employer liability acts, which eliminated some of the employers' common-law defenses. Still, employees retained the burden of proving negligence on the part of the employer, which posed a significant obstacle to recovering damages (Burton and Mitchell, 2003).[9] Ultimately, both employers and employees favored workers' compensation legislation, which would ensure that workers who sustained occupational injuries or (as laws evolved) contracted work-related 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 benefits specified in the state's workers' compensation act.

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

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 the jurisdiction.

Employers benefited from workers' compensation benefits that are much more limited than tort awards, and workers' compensation benefits specified in the statute became the exclusive remedy for injured workers, which meant that employers could not be sued for damages in a tort suit.[10] In essence, workers' compensation statues are a no-fault and limited liability approach to compensate for workplace injuries and diseases.[11]

For both workers and employers, simplified determination of benefits means that benefits could be paid without attorney involvement in most cases. When benefits are disputed, workers' compensation statutes in most states removed workplace injuries from the general court system and established workers' compensation agencies (or commissions) that were given the primary responsibility for resolving disputes between workers and employers. Reformers felt this delivery system would also reduce the delays, uncertainties, and inconsistencies of the court system (Berkowitz and Berkowitz 1985, 161-163).

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

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

11 In the past decade, concerns have been raised regarding state legislation that has curtailed the availability of benefits to workers. For example, Spieler (2017) and Burton (2017) argue that recent developments in many states are undermining the grand compromise that serves as the foundation for workers' compensation programs. These developments include the adoption of constricted compensability rules, the reduction in cash benefits, and the adoption of procedural hurdles, such as increasing the burden of proof for claimants. A development in several states that appears to be particularly inconsistent with the grand bargain is the adoption of what Burton terms the "dual-denial doctrine," which both makes it impossible for the worker to qualify for workers' compensation benefits and precludes the worker from bringing a tort suit by stating that workers' compensation is the exclusive remedy for a workplace injury.

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

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

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

The state and federal programs in this report vary with respect to which employers and workers are covered, which injuries and diseases are compensable, and the levels of benefits provided.

However, there are common features in most of these programs:

- Workers' compensation programs still largely adhere to the no-fault and limited liability principles that are the central features of the grand bargain agreed to when the program emerged in the early 20th century.
- With the exceptions of Texas and Wyoming, workers' compensation insurance coverage is mandatory in all states, with limited exemptions for small employers. Workers in specific classifications, such as agricultural or domestic employees, and workers who are classified as independent contractors are generally excluded from coverage.[12]
    - In Texas, employers are not covered by the workers' compensation law unless they elect to be covered.
    - Wyoming employs an unusual system, requiring workers' compensation coverage only for workers in "extra-hazardous" occupations, which is what the state designates most occupations. Still, the state's workers' compensation law only requires that employers provide workers' compensation to 67% of workers. In recent years, several large employers have opted not to provide workers' compensation coverage, leading to a shrinking share of workers with coverage.[13]
    - In 2014, Oklahoma enacted a law that allowed employers to opt out of a traditional workers' compensation plan by adopting an alternative benefit plan. In September 2016, however, the Oklahoma Supreme Court ruled that the opt-out component of the Act was unconstitutional.[14]

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12 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.

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

14 As the section on major changes to state law, starting on p.23, details, in 2013 Oklahoma passed sweeping statutory changes to the state's workers' compensation program that became effective in January 2014. Although some of those changes, in particular the opt-out portion, were subsequently struck down by the state supreme court in 2016, the aftereffects of other changes have resulted in declining costs for employers and benefits for injured workers.

- In principle, workers' compensation pays 100 percent of injury-related medical costs for injured workers, and cash benefits that replace a portion of wages lost because of the injury. Lost-time compensation may be subject to a waiting period (typically three to seven days) that may be paid retroactively if the disability involves hospitalization or a lengthy work absence. Statutory wage-replacement rates vary by state but, on average, replace about two-thirds of a worker's pre-injury gross wage, subject to minimum and maximum weekly benefits, which also vary among states. Cash benefits are tax-exempt.
- Workers' compensation benefits are financed exclusively by employers except in three states (Oregon, Washington, and New Mexico), where workers pay part of the cost of benefits and services through direct payroll deductions or assessments.[15]
- Employers purchase workers' compensation insurance from private insurers or from state workers' compensation insurance funds. In most states, employers with sufficient resources have the option to self-insure.

Workers' Compensation Benefits

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

Medical-only claims: Most workers' compensation claims do not involve lost work time in excess of the waiting period for cash benefits, so only medical benefits (and no cash benefits) are paid for these claims. "Medical-only" claims are the most common type of workers' compensation claim, but they represent only a small share of overall payments.[16]

Temporary disability claims: When a work-related injury or illness temporarily prevents a worker from returning to his or her pre-injury job or to another job for the same employer, the worker receives temporary total disability (TTD) benefits in addition to medical benefits. These TTD benefits replace approximately two-thirds of the worker's gross, pre-injury weekly earnings up to state-specified limits. Depending on the jurisdiction, if the worker had additional jobs with another employer at the time of injury, earnings from that second or other job may or may not be covered by temporary disability benefits, even if the worker cannot perform any job.

Compensation for temporary disability is subject to minimum and maximum benefit levels that vary from state to state. As of 2019, the minimum weekly TTD benefit ranged from a low of $20 in Arkansas, Florida, and Wisconsin, to a high of $599 in North Dakota.[17] The maximum weekly benefit, which is generally tied to the state's average weekly wage, ranged from a low of $505 in Mississippi to a high of $1,819 in Iowa.

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

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).[18] Permanent total disability (PTD) benefits are

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

16 In 2016, medical-only claims accounted for 75 percent of all workers' compensation claims, but less than 10 percent of all benefits paid (NCCI, 2020a). Since 1999, there has been a gradual decline in the share of medical-only claims from 78.3 percent to the current 75.3 percent. On the other hand, the share of benefits paid for medical-only claims has increased from 6.2 percent in 1999 to 7.4 percent of overall benefits in 2016.

17 Arizona, Iowa, Maine, 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 D.

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

paid to workers who are considered legally unable to work at all because of a work-related injury or illness.[19]

States differ in their methods for determining whether a worker is eligible for permanent partial disability (PPD) 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 for determining eligibility for PPD benefits:

- The *impairment approach* pays benefits if the worker has a permanent medical loss, without regard to actual loss of earnings. In this case, the amount of permanent disability benefits is determined by some measure of physical loss to the body.
- The *loss of earning capacity approach* pays benefits if the impairment causes a permanent loss of earning capacity. In this case, benefits are determined by an estimate of reduced earning capacity.
- The *wage loss approach* pays benefits only if the worker has actual wage losses. In this case, if the worker has the ability to work in some capacity and actually works, he or she will not receive PPD benefits unless a wage loss is incurred.

Most states impose limits on either the maximum duration or maximum amount of permanent disability benefits. Many cases involving permanent disability are settled through the use of compromise and release agreements, which generally provide a lump sum to the injured worker, may cover possible future medical costs, and release the employer from future liability.[20]

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

Sources of Workers' Compensation Insurance

Non-federal employers pay for workers' compensation by purchasing insurance from a private insurance carrier or a state workers' compensation insurance fund (a state fund), or by self-insuring. Federal workers' compensation insurance covers federal civilian employees and some private-sector workers who are employed either in high-risk jobs or jobs related to national defense (see Federal Programs on p.73). Many states also have special workers' compensation funds to cover exceptional circumstances, such as a second work-related injury.

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

State funds. In 21 states, some (or all) employers obtain workers' compensation insurance through a state fund. State workers' compensation insurance funds, which are established by an act of the state legislature, are designated as either exclusive or competitive. An exclusive state fund is the sole provider of workers' compensation insurance in a state (although most states with exclusive state funds allow large employers to self-insure). A competitive state fund competes with private insurers.

In this report, we define an insurer as a competitive state fund if: 1) the insurer sells workers' compensation policies to private-sector employers in the voluntary insurance market; and 2) the insurer is

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

20 See glossary for complete definition of compromise and release agreements.

exempt from federal taxes.[21] In 2018, four states had exclusive state funds and, according to our criteria, 16 states had competitive state funds.[22] In addition, South Carolina's state fund provides workers' compensation insurance for state and local government employees and competes with private insurers for the quasi-state agency market segment. West Virginia discontinued its state fund in 2006. However, the state was still paying benefits in 2018 on some claims involving injuries that occurred before 2006. Utah Senate Bill 92 in 2017 repealed the statute which created Utah's public state fund.

> *Employers pay for workers' compensation insurance by purchasing from private insurers or a state fund or by self-insuring*

Self-insurance. Many large employers choose to self-insure for workers' compensation.[23] 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 costs.[24] Some states also permit groups of employers in the same industry or trade association to self-insure through group self-insurance.

Federal programs. The federal government covers workers' compensation benefits for federal civilian employees under the Federal Employees Compensation Act (FECA). Federal programs also cover some private-sector workers, including coal miners with black lung disease, employees of overseas contractors with the U.S. government, energy employees exposed to certain hazardous materials, workers engaged in manufacturing atomic bombs, and veterans injured while on active duty in the armed forces.[25] 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 in which a private insurance carrier or self-insured employer becomes insolvent and lacks sufficient earmarked assets to pay outstanding benefits. The benefit payments and administrative costs of guaranty funds for private insurers are typically funded through assessments on workers' compensation insurers, while the costs of guaranty funds for self-insured employers are funded through assessments on self-insuring employers.

Second injury funds. Second injury funds reimburse employers or insurance carriers in cases in which an employee with a pre-existing condition due to a work-related injury experiences another work-related injury or illness. The second injury fund pays any costs associated with the prior condition in order to reduce the cost burden on the current employer. The funds encourage employers to hire injured workers who want to return to work with residual impairments, because the current employer is responsible only for workers' compensation benefits associated with a subsequent illness or injury. Second injury funds are financed through assessments on employers and, in a small number of jurisdictions, with general fund monies.[26]

Carve-outs. Several states have legislative provisions for "carve-outs," a variant of workers' compensation allowing for union-management agreements that

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

22 In 2018, North Dakota, Ohio, Washington, and Wyoming had exclusive state funds. Competitive state funds operated in California, Colorado, Hawaii, Idaho, Kentucky, Louisiana, Maryland, Missouri, Montana, New Mexico, New York, Oklahoma, Oregon, Pennsylvania, Rhode Island, and Texas.

23 All states allow employers to self-insure except for North Dakota and Wyoming, both of which require employers to obtain workers' compensation insurance from their exclusive state funds. Wyoming allows for alternate arrangements in certain cases. See page 5 for more information.

24 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.

25 While these jobs tend to be particularly hazardous, there are many hazardous jobs not covered by federal WC programs.

26 See *Sources and Methods 2018* on the Academy's website for further details on special funds, second injury funds, and guaranty funds.

meet or exceed the legislated workers' compensation provisions and provide for certain benefits and dispute resolution mechanisms outside those typically provided in the legislation.[27] Carve-outs are most common in construction, police work, and firefighting sectors. (Indemnity costs of these mechanisms are reflected in the Academy's data, but some administrative and medical costs may not be.)

Estimates for 2018

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

The estimates of benefits and costs necessarily represent different time frames. Estimates of benefits for 2018 include payments made in 2018 for injuries and illnesses that occurred in 2018 and prior years. For employers that purchase workers' compensation insurance, estimates of costs for 2018 are the premiums paid in 2018 to a private insurer or state fund. Those premiums incorporate projected future liabilities for injuries and illnesses that occur in 2018. For employers that are self-insured, the cost estimates include payments for medical and cash benefits made in 2018 for injuries and illnesses that occurred in 2018 or prior years. For additional discussion of these measures, refer to the Addendum, Benefits Paid vs. Benefits Incurred.

The Academy has designed its measures to provide the best available estimates of workers' compensation benefits, costs, and coverage in a given year and over time. The estimates are not designed to assess the performance of the insurance industry or of insurance markets. Other organizations analyze insurance trends.[28] The estimates also are not designed to measure the performance of the workers' compensation system with respect to: the prevention of occupational injuries and illnesses; the adequacy or equity of benefits paid to workers; the adequacy of payment for medical coverage; affordability of compensation; or the impact of vocational rehabilitation and job accommodations in returning injured employees to work or on the benefits they receive.

Finally, it is not appropriate to use the estimates to compare the performance of workers' compensation systems in different states. Benefits and costs vary across states not only due to differences in their workers' compensation laws and systems, but also because states vary in the relative risk of their mix of industries and occupations. A meaningful comparison of benefits or costs across states is beyond the scope of this report. As described in the table in Appendix E, the Oregon Department of Consumer and Business Services produces a biannual report on state costs of workers' compensation premiums that does control for industry mix. However, that report's scope does not extend to measuring system performance, which would require other metrics that are unavailable for all states.

Covered Employment and Wages

There is no national system for counting the number of jobs covered by workers' compensation, so the number of covered jobs and amount of covered wages must be estimated. The Academy's methodology is designed to count the number of jobs that are legally required to be covered by workers' compensation under state laws, for all states except Texas.[29] In Texas, where employers are allowed to opt out of workers' compensation, the estimates include both workers who are required to be covered, and those who are covered but not required to be.

27 These include California, Florida, Hawaii, Illinois, Kentucky, Massachusetts, Maryland, Maine, Minnesota, Nevada, New York, and Pennsylvania. Torrey 2019.

28 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.

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

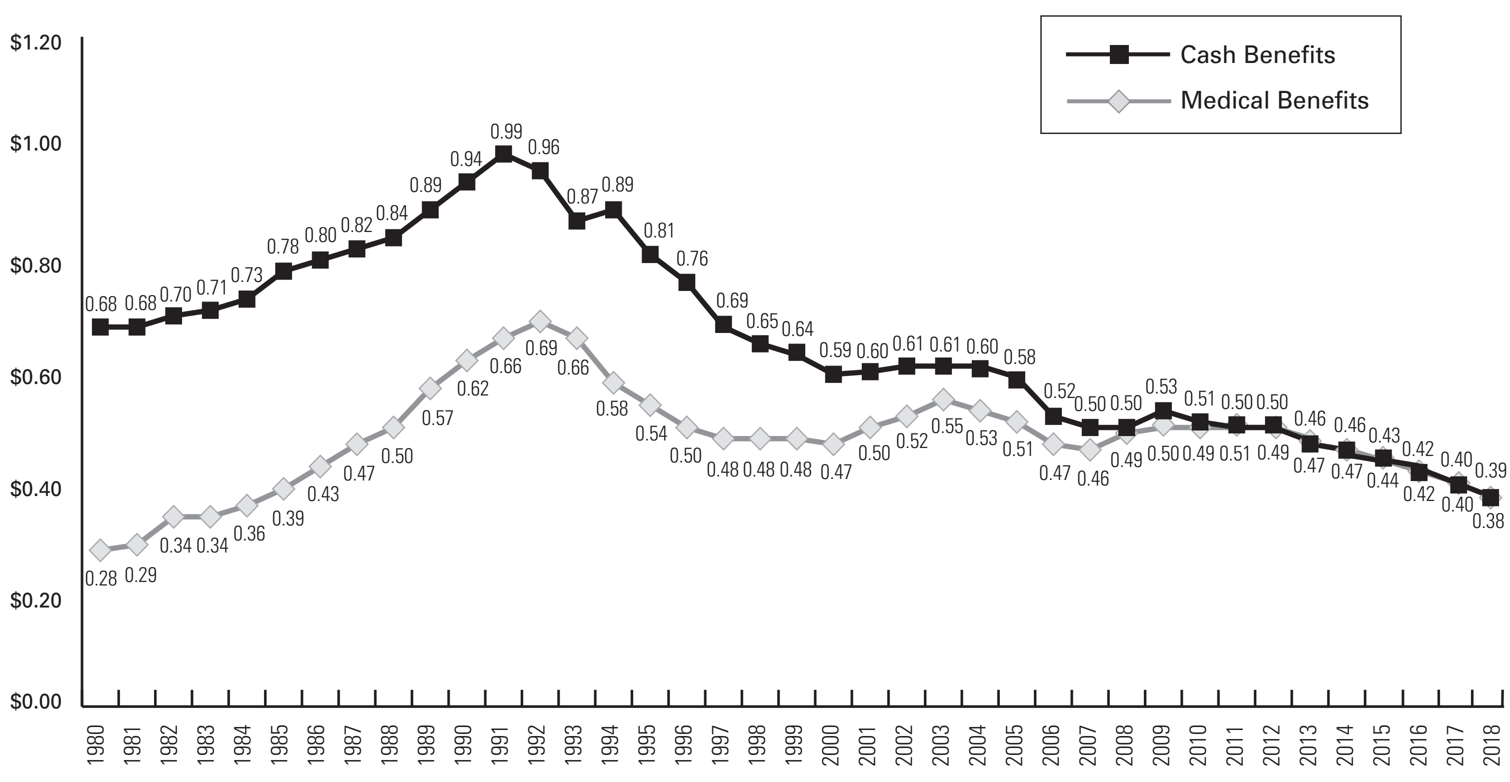
It recently came to the Academy's attention that not all workers in Wyoming are required to be covered by workers' compensation. Of the approximately 262,000 workers in the state's labor force in June 2018, 235,000, or 90%, are covered by workers' compensation. However, only 175,000 are working in jobs with required coverage, with 60,000 employees in optional coverage positions. In other words, 2018 data indicate that, of all state employees, just 67% are covered by mandatory coverage, with another 23% under non-mandatory coverage.[30]

Methods for Estimating Covered Employment and Wages

We use the number of jobs and amount of wages covered by unemployment insurance (UI) in each state as the starting point for our estimates.[31] 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

Figure 2

Workers' Compensation Medical and Cash Benefits Per $100 of Covered Wages, 1980-2018



Source: National Academy of Social Insurance estimates.

30 We were not able to obtain state data for all five years of the study period, however, and there appear to be significant differences between the 2019 data and the data available for 2017 and 2018 that we could not clarify, so we did not update the tables on this year's report. We hope to have all of the necessary data available for next year's report.

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

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

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

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

We note that millions of workers are not covered by unemployment insurance or workers' compensation because they are not categorized as employees. These include independent contractors, gig-economy workers (except perhaps in California), and day laborers.[32]

National Estimates of Covered Employment and Wages

In 2018, workers' compensation covered an estimated 142.6 million U.S. jobs, a 1.6 percent increase from the previous year. (Table 2) Covered wages totaled $8.2 trillion, an increase of 5.0 percent from 2017. (Table 2) Covered employment and wages have increased steadily since 2010, but the rate of increase has fluctuated across those years. We note that the majority of changes in covered employment and covered wages across states over time derives from changes in aggregate employment rather than new workers' compensation laws or policies.

Between 2014 and 2018, covered non-federal employment increased by an estimated 9.5 million jobs, or 7.3 percent. (Table 3) Covered non-federal wages increased much more substantially, by $1.31 trillion, or 19.8 percent. (Table 4)

Overall, in 2018, workers' compensation coverage extended to an estimated 97.5 percent of all non-federal jobs covered by unemployment insurance (Table A.1), and 86.7 percent of all jobs in the U.S. (Table A.2)[33]

In contrast to the trend in the non-federal sector, coverage in the federal workers' compensation program grew by just 1.9 percent between 2014 and 2018, adding 51,000 jobs. (Table 3) Nearly all of this gain – 1.8 percent – took place between 2014 and 2016, with a gain of just 0.1 percent 2016-2018. With respect to covered wages, federal workers gained ground by 5.8 percent from 2014 to 2016, and by 6.8 percent from 2016-2018, for a total of a 13.0 percent increase over the study period. (Table 4)

State Estimates of Covered Employment and Wages

Between 2014 and 2018, all states except Alaska, Louisiana, North Dakota, 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 (14.7%), Nevada

32 Given the growing number of workers who are classified in these categories and thus ineligible for coverage, the Academy hopes to explore this issue in next year's report. BLS has information on occupational fatalities to independent workers, https://www.bls.gov/opub/btn/volume-8/fatal-occupational-injuries-to-independent-workers.htm. Unfortunately, the non-fatal injuries and illnesses are captured via an employer survey and so do not capture independent workers.

33 According to unpublished estimates provided by the BLS, 3.6 percent of civilian (non-federal) workers represented by the BLS National Compensation Survey (NCS) were employed in establishments reporting zero annual workers' compensation costs in March 2018 (DOL, 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 non-federal UI covered jobs in 2018, slightly above NCS estimates.

Table 2

Workers' Compensation Covered Jobs and Covered Wages, 1998-2018

Year	Covered Workers (thousands)	Covered Workers Percent Change	Covered Wages (billions)	Covered Wages Percent Change
1998	121,485	2.8	3,885	8.2
1999	124,349	2.4	4,151	6.8
2000	127,141	2.2	4,495	8.3
2001	126,972	-0.1	4,604	2.4
2002	125,603	-1.1	4,615	0.2
2003	124,685	-0.7	4,717	2.2
2004	125,878	1.0	4,953	5.0
2005	128,158	1.8	5,213	5.3
2006	130,339	1.7	5,544	6.3
2007	131,734	1.1	5,857	5.6
2008	130,643	-0.8	5,954	1.7
2009	124,856	-4.4	5,675	-4.7
2010	124,638	-0.2	5,834	2.8
2011	125,876	1.0	6,058	3.8
2012	127,916	1.6	6,335	4.6
2013	130,149	1.7	6,835	7.9
2014	133,081	2.3	6,840	0.1
2015	136,001	2.2	7,206	5.4
2016	138,459	1.8	7,432	3.1
2017	140,397	1.4	7,785	4.8
2018	142,618	1.6	8,177	5.0

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

(13.9%), and Idaho (13.2%). The states with the largest percentage declines in covered employment were North Dakota (-6.4%) and Wyoming (-4.5%). In each case the decline in coverage occurred between 2014-16 and was not offset in 2016-18.

Covered wages largely parallel the trend in covered jobs (covered wages must grow more quickly than covered jobs unless there is no wage growth in the economy overall). The across-the-board increases largely represent the continuing improvement in the economy over the analysis period. Indeed, North Dakota and Wyoming were the only states to experience a decrease in covered wages over this period (-3.9% and -1.7%, respectively), with all other states seeing modest-to-substantial increases. (Table 4) The vast majority of states – 45 – experienced increases in covered wages of more than 10 percent. Four Western states, Washington (33.7%), Utah (29.9%), Idaho (28.0%), and California (27.6%), experienced the greatest increases in covered wages.

Workers' Compensation Benefits Paid

Data Sources and Methods for Estimating Benefits Paid

This section describes the primary data sources that we use to estimate workers' compensation benefits nationally and for each state. A detailed, state-by-state explanation of how the benefit estimates in this report are produced is available in *Sources and Methods: A Companion to Workers' Compensation: Benefits, Costs, and Coverage 2020*, 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 provided by the National Council on Compensation Insurance (NCCI). Together, the data from state agencies, A.M. Best, and NCCI allow us to assemble 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.[34]

Academy questionnaire. The primary source of data on benefits paid to injured workers is the responses from 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 41 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 state, if available, along with information on the ratio of self-insured benefit payments to total benefits paid in states in which the data are available to control for trends in self-insured benefit payments over time. If historical data are not available for the specific state, we rely on a second method that applies the ratio of self-insured benefits to covered wages in states where the data are available, or to the estimate of covered wages in states where data on self-insureds is missing.

Among the states that did not directly reply to the survey, six 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 in which the survey data are missing, incomplete, or determined to be incorrect. The A.M. Best data used for this report provide information on benefits paid in each state for 2014 through 2018 (A.M. Best, 2020). The data include

34 Note that while, in previous reports, Table 5 reports benefits paid by insurers, beginning with the 2019 report, the term payer is used instead. We made this change to clarify that states can be either employers or insurers, depending on the context, and that the federal government is a payer, but not an insurer, with respect to WC. That is, it pays benefits but does not insure other entities.

Table 3
Workers' Compensation Covered Jobs by State, 2014-2018

	Number of Jobs (in thousands)					Percent Change			Ranking (1=largest percent increase, 2014-2018)
State	2014	2015	2016	2017	2018	2014-2016	2016-2018	2014-2018	
Alabama	1,737	1,765	1,790	1,811	1,836	3.1	2.5	5.7	20
Alaska	315	317	311	307	306	-1.3	-1.6	-2.9	49
Arizona	2,485	2,555	2,625	2,692	2,771	5.6	5.5	11.5	5
Arkansas	1,109	1,129	1,144	1,153	1,163	3.1	1.7	4.8	30
California	15,567	16,051	16,471	16,775	17,110	5.8	3.9	9.9	12
Colorado	2,353	2,428	2,485	2,542	2,607	5.6	4.9	10.8	10
Connecticut	1,636	1,645	1,649	1,652	1,656	0.8	0.4	1.2	46
Delaware	417	427	432	435	440	3.5	2.0	5.6	24
District of Columbia	532	545	556	565	576	4.5	3.5	8.1	15
Florida	7,278	7,561	7,827	8,006	8,208	7.5	4.9	12.8	4
Georgia	3,849	3,968	4,077	4,159	4,241	5.9	4.0	10.2	11
Hawaii	593	605	614	621	625	3.6	1.7	5.3	26
Idaho	634	652	675	694	718	6.5	6.3	13.2	3
Illinois	5,669	5,754	5,801	5,840	5,879	2.3	1.3	3.7	38
Indiana	2,842	2,892	2,936	2,967	3,000	3.3	2.2	5.6	23
Iowa	1,483	1,497	1,506	1,506	1,515	1.5	0.6	2.2	42
Kansas	1,322	1,332	1,335	1,335	1,347	1.0	0.9	1.9	43
Kentucky	1,765	1,794	1,820	1,833	1,844	3.1	1.4	4.5	31
Louisiana	1,889	1,896	1,873	1,872	1,886	-0.9	0.7	-0.2	47
Maine	573	578	585	591	596	2.1	1.8	4.0	35
Maryland	2,406	2,443	2,477	2,503	2,530	3.0	2.1	5.2	28
Massachusetts	3,315	3,382	3,448	3,497	3,540	4.0	2.7	6.8	16
Michigan	4,015	4,085	4,164	4,217	4,262	3.7	2.4	6.2	19
Minnesota	2,682	2,727	2,765	2,805	2,833	3.1	2.4	5.6	21
Mississippi	1,027	1,041	1,052	1,056	1,059	2.4	0.6	3.0	41

Missouri	2,496	2,541	2,578	2,602	2,626	3.3	1.9	5.2	27
Montana	424	432	438	442	447	3.3	2.2	5.6	22
Nebraska	918	931	940	944	949	2.4	0.9	3.3	39
Nevada	1,182	1,224	1,262	1,304	1,347	6.7	6.8	13.9	2
New Hampshire	619	629	640	646	651	3.3	1.8	5.2	29
New Jersey	3,793	3,841	3,905	3,957	3,995	2.9	2.3	5.3	25
New Mexico	746	755	756	759	771	1.2	2.0	3.3	40
New York	8,710	8,878	9,015	9,137	9,294	3.5	3.1	6.7	17
North Carolina	3,899	4,002	4,099	4,168	4,246	5.1	3.6	8.9	13
North Dakota	432	424	404	401	404	-6.5	0.1	-6.4	51
Ohio	5,108	5,182	5,242	5,286	5,327	2.6	1.6	4.3	32
Oklahoma	1,527	1,538	1,518	1,523	1,547	-0.6	1.9	1.3	45
Oregon	1,699	1,760	1,813	1,855	1,893	6.7	4.4	11.4	6
Pennsylvania	5,529	5,576	5,621	5,682	5,751	1.7	2.3	4.0	34
Rhode Island	452	459	462	466	470	2.1	1.7	3.9	36
South Carolina	1,804	1,858	1,904	1,941	2,000	5.5	5.0	10.8	9
South Dakota	395	400	404	406	410	2.2	1.5	3.8	37
Tennessee	2,607	2,677	2,745	2,787	2,833	5.3	3.2	8.7	14
Texas	8,903	9,238	9,472	9,642	9,877	6.4	4.3	10.9	8
Utah	1,253	1,301	1,348	1,390	1,438	7.6	6.7	14.7	1
Vermont	295	298	298	300	301	1.0	0.7	1.7	44
Virginia	3,416	3,490	3,543	3,590	3,643	3.7	2.8	6.6	18
Washington	2,972	3,049	3,141	3,215	3,298	5.7	5.0	11.0	7
West Virginia	677	672	660	659	669	-2.5	1.4	-1.1	48
Wisconsin	2,708	2,742	2,775	2,797	2,823	2.5	1.7	4.3	33
Wyoming	277	275	264	262	265	-4.6	0.1	-4.5	50
Total Non-Federal	130,337	133,244	135,666	137,594	139,823	4.1	3.1	7.3	
Federal Employees	2,744	2,756	2,793	2,803	2,795	1.8	0.1	1.9	
TOTAL	133,081	136,001	138,459	140,397	142,618	4.0	3.0	7.2	

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

Table 4

Workers' Compensation Covered Wages by State, 2014-2018

	Covered Wages (in millions)					Percent Change			Ranking (1=largest percent increase, 2014-2018)
State	2014	2015	2016	2017	2018	2014-2018	2016-2018	2014-2018	
Alabama	$73,424	$76,375	$78,472	$81,485	$85,200	6.9	8.6	16.0	31
Alaska	16,499	17,008	16,316	16,105	16,653	-1.1	2.1	0.9	49
Arizona	115,300	121,117	126,025	133,656	142,234	9.3	12.9	23.4	9
Arkansas	43,869	45,693	47,069	49,031	50,588	7.3	7.5	15.3	33
California	914,844	986,111	1,033,048	1,100,775	1,167,490	12.9	13.0	27.6	4
Colorado	122,942	130,421	134,653	143,486	152,312	9.5	13.1	23.9	8
Connecticut	104,441	107,652	108,469	109,939	112,001	3.9	3.3	7.2	47
Delaware	22,104	22,963	23,117	24,183	24,909	4.6	7.7	12.7	40
District of Columbia	41,850	44,245	45,668	48,115	50,624	9.1	10.9	21.0	15
Florida	322,822	346,215	364,707	384,192	407,410	13.0	11.7	26.2	7
Georgia	183,067	194,315	204,389	214,633	224,469	11.6	9.8	22.6	11
Hawaii	25,911	27,455	28,671	29,899	30,879	10.7	7.7	19.2	17
Idaho	23,768	25,003	26,421	28,353	30,413	11.2	15.1	28.0	3
Illinois	305,179	320,627	325,926	337,050	350,809	6.8	7.6	15.0	34
Indiana	120,024	126,044	130,020	136,138	141,826	8.3	9.1	18.2	19
Iowa	62,775	65,691	67,335	69,094	71,669	7.3	6.4	14.2	38
Kansas	55,958	57,907	58,383	59,712	62,206	4.3	6.5	11.2	43
Kentucky	73,262	77,074	79,531	82,084	84,640	8.6	6.4	15.5	32
Louisiana	84,992	86,388	84,735	86,288	89,926	-0.3	6.1	5.8	48
Maine	22,783	23,734	24,489	25,473	26,567	7.5	8.5	16.6	27
Maryland	127,741	133,953	137,952	143,060	148,270	8.0	7.5	16.1	30
Massachusetts	211,967	225,054	232,040	244,117	256,581	9.5	10.6	21.0	14
Michigan	193,413	203,240	210,922	220,107	228,067	9.1	8.1	17.9	22
Minnesota	137,888	145,477	149,647	157,008	163,774	8.5	9.4	18.8	18
Mississippi	37,457	38,485	39,429	40,228	41,345	5.3	4.9	10.4	45

Missouri	109,409	114,664	117,819	122,160	127,684	7.7	8.4	16.7	26
Montana	16,159	16,969	17,472	18,247	19,059	8.1	9.1	17.9	21
Nebraska	37,450	39,527	40,613	41,956	43,501	8.4	7.1	16.2	29
Nevada	52,491	55,562	59,063	62,315	66,967	12.5	13.4	27.6	5
New Hampshire	31,506	32,889	34,090	35,440	36,778	8.2	7.9	16.7	25
New Jersey	229,085	238,725	244,360	252,669	261,709	6.7	7.1	14.2	37
New Mexico	30,466	31,291	31,314	32,137	33,885	2.8	8.2	11.2	42
New York	572,923	598,418	611,626	644,759	676,612	6.8	10.6	18.1	20
North Carolina	173,996	184,809	192,323	202,470	214,036	10.5	11.3	23.0	10
North Dakota	21,884	21,396	19,611	20,035	21,035	-10.4	7.3	-3.9	51
Ohio	232,924	242,199	247,780	257,739	267,238	6.4	7.9	14.7	35
Oklahoma	65,819	67,038	65,518	67,541	71,098	-0.5	8.5	8.0	46
Oregon	78,393	84,407	89,028	94,162	99,715	13.6	12.0	27.2	6
Pennsylvania	277,707	289,036	292,931	304,850	317,832	5.5	8.5	14.4	36
Rhode Island	22,004	22,940	23,474	24,279	24,922	6.7	6.2	13.3	39
South Carolina	72,860	77,269	80,873	84,985	88,568	11.0	9.5	21.6	13
South Dakota	15,065	15,838	16,401	16,979	17,671	8.9	7.7	17.3	24
Tennessee	116,327	123,676	128,687	134,637	141,442	10.6	9.9	21.6	12
Texas	470,775	498,207	511,121	534,512	566,668	8.6	10.9	20.4	16
Utah	53,039	56,871	60,227	63,904	68,906	13.6	14.4	29.9	2
Vermont	12,533	12,983	13,248	13,645	14,101	5.7	6.4	12.5	41
Virginia	175,107	183,411	188,077	196,441	205,533	7.4	9.3	17.4	23
Washington	162,254	171,473	184,150	198,259	216,879	13.5	17.8	33.7	1
West Virginia	27,210	27,351	26,777	27,888	30,104	-1.6	12.4	10.6	44
Wisconsin	118,192	123,895	127,192	131,615	137,448	7.6	8.1	16.3	28
Wyoming	12,781	12,632	11,752	11,985	12,570	-8.1	7.0	-1.7	50
Total Non-Federal	$6,632,638	$6,991,723	$7,212,962	$7,559,821	$7,942,822	8.7	10.1	19.8	
Federal Employees	$206,877	$214,726	$218,918	$225,416	$233,843	5.8	6.8	13.0	
TOTAL	$6,839,515	$7,206,449	$7,431,880	$7,785,237	$8,176,665	8.7	10.0	19.6	

Source: National Academy of Social Insurance estimates.

information for all private carriers in every state and for 15 of the 21 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.[35]

NCCI data. NCCI is the primary source of data on medical benefits in the 38 states in which it is licensed (NCCI, 2020). In states where NCCI data are not available, estimates of medical benefits are based on reports from the states. In cases where state data are incomplete and NCCI is licensed, NCCI is also a source for data on reimbursements paid through deductible policies and for amounts of covered wages for employers insured by private insurers or by a competitive state fund.

Estimating deductibles. The availability of deductible policies varies by state.[36] Among the states that allow them, a few can provide us with complete information on these policies, but most cannot. For states that do provide information on deductibles, we rely on the survey data alone, or together with data from A.M. Best, to estimate amounts paid for the deductibles. For states that do not include deductibles in the survey, we rely on NCCI data on manual equivalent premiums, together with data from A.M. Best to estimate deductible payments.[37] See *Sources and Methods 2018* on the Academy's website for a detailed description of the methods used to estimate deductibles.

Benefits paid. The Academy's estimates of workers' compensation benefits in this report reflect amounts paid for work-related injuries and illnesses in calendar year 2018 regardless of when those injuries occurred. This measure of benefits is commonly used in reporting data on social insurance programs, private employee benefits, and other income security programs.

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

National Estimates of Benefits Paid

Table 5 shows workers' compensation benefits paid by each type of payer (private insurer, state fund, self-insured, federal government) from 1998 to 2018. Altogether, workers' compensation paid about $63 billion in benefits in 2018, a 0.6 percent increase from the total paid in 2017. Private carriers were the largest single payer category, followed by self-insured employers, state funds, and the federal government.

Benefits by type of payer. In 2018, private insurers continued to dominate the workers' compensation insurance market, accounting for $34.8 billion (55.3%) in benefits paid. Self-insured employers were the next largest payer, $15.8 billion (25.1%) in benefits paid. State funds paid $8.9 billion (14.1%) and the federal government the remaining $3.5 billion (5.5%) of benefits. (Table 5)

Over the last two decades, the workers' compensation insurance market has shifted away from coverage by state funds and toward coverage by private insurers. As shown in Table 5, private insurance carriers increased their share of benefits paid by 1.7 percentage points between 1998 and

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

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

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

2018, while the share of benefits paid by state funds declined by about 2.2 percentage points.[38]

Over the same period, there has been an increase of roughly the same size in the share of workers' compensation benefits paid by self-insured employers – from 23.5% to 25.1% — but little change in the share paid by the federal government. The latter accounted for 5.5 percent in 2018.[39]

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

In 2018, employers paid $10.9 billion in benefits under deductible policies, or 17.4 percent of total benefits paid. (Table 6) The vast majority of benefits paid under deductible provisions are by employers covered through private insurers (97.1% of total deductibles paid in 2018), as opposed to deductibles paid by employers covered through a state fund (2.9% of total). The share of benefits paid by employers under deductible provisions increased by 37.7 percent between 1998 and 2008, and by another 19.2 percent between 2008 and 2018.

Employers who have policies with deductibles are, in effect, self-insured up to the amount of the deductible.[40] 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 1998 to 2018. For 2018, the results indicate that employers paid 42.5 percent of total benefits (as opposed to 25.2% in Table 5), while private insurers paid 38.4 percent (as opposed to 55.3%). The remaining benefits were paid by state funds and the federal government. (Table 7)

In 2018, workers' compensation insurers paid $0.38 per $100 of covered wages toward medical benefits, an 18.6 percent decrease from 2014. (Table 10) The change reflects the effects of a 3.1 percent decline in total medical benefits over the five-year period, accompanied by a 13.9 percent increase in covered wages. (Table 1)

The Academy draws on a range of data and methods to provide the most accurate possible estimates of workers' compensation benefits, costs, and coverage for a five-year study period.

In 2018, medical benefits represented almost exactly half (49.9%) of total workers' compensation benefits paid. Historically, medical benefits, paid to health care providers, have been a smaller share of workers' compensation benefits than cash benefits paid to injured workers. Since 2008, however, medical and cash benefits have accounted for roughly equal shares of total benefits, with medical benefits slightly higher than cash benefits for the first time in 2011 (Figure 3). Between 2014 and 2018, the share of medical benefits decreased slightly (from 51.0% in 2014 to 49.8% in 2018) (Table 5), because medical benefits paid decreased over this period (3.4%), at a faster rate than cash benefits (1.2%).

State Estimates of Benefits Paid in 2018

Benefits by type of insurer. Table 8 shows the shares of workers' compensation benefits paid by each type of insurer in each state in 2018. The shares vary considerably across states for several reasons: not all states have a state fund; where state funds exist, their legal

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

39 The self-insured share fluctuated slightly at the turn of the century, but never fell below 21.6 percent. While the federal government share is down 1 percentage point since 1998, since 1999 it has remained steady between 6.2 percent and 5.6 percent.

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

Table 5

Workers' Compensation Benefits Paid by Type of Insurer, 1998-2018

Year	Private Insurers Total (millions)	Private Insurers % Share	State Funds Total (millions)	State Funds % Share	Self-Insured Employers Total (millions)	Self-Insured Employers % Share	Federal Government Total (millions)	Federal Government % Share	All Insurers Total Benefits (millions)	All Insurers % Change from Prior Year	All Insurers Total Medical (millions)	All Insurers % Change from Prior Year	All Insurers % Medical
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	35,203	55.5	9,508	15.0	15,020	23.7	3,693	5.8	63,424	1.3	32,113	2.7	50.6
2014	35,290	55.5	9,288	14.6	15,365	24.2	3,681	5.8	63,624	0.3	32,420	0.7	51.0
2015	34,691	55.3	9,058	14.4	15,266	24.3	3,706	5.9	62,721	-1.4	31,604	-2.5	50.4
2016	34,682	55.6	8,926	14.3	15,173	24.3	3,603	5.8	62,384	-0.5	31,329	-0.9	50.2
2017	34,393	55.0	8,868	14.2	15,743	25.2	3,483	5.6	62,488	0.7	31,087	-0.6	49.7
2018	34,770	55.3	8,849	14.1	15,786	25.1	3,455	5.5	62,860	0.6	31,304	0.7	49.8

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

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

Table 6

Workers' Compensation Employer-Paid Benefits Under Deductible Provisions, 1998-2018

Year	Deductibles (millions $) Total	Private Insured	State Fund Insured	Deductibles as a % of Total Benefits
1998	4,644	4,399	245	10.6
1999	5,684	5,452	232	12.3
2000	6,201	5,931	270	13.0
2001	6,388	6,085	303	12.6
2002	6,922	6,511	411	13.2
2003	8,020	7,547	474	14.7
2004	7,645	7,134	510	13.6
2005	7,798	7,290	508	13.7
2006	7,575	7,052	524	13.8
2007	8,217	7,684	533	14.6
2008	8,603	8,095	508	14.6
2009	8,582	8,118	464	14.7
2010	8,904	8,466	438	15.2
2011	9,248	8,822	426	15.1
2012	9,940	9,494	446	15.9
2013	10,496	10,152	344	16.5
2014	10,809	10,452	356	17.0
2015	10,650	10,291	359	17.0
2016	10,580	10,256	324	17.1
2017	10,725	10,425	301	17.2
2018	10,964	10,652	312	17.4

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 2018* available at www.nasi.org for more details).

Source: National Academy of Social Insurance estimates.

status varies; the incentives to self-insure vary across states; and two states (North Dakota and Wyoming) do not allow self-insurance.

North Dakota and Wyoming have exclusive state funds and do not allow self-insurance. In 2018, 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 2018, their state funds accounted for just under 80 percent of total benefits paid (78.1% and 78.4%, respectively), shares that have fallen very slightly in recent years. Among the other 17 states that have an active state fund, the share of benefits accounted for by the fund ranged from less than 10 percent (in California, New Mexico, Pennsylvania, and South Carolina) to around one-half in Colorado (47.3%), Oregon (49.8%), and Montana (50.1%) and to almost two-thirds in Idaho (63.0%).

Table 7

Percentage Distribution of Workers' Compensation Benefit Payments, by Type of Coverage: With and Without Deductibles, 1998-2018

Year	Total Benefits (millions)	Percent of Total Benefits: Private Insured: *Total* (1)	Private Insured: Employer Paid Deductibles (2)	Private Insured: Insurer Paid after Deductibles (3)	State Fund Insured: *Total* (4)	State Fund Insured: Employer Paid Deductibles (5)	State Fund Insured: Insurer Paid After Deductibles (6)	Self-Insured (7)	Federal (8)	Total Employer Paid (9)=(2)+(5)+(7)
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	63,424	55.5	16.0	39.5	15.0	0.5	14.4	23.7	5.8	40.2
2014	63,624	55.5	16.4	39.0	14.6	0.6	14.0	24.2	5.8	41.1
2015	62,721	55.3	16.4	38.9	14.4	0.6	13.9	24.3	5.9	41.3
2016	62,383	55.6	16.5	39.1	14.3	0.5	13.9	23.9	5.8	41.0
2017	62,488	55.0	16.7	38.4	14.2	0.5	13.7	25.2	5.6	42.4
2018	62,860	55.3	16.9	38.4	14.1	0.5	13.6	25.1	5.5	42.6

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.

Among the states that do not have a state fund, private carriers typically accounted for 65 to 80 percent of benefits paid in 2018, while self-insured employers accounted for 20 to 35 percent. (This represents a slight downward shift in the share of benefits paid by private carriers, which was typically 70-80 percent in 2017). Alabama is the exception, with self-insured employers covering nearly half of benefits paid in

2018 (48.5%), by far the highest share of any state, and private insurers paying the remaining half (51.5%). Hawaii and Michigan also have a relatively high proportion of benefits paid by self-insured employers (36.3% and 35.0%). The exception in the opposite direction is South Dakota, where private carriers account for 95.9 percent of benefits paid in 2018, and self-insured employers account for only 4.1 percent. Indiana, Tennessee, Vermont, and Wisconsin also have a relatively high proportion of benefits paid by private carriers (86% to 87%).[41] 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.
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 state agencies' responses to the Academy's survey.

Medical benefits paid. Table 8 shows the amount of medical benefits paid in each state, as well as medical benefits as a share of total benefits. In 2018, the median share of medical benefits was 54.6 percent. The share of medical benefits was highest in Wisconsin (78.1%), followed by Alabama (72.8%), Indiana (71.9%), and Arizona (69.6%). The share of medical benefits was lowest in Washington (30.7%), Rhode Island (31.8%), and Massachusetts (32.5%). Note that the share of medical benefits in a state can be high either because medical benefits are relatively high or because cash benefits are relatively low.

State Trends in Benefits Paid

Table 9 shows total workers' compensation benefits paid in each state in the years 2014 to 2018. Over the five-year period, benefits decreased in 28 jurisdictions (compared to 34 jurisdictions that experienced decreases from 2013 to 2017). The largest decreases were in Oklahoma (28.6%), North Dakota (22.4%), Tennessee (21.6%), and Illinois (18.2%). Oklahoma, Tennessee, and Illinois experienced far greater percentage decreases in benefits between 2014 and 2016, compared to 2016-2018. North Dakota, on the other hand, experienced comparable decreases in the two periods (13.7% and 10.1%), so North Dakota is the only addition to the list of states with large decreases in benefits from last year. Benefits increased in 23 jurisdictions (compared to 17 that experienced increases from 2013-2017). The states with the greatest increases were Hawaii (32.4%), Idaho (14.9%), and Missouri (13.4%).

The within-state totals of workers' compensation benefits paid vary from year to year for a number of reasons. Benefits change as within-state employment changes, although much of the impact occurs with a lag. Benefits also are affected by changes to a state's legal system for processing claims, such as changes in statutory rules, legal decisions, administrative processes, reporting requirements, and lags in recording results.

Other factors that may explain within-state changes in benefits over time include: changes in the number of work-related injuries and illnesses; fluctuations in wage rates; changes in the mix of occupations/industries; changes in the costs and effectiveness of medical care (including changes to the medical fee schedule); changes to the indemnity benefit schedule; differences in the way stakeholders interact with the system over time (e.g., whether or not employees and/or employers have and exercise the right to choose a physician); changes in return-to-work and vocational rehabilitation efforts; and changes to coverage requirements (e.g. exclusions for small employers or agricultural employers).

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

Table 8

Workers' Compensation Benefits Paid, by Type of Insurer and State, 2018

State	Private Insured[a]		State Fund Insured[a]		Self-Insured[b]		Total Benefits Paid (thousands)[c]	Medical Benefits Paid (thousands)[d]	Percent Medical	Ranking (1=largest percent medical)
	Benefits (thousands)	Percent Share	Benefits (thousands)	Percent Share	Benefits (thousands)	Percent Share				
Alabama	$331,367	51.5			$312,008	48.5	$643,375	$468,377	72.8	2
Alaska	165,172	73.0			61,231	27.0	226,404	154,407	68.2	6
Arizona	580,922	77.7			167,097	22.3	748,019	520,622	69.6	4
Arkansas	136,339	68.0			64,021	32.0	200,360	129,233	64.5	13
California	7,463,965	60.8	1,030,316	8.4	3,780,355	30.8	12,274,637	6,555,237	53.4	28
Colorado	233,360	30.1	366,835	47.3	175,531	22.6	775,726	440,612	56.8	23
Connecticut	622,858	71.6			247,645	28.4	870,503	384,762	44.2	45
Delaware	159,633	75.5			51,676	24.5	211,309	109,035	51.6	32
District of Columbia	89,949	67.6			43,082	32.4	133,031	43,501	32.7	47
Florida	2,526,188	72.9			940,051	27.1	3,466,238	2,318,914	66.9	8
Georgia	1,055,501	72.8			393,767	27.2	1,449,268	720,286	49.7	34
Hawaii	170,055	47.4	58,233	16.2	130,145	36.3	358,433	172,048	48.0	38
Idaho	99,568	34.1	183,922	63.0	8,613	2.9	292,103	181,396	62.1	17
Illinois	1,656,750	73.8			589,595	26.2	2,246,345	1,037,812	46.2	42
Indiana	500,164	86.0			81,250	14.0	581,415	418,037	71.9	3
Iowa	500,959	75.9			159,101	24.1	660,060	368,313	55.8	25
Kansas	311,574	76.7			94,606	23.3	406,180	268,891	66.2	11
Kentucky	375,904	59.0	103,369	16.2	157,724	24.8	636,997	340,157	53.4	29
Louisiana	552,161	56.4	130,384	13.3	296,051	30.3	978,597	561,715	57.4	21
Maine	181,758	69.4			80,170	30.6	261,929	128,869	49.2	37
Maryland	549,705	53.9	143,507	14.1	325,904	32.0	1,019,115	489,175	48.0	38
Massachusetts	907,598	72.1			351,082	27.9	1,258,680	409,612	32.5	49
Michigan	591,845	65.0			319,193	35.0	911,037	454,096	49.8	33
Minnesota	812,442	75.0			270,465	25.0	1,082,907	590,977	54.6	26
Mississippi	234,039	77.1			69,653	22.9	303,692	182,823	60.2	19
Missouri	545,215	56.3	170,895	17.7	251,608	26.0	967,719	564,180	58.3	20
Montana	79,501	33.5	118,896	50.1	38,981	16.4	237,377	157,619	66.4	10
Nebraska	252,477	79.0			67,233	21.0	319,710	202,696	63.4	16
Nevada	266,346	67.7			127,184	32.3	393,530	188,501	47.9	41
New Hampshire	143,438	68.5			66,051	31.5	209,489	142,034	67.8	7
New Jersey	1,838,779	76.0			579,798	24.0	2,418,577	1,194,923	49.4	35

New Mexico	193,210	64.4	18,867	6.3	88,001	29.3	300,078	183,048	61.0	18
New York	2,769,618	44.1	1,388,015	22.1	2,127,938	33.9	6,285,571	2,049,628	32.6	48
North Carolina	804,915	74.6			274,425	25.4	1,079,339	483,544	44.8	44
North Dakota[e]	1,383	0.9	147,876	99.1			149,259	84,035	56.3	24
Ohio[e]	12,034	0.7	1,434,795	78.1	390,787	21.3	1,837,616	712,099	38.8	46
Oklahoma	271,877	49.6	174,331	31.8	101,629	18.6	547,837	282,684	51.6	31
Oregon	206,885	30.9	333,419	49.8	129,377	19.3	669,681	364,307	54.4	27
Pennsylvania	2,111,674	72.7	156,390	5.4	636,034	21.9	2,904,099	1,392,236	47.9	40
Rhode Island	65,879	41.8	67,761	43.0	24,098	15.3	157,738	50,161	31.8	50
South Carolina[f]	685,841	71.1	55,348	5.7	223,284	23.2	964,473	436,906	45.3	43
South Dakota	104,892	95.9			4,472	4.1	109,364	73,055	66.8	9
Tennessee	567,086	86.2			91,046	13.8	658,132	434,367	66.0	12
Texas	761,664	50.1	457,168	30.0	302,623	19.9	1,521,455	870,272	57.2	22
Utah[g]	226,455	80.4			55,323	19.6	281,778	194,991	69.2	5
Vermont	120,901	87.0			18,100	13.0	139,001	72,281	52.0	30
Virginia	716,335	75.5			232,019	24.5	948,354	606,947	64.0	15
Washington[e]	8,526	0.3	1,988,745	78.4	540,534	21.3	2,537,805	779,418	30.7	51
West Virginia[h]	177,096	43.1	155,380	37.9	77,960	19.0	410,436	202,756	49.4	36
Wisconsin	1,028,130	86.0			167,200	14.0	1,195,330	933,542	78.1	1
Wyoming[e]	108	0.1	164,901	99.9			165,009	106,119	64.3	14
Total Non-Federal	$34,770,043	58.5	$8,849,354	14.9	$15,785,722	26.6	$59,405,119	$30,211,253	50.9	
All Federal[i]							$3,454,588	$1,092,419	31.6	
Federal Employees[j]							$1,835,333	$921,028	50.2	
TOTAL							$62,859,707	$31,303,671	49.8	

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

a. Deductibles paid under private insurance policies and state fund policies are included in these estimates, even though they are technically paid by the employer.
b. Self-insured includes individual self-insured and group self-insured.
c. These data may not include benefits paid under second injury funds for some states and may, therefore, be an understatement of total benefits paid.
d. For further details see *Sources and Methods 2018* available at www.nasi.org.
e. States with exclusive state funds (Ohio, North Dakota, Washington, and Wyoming) may have some amounts of benefits paid in the private insured category, because: (1) some employers doing business in these states may need to obtain coverage from private carriers under the US Longshore and Harbor Workers' Act; (2) some employers carry liability coverage which the state fund is not authorized to provide; and/or (3) some employers obtain excess compensation coverage from private carriers.
f. South Carolina's State Accident Fund is not a competitive state fund.
g. Utah Senate Bill 92, passed in 2017, repealed the statute creating the Workers' Compensation Fund (Utah's public state fund). The former-lead company of WCF is now known as WCF Mutual Insurance Company, and is a for-profit mutual insurance company. Though this did not become effective until January 1, 2018, AM Best data on Utah classified all 2017 Utah premiums and losses under private insurance. WCF Mutual Insurance Company will remain the insurer of last resort in Utah until 2020.
h. West Virginia completed the transition from monopolistic state fund to competitive insurance status on July 1, 2008.
i. Federal benefits include: those paid under the Federal Employees' Compensation Act for civilian employees; the portion of the Black Lung benefit program that is financed by employers; and a portion of benefits under the Longshore and Harbor Workers' Compensation Act that are not reflected in state data, namely, benefits paid by self-insured employers and by special funds under the LHWCA. See Appendix B for more information about federal programs.
j. Included in the Federal benefits total.

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

Table 9

Workers' Compensation Total Benefits Paid and Five-Year Percent Change by State, 2014-2018

	Total Benefits (thousands)					Percent Change			Ranking (1=largest percent increase, 2014-2018)
State	2014	2015	2016	2017	2018	2014-2016	2016-2018	2014-2018	
Alabama	$636,575	$617,384	$601,283	$535,914	$643,375	-5.5	7.0	1.1	21
Alaska	232,657	240,473	225,779	213,187	226,404	-3.0	0.3	-2.7	29
Arizona	737,053	739,890	751,532	744,135	748,019	2.0	-0.5	1.5	19
Arkansas	211,200	197,169	197,459	214,980	200,360	-6.5	1.5	-5.1	37
California	12,109,340	12,007,776	12,153,321	12,191,773	12,274,637	0.4	1.0	1.4	20
Colorado	799,117	835,205	799,517	811,174	775,726	0.1	-3.0	-2.9	30
Connecticut	988,699	981,552	894,683	911,367	870,503	-9.5	-2.7	-12.0	43
Delaware	249,385	228,240	224,932	219,450	211,309	-9.8	-6.1	-15.3	45
District of Columbia	118,702	120,201	119,586	132,267	133,031	0.7	11.2	12.1	5
Florida	3,611,271	3,430,579	3,432,954	3,566,400	3,466,238	-4.9	1.0	-4.0	35
Georgia	1,403,278	1,322,446	1,371,958	1,385,908	1,449,268	-2.2	5.6	3.3	15
Hawaii	270,720	298,237	306,058	325,104	358,433	13.1	17.1	32.4	1
Idaho	254,140	262,823	267,976	283,157	292,103	5.4	9.0	14.9	2
Illinois	2,746,594	2,404,231	2,348,346	2,335,476	2,246,345	-14.5	-4.3	-18.2	48
Indiana	590,006	567,599	576,173	594,813	581,415	-2.3	0.9	-1.5	27
Iowa	643,355	617,230	662,119	655,022	660,060	2.9	-0.3	2.6	17
Kansas	435,852	423,458	422,801	396,446	406,180	-3.0	-3.9	-6.8	38
Kentucky	653,477	679,450	637,901	603,723	636,997	-2.4	-0.1	-2.5	28
Louisiana	926,034	953,725	931,442	934,231	978,597	0.6	5.1	5.7	12
Maine	254,052	237,606	240,819	255,267	261,929	-5.2	8.8	3.1	16
Maryland	980,011	964,670	908,180	933,154	1,019,115	-7.3	12.2	4.0	13
Massachusetts	1,118,850	1,088,051	1,138,091	1,213,047	1,258,680	1.7	10.6	12.5	4
Michigan	1,110,978	1,077,947	955,311	918,169	911,037	-14.0	-4.6	-18.0	47
Minnesota	1,086,696	1,033,268	1,029,149	1,016,148	1,082,907	-5.3	5.2	-0.3	24
Mississippi	336,689	331,683	305,690	318,053	303,692	-9.2	-0.7	-9.8	41
Missouri	853,213	911,504	922,842	1,055,490	967,719	8.2	4.9	13.4	3
Montana	245,926	252,558	261,047	253,763	237,377	6.1	-9.1	-3.5	33

Nebraska	319,777	301,059	312,730	312,138	319,710	-2.2	2.2	0.0	23
Nevada	358,525	341,700	351,093	356,477	393,530	-2.1	12.1	9.8	7
New Hampshire	216,078	215,944	205,579	209,535	209,489	-4.9	1.9	-3.0	31
New Jersey	2,337,510	2,343,986	2,350,692	2,404,771	2,418,577	0.6	2.9	3.5	14
New Mexico	326,236	326,983	308,728	292,541	300,078	-5.4	-2.8	-8.0	39
New York	5,688,914	5,895,533	5,923,854	6,260,362	6,285,571	4.1	6.1	10.5	6
North Carolina	1,293,360	1,221,729	1,199,800	1,125,244	1,079,339	-7.2	-10.0	-16.5	46
North Dakota	192,237	180,401	165,943	157,209	149,259	-13.7	-10.1	-22.4	50
Ohio	2,090,546	2,063,700	2,013,530	1,880,549	1,837,616	-3.7	-8.7	-12.1	44
Oklahoma	766,945	707,442	604,060	577,118	547,837	-21.2	-9.3	-28.6	51
Oregon	657,078	632,164	629,225	682,018	669,681	-4.2	6.4	1.9	18
Pennsylvania	2,998,028	2,974,544	3,124,120	2,818,291	2,904,099	4.2	-7.0	-3.1	32
Rhode Island	166,100	162,785	158,442	158,732	157,738	-4.6	-0.4	-5.0	36
South Carolina	887,228	882,793	900,896	918,698	964,473	1.5	7.1	8.7	9
South Dakota	100,485	107,690	104,711	99,909	109,364	4.2	4.4	8.8	8
Tennessee	839,339	759,395	704,424	677,684	658,132	-16.1	-6.6	-21.6	49
Texas	1,535,548	1,553,634	1,464,121	1,431,440	1,521,455	-4.7	3.9	-0.9	26
Utah	261,916	269,871	274,574	275,328	281,778	4.8	2.6	7.6	10
Vermont	151,976	151,456	139,776	144,455	139,001	-8.0	-0.6	-8.5	40
Virginia	939,317	923,925	951,155	981,979	948,354	1.3	-0.3	1.0	22
Washington	2,399,873	2,412,253	2,437,100	2,464,784	2,537,805	1.6	4.1	5.7	11
West Virginia	425,350	414,955	426,142	413,537	410,436	0.2	-3.7	-3.5	34
Wisconsin	1,202,109	1,167,469	1,169,240	1,167,630	1,195,330	-2.7	2.2	-0.6	25
Wyoming	184,398	178,444	175,053	176,433	165,009	-5.1	-5.7	-10.5	42
Total Non-Federal	$59,942,738	$59,014,811	$58,781,758	$59,004,481	$59,405,119	-1.9	1.1	-0.9	
All Federal[a]	$3,681,205	$3,705,848	$3,603,265	$3,483,448	$3,454,588	-2.1	-4.1	-6.2	
Federal Employees[b]	$2,940,811	$2,988,242	$2,890,670	$2,780,499	$2,756,361	-1.7	-4.6	-6.3	
TOTAL	$63,623,942	$62,720,659	$62,385,023	$62,487,929	$62,859,707	-1.9	0.8	-1.2	

Notes: Benefits are calendar-year payments to injured workers and to providers of their medical care. Data sources for each state are described in detail in *Sources and Methods 2018* 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.

Benefits Per $100 of Covered Wages

Much of the interstate variation and intertemporal variation in benefit payments described above can be attributed to different trends in employment and wages across states. To control for differential trends in employment and wages over the time period covered in this report, we construct a standardized measure of benefits, benefits per $100 of covered wages. Variations in the standardized measure of benefits capture interstate differences in the factors described above (i.e., type and nature of injuries, quality of medical care, value of cash benefits, and investments in return-to-work).

> *The trend of decreases in total benefits to workers continued in 2018, with more states experiencing decreases (28) than increases (23).*

We caution the reader that, because we cannot account for the factors described above, the data on standardized benefits (benefits paid per $100 of covered wages) do not provide meaningful comparisons of the performance of state workers' compensation systems. For example, standardized benefits do not indicate the extent to which cash benefits compensate workers for their losses due to injury (i.e., benefit adequacy). Moreover, standardized benefits could be high or low in a given state for a number of reasons completely unrelated to the adequacy of benefits that injured workers receive.[42] For example, if a state has a disproportionate share of risky occupations (e.g., mining), and all else is held equal, standardized benefits will tend to be higher. If a state has high prices for medical care relative to the average wage rate, all else equal, standardized benefits will tend to be higher.

Table 10 shows trends in *medical benefits per $100 of covered wages* in each state between 2014 and 2018. The national trend was a decrease of nearly 19.2% over this five-year period (versus 19.6% from 2013-2017). Across this five-year period, medical benefits per $100 of covered wages decreased in 49 jurisdictions, with the largest percent decreases in North Carolina (34.5%), Delaware (32.1%), and Tennessee (30.2%). The only two states to experience increases were Hawaii (18.8%), Louisiana (14.8%).

Table 11 shows trends in *cash benefits per $100 of covered wages* in each state between 2014 and 2018. Nationally, this figure decreased by 15.5 percent over the five years covered in the report. All but three states experienced decreases in standardized cash benefits. Those states are Wyoming (which had an increase of 11.0%), Alaska (5.4%), and Hawaii (4.8%). The decrease in standardized cash benefits ranged from as large as 43.8 percent in Tennessee and 40.2 percent in Oklahoma, to as small as 3.3 percent in New York and 3.4 percent in South Dakota.

Table 12 shows total benefits paid per $100 of covered wages by state from 2014 through 2018. Nationwide, benefits paid were $0.77 per $100 of covered wages in 2018, down $0.16, or 17.4 percent, from 2014. Benefits per $100 of covered wages decreased by $0.09 between 2014 and 2016, and by $0.07 from 2016 to 2018. As shown in Figure 1, standardized benefits have decreased by almost one third (32%) from the 20-year high of $1.13 per $100 of covered wages in 1998 to $0.77 in 2018.

Between 2014 and 2018, benefits per $100 of covered wages decreased in all states but Hawaii, which saw an increase of 11.1%. Twenty-nine jurisdictions experienced decreases of at least 15 percent (compared to 31 in last year's report), and five states experienced decreases of 25 percent or more (compared to eight last year).

State outliers. The largest percent decrease in standardized benefits was in Tennessee (35.5%), followed closely by Oklahoma (33.9%), North Carolina (32.2%), and Michigan (30.5%). In any given year,

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

some states may experience a major increase or decrease in standardized benefits for the first time. All four of these states, however, experienced large decreases in the 2013-2017 period reported last year. Moreover, these large decreases in benefits have been ongoing for the past few years and are attributable to the legislative changes described below.

In 2013, Tennessee enacted a Workers' Compensation Reform Act that took effect on January 1, 2014 (Tennessee Bureau of Workers Compensation, 2017). The legislation established a new administrative process for resolving claims, overseen by a new Court of Workers' Compensation Claims and a Workers' Compensation Appeals Board. Eligibility for benefits was restricted to cases in which work-related injuries were the primary cause of the workers' current disability, and PPD benefit rates were reduced, although the maximum duration of PPD benefits was increased from 400 to 450 weeks. The legislation also adopted new medical treatment guidelines, which narrowed reimbursable treatment regimens to those explicitly listed in the guidelines. These reforms help explain the sharp declines in both cash and medical benefits per $100 of covered wages seen over the study period (of 43.8 and 30.2 percent, respectively).

As previously noted, an Oklahoma statute allowed certain employers in the state to opt out of workers' compensation insurance from 2014 through part of 2016, when the state supreme court declared the statute unconstitutional. In the years leading up to that, Oklahoma also implemented other significant changes to its workers' compensation statutes with likely impacts during the study period. These revisions include 2010 changes that raised the burden of proof to qualify for compensation and reducing and capping benefits for permanently disabled workers, and 2011 changes that reduced by half wage-replacement benefits for temporarily disabled workers. Others include changes to provider reimbursement and medical fee schedules; reductions in permanent disability ratings for PPD and PTD claims by the amount of impairment determined to be pre-existing; reductions in both the maximum TTD benefit amount and duration; and adoption of a new administration system governed by a three-member Workers' Compensation Commission.[43] Overall in Oklahoma, standardized medical benefits declined by 26.6 percent and cash benefits by 40.2 percent over the study period.

Several changes enacted as part of North Carolina House Bill 709 (passed in 2011) likely explain much of the sharp decline in benefits in that state. In addition to capping temporary total disability benefits at 500 weeks, along with new reduced medical fee schedules that became effective in 2015, the new law: raised the burden of proof for injured workers to qualify for workers' compensation coverage; made it more difficult for workers to qualify as permanently and totally disabled; and reduced workers' compensation benefits when the injured worker is also receiving Social Security old-age benefits (Qiu and Grabell 2015).[44]

In 2011, Michigan enacted changes to its workers' compensation laws that are likely to reduce benefits for the foreseeable future. These changes included redefining disability and post-work capacity and increasing the stringency of the criteria required to establish disability and/or wage loss. The law changed from defining "disability" as "a limitation of an employee's wage earning capacity in work suitable to his or her qualifications and training resulting from a personal injury or work-related disease" to occurring only "if a personal injury covered under this act results in the employee's being unable to perform all jobs paying the maximum wages in work suitable to that employee's qualifications and training, which includes work that may be performed using the employee's transferable work skills."[45] As a result, cash benefits declined by 35.7 percent over

43 Oklahoma Senate Bill 1062. In addition to the statutory changes that reduced compensation paid per claim, the number of workers' compensation claims filed in Oklahoma declined dramatically after the legislative changes were implemented in 2014. (There were 7,935 claims filed in 2018, down over 46 percent from 2012 (Oklahoma Workers' Compensation Commission, 2019). The decline is not due to a decline in employment – State nonfarm employment rose by 4.9 percent between July of 2012 and July of 2018 (Oklahoma Employment Security Commission, 2020). The statutory changes also made some previously compensable injuries non-compensable, and there is anecdotal evidence that claimants or their attorneys may have foregone filing claims, including fraudulent claims, that have been discouraged or weeded out by the statutory changes (personal communication of Christopher McLaren with Stormy Moore, Director of Permitting Services, Oklahoma Workers' Compensation Commission.)

44 The legislation also placed term limits on commissioners who oversee the workers' comp system, which Qui and Grabell assert "is expected to make rulings more favorable for employers and insurers over time."

45 Michigan Legislature, 2011-2012 Legislative Session, HB 5002.

Table 10

Workers' Compensation Medical Benefits Paid per $100 of Covered Wages and Five-Year Percent Change by State, 2014-2018

	Medical Benefits (per $100 covered wages)					Percent Change			Ranking (1=largest percent increase, 2014-2018)
State	2014	2015	2016	2017	2018	2014-2016	2016-2018	2014-2018	
Alabama	$0.60	$0.55	$0.54	$0.45	$0.55	-10.1	2.6	-7.7	7
Alaska	1.00	0.99	0.91	0.87	0.93	-8.9	1.8	-7.3	5
Arizona	0.42	0.41	0.40	0.38	0.37	-4.7	-9.3	-13.6	21
Arkansas	0.32	0.28	0.27	0.29	0.26	-14.6	-5.3	-19.1	36
California	0.76	0.68	0.65	0.59	0.56	-15.3	-13.2	-26.4	46
Colorado	0.37	0.36	0.33	0.32	0.29	-11.7	-11.9	-22.2	39
Connecticut	0.45	0.41	0.36	0.37	0.34	-18.4	-5.8	-23.1	40
Delaware	0.64	0.57	0.53	0.46	0.44	-17.4	-17.8	-32.1	50
District of Columbia	0.10	0.10	0.09	0.11	0.09	-5.0	-7.6	-12.2	17
Florida	0.76	0.68	0.64	0.62	0.57	-15.7	-10.7	-24.7	45
Georgia	0.38	0.33	0.35	0.34	0.32	-7.3	-8.8	-15.4	24
Hawaii	0.47	0.49	0.49	0.52	0.56	4.7	13.5	18.8	1
Idaho	0.68	0.68	0.65	0.64	0.60	-4.7	-7.8	-12.2	16
Illinois	0.41	0.34	0.32	0.31	0.30	-20.1	-8.8	-27.1	48
Indiana	0.36	0.32	0.31	0.31	0.29	-12.9	-6.1	-18.2	31
Iowa	0.54	0.50	0.52	0.51	0.51	-3.1	-1.4	-4.5	4
Kansas	0.48	0.45	0.46	0.42	0.43	-3.6	-7.0	-10.3	12
Kentucky	0.50	0.49	0.43	0.39	0.40	-12.3	-7.6	-19.0	35
Louisiana	0.59	0.61	0.61	0.61	0.62	4.4	1.7	6.2	2
Maine	0.53	0.48	0.47	0.51	0.49	-11.3	3.0	-8.6	9
Maryland	0.36	0.33	0.31	0.31	0.33	-14.4	7.5	-7.9	8
Massachusetts	0.18	0.16	0.16	0.16	0.16	-7.3	-2.6	-9.7	11
Michigan	0.26	0.26	0.22	0.20	0.20	-15.9	-9.9	-24.2	44
Minnesota	0.43	0.38	0.37	0.35	0.36	-14.3	-3.2	-17.0	28
Mississippi	0.53	0.51	0.45	0.47	0.44	-15.4	-1.7	-16.8	27
Missouri	0.44	0.45	0.45	0.49	0.44	0.4	-0.9	-0.4	3
Montana	0.99	1.00	0.99	0.94	0.83	0.3	-16.8	-16.5	26
Nebraska	0.53	0.48	0.49	0.46	0.47	-7.2	-5.6	-12.4	19

Nevada	0.34	0.31	0.32	0.30	0.28	-6.5	-11.3	-17.1	29
New Hampshire	0.46	0.42	0.40	0.39	0.39	-12.6	-3.7	-15.8	25
New Jersey	0.53	0.51	0.49	0.47	0.46	-7.4	-6.7	-13.6	20
New Mexico	0.58	0.60	0.56	0.53	0.54	-3.0	-4.4	-7.3	6
New York	0.35	0.34	0.33	0.33	0.30	-5.0	-7.7	-12.3	18
North Carolina	0.34	0.31	0.29	0.26	0.23	-15.9	-22.1	-34.5	51
North Dakota	0.51	0.46	0.46	0.43	0.40	-9.6	-12.8	-21.2	37
Ohio	0.35	0.34	0.32	0.27	0.27	-8.9	-16.7	-24.1	43
Oklahoma	0.54	0.50	0.46	0.46	0.40	-15.9	-12.7	-26.6	47
Oregon	0.45	0.40	0.37	0.39	0.37	-16.5	-2.5	-18.5	32
Pennsylvania	0.52	0.48	0.50	0.44	0.44	-3.3	-12.5	-15.4	23
Rhode Island	0.26	0.21	0.22	0.21	0.20	-15.7	-9.4	-23.6	42
South Carolina	0.55	0.52	0.50	0.48	0.49	-9.1	-2.0	-11.0	14
South Dakota	0.45	0.46	0.41	0.38	0.41	-10.5	1.7	-9.0	10
Tennessee	0.44	0.38	0.36	0.33	0.31	-18.7	-14.2	-30.2	49
Texas	0.20	0.18	0.16	0.15	0.15	-16.7	-6.3	-21.9	38
Utah	0.35	0.32	0.32	0.30	0.28	-9.1	-10.4	-18.6	33
Vermont	0.63	0.61	0.54	0.55	0.51	-14.8	-4.7	-18.9	34
Virginia	0.33	0.31	0.32	0.32	0.30	-2.1	-8.9	-10.8	13
Washington	0.47	0.43	0.41	0.38	0.36	-12.0	-13.1	-23.5	41
West Virginia	0.77	0.75	0.76	0.73	0.67	-0.5	-11.6	-12.1	15
Wisconsin	0.79	0.73	0.72	0.69	0.68	-8.9	-5.5	-14.0	22
Wyoming	1.02	0.95	1.01	0.98	0.84	-1.2	-16.3	-17.3	30
Total Non-Federal	$0.47	$0.43	$0.42	$0.40	$0.38	-11.1	-9.0	-19.1	
Federal Employees[a]	$0.49	$0.48	$0.47	$0.42	$0.39	-3.8	-16.3	-19.4	
TOTAL[b]	$0.47	$0.44	$0.42	$0.40	$0.38	-11.2	-9.0	-19.2	

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 2018* available at www.nasi.org.

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

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

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

Table 11

Workers' Compensation Cash Benefits per $100 of Covered Wages and Five-Year Percent Change by State, 2014-2018

State	Cash Benefits (per $100 covered wages)					Percent Change			Ranking (1=largest percent increase, 2014-2018)
	2014	2015	2016	2017	2018	2014-2016	2016-2018	2014-2018	
Alabama	$0.24	$0.23	$0.21	$0.21	$0.21	-14.3	-0.1	-14.4	24
Alaska	0.41	0.42	0.47	0.45	0.43	15.3	-8.6	5.4	2
Arizona	0.22	0.21	0.19	0.18	0.16	-10.6	-17.0	-25.8	45
Arkansas	0.17	0.16	0.15	0.15	0.14	-9.6	-6.1	-15.1	25
California	0.56	0.53	0.53	0.51	0.49	-5.5	-7.5	-12.6	19
Colorado	0.28	0.28	0.27	0.24	0.22	-4.6	-17.1	-20.9	38
Connecticut	0.50	0.50	0.46	0.46	0.43	-7.9	-5.8	-13.2	20
Delaware	0.48	0.42	0.44	0.45	0.41	-8.9	-6.8	-15.2	26
District of Columbia	0.19	0.17	0.17	0.16	0.18	-9.1	4.7	-4.8	6
Florida	0.36	0.31	0.30	0.30	0.28	-16.1	-7.4	-22.3	41
Georgia	0.39	0.35	0.32	0.31	0.32	-17.5	1.6	-16.1	28
Hawaii	0.58	0.60	0.58	0.57	0.60	0.1	4.7	4.8	3
Idaho	0.39	0.37	0.37	0.36	0.36	-5.9	-0.9	-6.7	10
Illinois	0.49	0.41	0.40	0.39	0.34	-19.8	-13.1	-30.3	48
Indiana	0.13	0.13	0.13	0.13	0.12	-1.4	-11.0	-12.2	17
Iowa	0.49	0.44	0.46	0.44	0.41	-5.1	-11.9	-16.4	30
Kansas	0.30	0.28	0.26	0.24	0.22	-12.6	-14.9	-25.6	44
Kentucky	0.40	0.39	0.37	0.34	0.35	-7.2	-4.5	-11.4	15
Louisiana	0.50	0.49	0.48	0.48	0.46	-3.3	-4.4	-7.5	11
Maine	0.58	0.52	0.51	0.50	0.50	-12.3	-2.2	-14.3	23
Maryland	0.41	0.39	0.35	0.34	0.36	-14.0	1.7	-12.6	18
Massachusetts	0.35	0.32	0.33	0.33	0.33	-7.0	1.3	-5.7	8
Michigan	0.31	0.27	0.23	0.21	0.20	-25.6	-13.6	-35.7	49
Minnesota	0.35	0.33	0.32	0.30	0.30	-10.8	-4.7	-15.0	24
Mississippi	0.37	0.35	0.33	0.32	0.29	-11.4	-10.2	-20.5	37
Missouri	0.34	0.35	0.34	0.37	0.32	0.4	-6.4	-6.0	9
Montana	0.53	0.49	0.50	0.45	0.42	-5.8	-16.4	-21.2	39

Nebraska	0.32	0.28	0.28	0.29	0.27	-14.1	-2.7	-16.4	31
Nevada	0.34	0.30	0.28	0.27	0.31	-19.4	10.5	-10.9	13
New Hampshire	0.23	0.23	0.20	0.20	0.18	-11.0	-9.2	-19.2	35
New Jersey	0.49	0.47	0.47	0.48	0.47	-3.9	-1.1	-5.0	7
New Mexico	0.49	0.45	0.42	0.38	0.35	-13.8	-18.0	-29.3	46
New York	0.65	0.65	0.64	0.64	0.63	-1.1	-2.2	-3.3	4
North Carolina	0.40	0.35	0.33	0.29	0.28	-16.2	-16.6	-30.1	47
North Dakota	0.37	0.38	0.39	0.35	0.31	4.5	-20.1	-16.5	32
Ohio	0.55	0.52	0.49	0.46	0.42	-9.8	-14.5	-22.9	42
Oklahoma	0.62	0.55	0.47	0.40	0.37	-25.2	-20.1	-40.2	50
Oregon	0.39	0.35	0.33	0.33	0.31	-14.8	-7.8	-21.4	40
Pennsylvania	0.56	0.55	0.57	0.49	0.48	0.7	-15.9	-15.3	27
Rhode Island	0.49	0.50	0.45	0.44	0.43	-7.8	-4.7	-12.2	16
South Carolina	0.66	0.62	0.61	0.60	0.60	-8.0	-2.4	-10.2	12
South Dakota	0.21	0.22	0.23	0.21	0.21	8.9	-11.3	-3.4	5
Tennessee	0.28	0.23	0.19	0.18	0.16	-32.7	-16.5	-43.8	51
Texas	0.13	0.13	0.12	0.12	0.11	-5.3	-6.3	-11.3	14
Utah	0.15	0.15	0.14	0.13	0.13	-4.2	-10.0	-13.8	22
Vermont	0.58	0.56	0.52	0.51	0.47	-11.0	-8.5	-18.5	33
Virginia	0.21	0.19	0.18	0.18	0.17	-11.6	-8.5	-19.1	34
Washington	1.01	0.98	0.91	0.86	0.81	-9.8	-10.9	-19.7	36
West Virginia	0.80	0.77	0.83	0.76	0.69	4.0	-16.8	-13.5	21
Wisconsin	0.23	0.21	0.20	0.19	0.19	-12.1	-4.8	-16.4	29
Wyoming	0.42	0.47	0.48	0.49	0.47	14.0	-2.6	11.0	1
Total Non-Federal	$0.43	$0.41	$0.39	$0.38	$0.37	-8.4	-	-15.2	
Federal Employees	$0.93	$0.91	$0.85	$0.82	$0.78	-8.9	-7.7	-15.8	
TOTAL[b]	$0.46	$0.43	$0.41	$0.40	$0.39	-8.5	-7.6	-15.5	

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 2018*, available at www.nasi.org.

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

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

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

Table 12

Workers' Compensation Total Benefits Paid Per $100 of Covered Wages, by State, 2014-2018

State	2014	2015	2016	2017	2018	Percent Change 2014-2016	Percent Change 2016-2018	Percent Change 2014-2018	Ranking (1=largest percent increase, 2014-2018)
Alabama	$0.90	$0.87	$0.81	$0.77	$0.74	-10.3	-8.9	-18.3	31
Alabama	$0.87	$0.81	$0.77	$0.66	$0.76	-11.6	-1.4	-12.9	17
Alaska	1.41	1.41	1.38	1.32	1.36	-1.9	-1.8	-3.6	4
Arizona	0.64	0.61	0.60	0.56	0.53	-6.7	-11.8	-17.7	33
Arkansas	0.48	0.43	0.42	0.44	0.40	-12.9	-5.6	-17.7	34
California	1.32	1.22	1.18	1.11	1.05	-11.1	-10.6	-20.6	41
Colorado	0.65	0.64	0.59	0.57	0.51	-8.7	-14.2	-21.6	43
Connecticut	0.95	0.91	0.82	0.83	0.78	-12.9	-5.8	-17.9	35
Delaware	1.13	0.99	0.97	0.91	0.85	-13.8	-12.8	-24.8	46
District of Columbia	0.28	0.27	0.26	0.27	0.26	-7.7	0.4	-7.4	8
Florida	1.12	0.99	0.94	0.93	0.85	-15.9	-9.6	-23.9	45
Georgia	0.77	0.68	0.67	0.65	0.65	-12.4	-3.8	-15.8	24
Hawaii	1.04	1.09	1.07	1.09	1.16	2.2	8.7	11.1	1
Idaho	1.07	1.05	1.01	1.00	0.96	-5.1	-5.3	-10.2	12
Illinois	0.90	0.75	0.72	0.69	0.64	-19.9	-11.1	-28.9	47
Indiana	0.49	0.45	0.44	0.44	0.41	-9.9	-7.5	-16.6	28
Iowa	1.02	0.94	0.98	0.95	0.92	-4.1	-6.3	-10.1	11
Kansas	0.78	0.73	0.72	0.66	0.65	-7.0	-9.8	-16.2	27
Kentucky	0.89	0.88	0.80	0.74	0.75	-10.1	-6.2	-15.6	23
Louisiana	1.09	1.10	1.10	1.08	1.09	0.9	-1.0	-0.1	2
Maine	1.12	1.00	0.98	1.00	0.99	-11.8	0.3	-11.6	15
Maryland	0.77	0.72	0.66	0.65	0.69	-14.2	4.4	-10.4	13
Massachusetts	0.53	0.48	0.49	0.50	0.49	-7.1	0.0	-7.1	6
Michigan	0.57	0.53	0.45	0.42	0.40	-21.1	-11.8	-30.5	48
Minnesota	0.79	0.71	0.69	0.65	0.66	-12.7	-3.9	-16.1	25
Mississippi	0.90	0.86	0.78	0.79	0.73	-13.7	-5.3	-18.3	37

Missouri	0.78	0.79	0.78	0.86	0.76	0.4	-3.2	-2.8	3
Montana	1.52	1.49	1.49	1.39	1.25	-1.8	-16.6	-18.2	36
Nebraska	0.85	0.76	0.77	0.74	0.73	-9.8	-4.6	-13.9	18
Nevada	0.68	0.61	0.59	0.57	0.59	-13.0	-1.1	-14.0	19
New Hampshire	0.69	0.66	0.60	0.59	0.57	-12.1	-5.5	-16.9	29
New Jersey	1.02	0.98	0.96	0.95	0.92	-5.7	-3.9	-9.4	10
New Mexico	1.07	1.04	0.99	0.91	0.89	-7.9	-10.2	-17.3	31
New York	0.99	0.99	0.97	0.97	0.93	-2.5	-4.1	-6.4	5
North Carolina	0.74	0.66	0.62	0.56	0.50	-16.1	-19.2	-32.2	49
North Dakota	0.88	0.84	0.85	0.78	0.71	-3.7	-16.1	-19.2	39
Ohio	0.90	0.85	0.81	0.73	0.69	-9.5	-15.4	-23.4	44
Oklahoma	1.17	1.06	0.92	0.85	0.77	-20.9	-16.4	-33.9	50
Oregon	0.84	0.75	0.71	0.72	0.67	-15.7	-5.0	-19.9	40
Pennsylvania	1.08	1.03	1.07	0.92	0.91	-1.2	-14.3	-15.4	22
Rhode Island	0.75	0.71	0.67	0.65	0.63	-10.6	-6.2	-16.2	26
South Carolina	1.22	1.14	1.11	1.08	1.09	-8.5	-2.2	-10.6	14
South Dakota	0.67	0.68	0.64	0.59	0.62	-4.3	-3.1	-7.2	7
Tennessee	0.72	0.61	0.55	0.50	0.47	-24.1	-15.0	-35.5	51
Texas	0.33	0.31	0.29	0.27	0.27	-12.2	-6.3	-17.7	32
Utah	0.49	0.47	0.46	0.43	0.41	-7.7	-10.3	-17.2	30
Vermont	1.21	1.17	1.06	1.06	0.99	-13.0	-6.6	-18.7	38
Virginia	0.54	0.50	0.51	0.50	0.46	-5.7	-8.8	-14.0	20
Washington	1.48	1.41	1.32	1.24	1.17	-10.5	-11.6	-20.9	42
West Virginia	1.56	1.52	1.59	1.48	1.36	1.8	-14.3	-12.8	16
Wisconsin	1.02	0.94	0.92	0.89	0.87	-9.6	-5.4	-14.5	21
Wyoming	1.44	1.41	1.49	1.47	1.31	3.2	-11.9	-9.0	9
Total Non-Federal	$0.90	$0.84	$0.81	$0.78	$0.75	-9.8	-8.2	-17.2	
Federal Employees[a]	$1.42	$1.39	$1.32	$1.23	$1.18	-7.1	-10.7	-17.1	
TOTAL[b]	$0.93	$0.87	$0.84	$0.80	$0.77	-9.7	-8.4	-17.4	

a Includes Federal Employee Compensation Act compensation benefits from Table B1.
b Includes federal (cash) benefits as described in Table 8.

Source: National Academy of Social Insurance estimates.

the study period, the third-largest decline in the country. With standardized medical benefits also declining by 24.2 percent over the study period, a reduction that is not related to the legal changes described above, Michigan saw the fourth largest total decline in standardized benefits.[46]

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

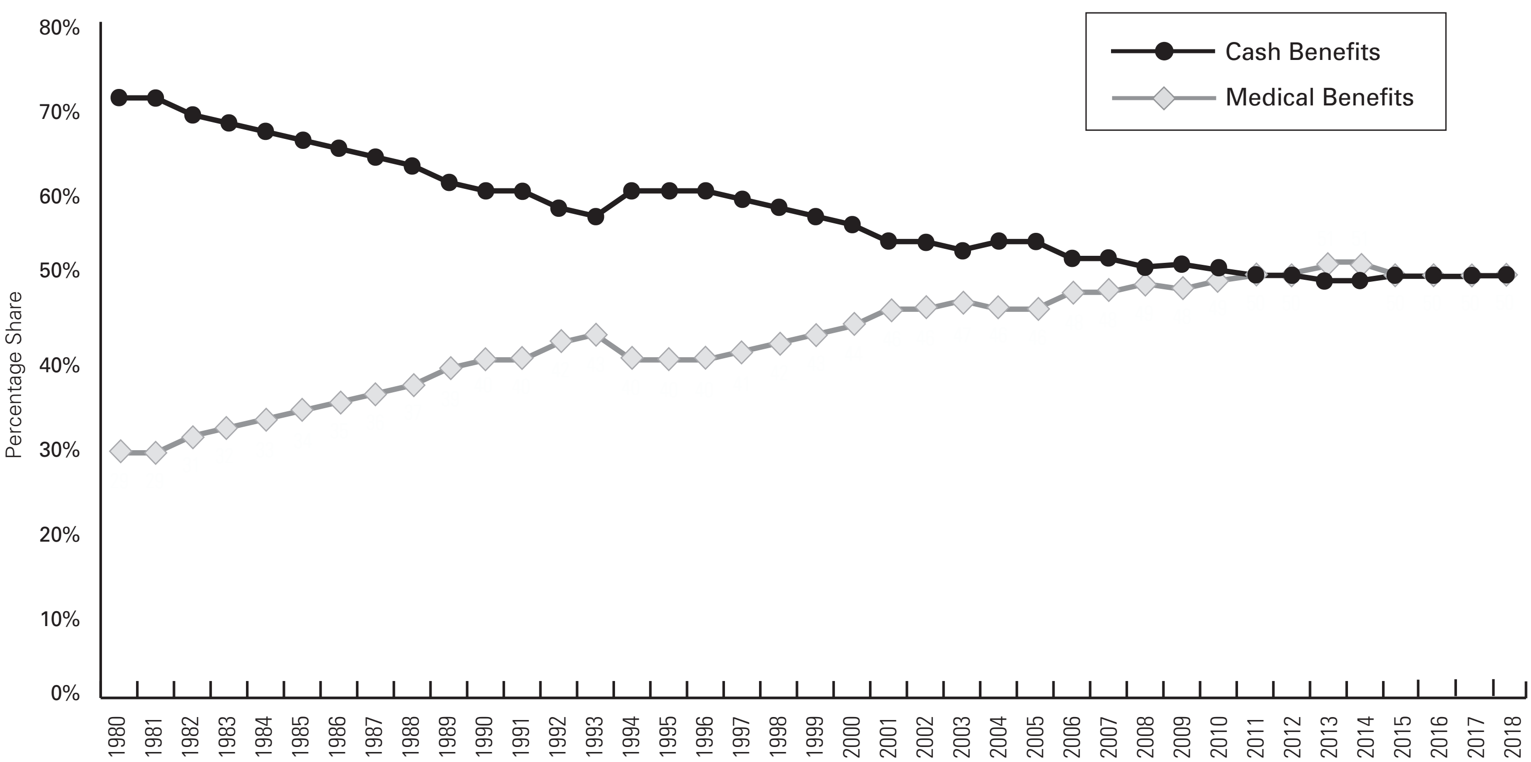
Cash Benefits by Type of Claim

The National Council on Compensation Insurance (NCCI) provides data on the relative incidence (or frequency) of each type of disability claim (temporary total, permanent partial, and permanent total, as well as fatalities) as a proportion of the total number of cases receiving cash benefits and total benefits incurred (NCCI, 2020). 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 2016, 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.[47] The bulk of total benefits for workers' compensation goes to permanent disability claims, of which permanent partial disability claims

Figure 3

Percentage Share of Medical and Cash Benefits, 1980-2018



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

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

47 In 2016, medical-only claims accounted for 75 percent of all workers' compensation claims, but less than 10 percent of all benefits

are the most common.[48] In 2016, temporary total disability (TTD) claims accounted for 62.5 percent of all indemnity claims, but only 33.7 percent of benefits incurred (Figures 4a & 4b). PPD claims accounted for 36.9 percent of indemnity claims, but 56.7 percent 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 2016). However, these claims tend to be expensive. In 2016, PTD and fatality claims represented 0.6 percent of total indemnity claims, but 6.7 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).[49] 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, 2020*, available on the Academy's website. The primary sources of cost data are the state surveys, A.M. Best, and NCCI.

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

For self-insured employers, workers' compensation costs include medical and cash benefits paid during the calendar year, plus the administrative costs of providing those benefits. Administrative costs include the direct costs of managing claims, as well as expenditures for litigation, cost containment (e.g., utilization review, treatment guidelines) taxes, licenses, and fees. Self-insured employers generally do not report the administrative costs of workers' compensation separately from the costs of administering other employee benefit programs, so the costs associated with administering workers' compensation must be estimated. The National Association of Insurance Commissioners reports the ratio of administrative costs to total benefits paid for private insurers who report to them (NAIC, 2020). 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.[50]

For the federal employee workers' compensation program, employer costs are benefits paid plus administrative costs, as reported by the U.S. Department of Labor (DOL, 2020).

The Academy's estimates of employer costs also include estimates of assessments for special funds, second-injury funds, and guaranty funds. Employer payments to 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

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paid (NCCI, 2020a). Since 1999, there has been a gradual decline in the share of medical-only claims from 78.3 percent to the current 75.3 percent. On the other hand, the share of benefits paid for medical-only claims has increased from 6.2 percent in 1999 to 7.6 percent of overall benefits in 2016.

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

49 Work by Frank Neuhauser on behalf of the Data Panel suggests that our current methods do not fully capture assessments on employers that go toward special funds. To this extent, employer costs may be underestimated. Neuhauser estimated a total discrepancy of $3.5 billion—almost 4 percent of total non-federal costs—for 2016, but his methods have not yet been replicated for other years studied.

50 Private insurers face some cost factors, such as commissions, profit allowances, and taxes on premiums that self-insurers do not face. NAIC estimates of administrative costs are equal to the amount spent on direct defense and cost containment expenses plus taxes,

Figure 4a

Types of Disabilities in Workers' Compensation Cases with Cash Benefits, 1996-2016

Percentage of Cases

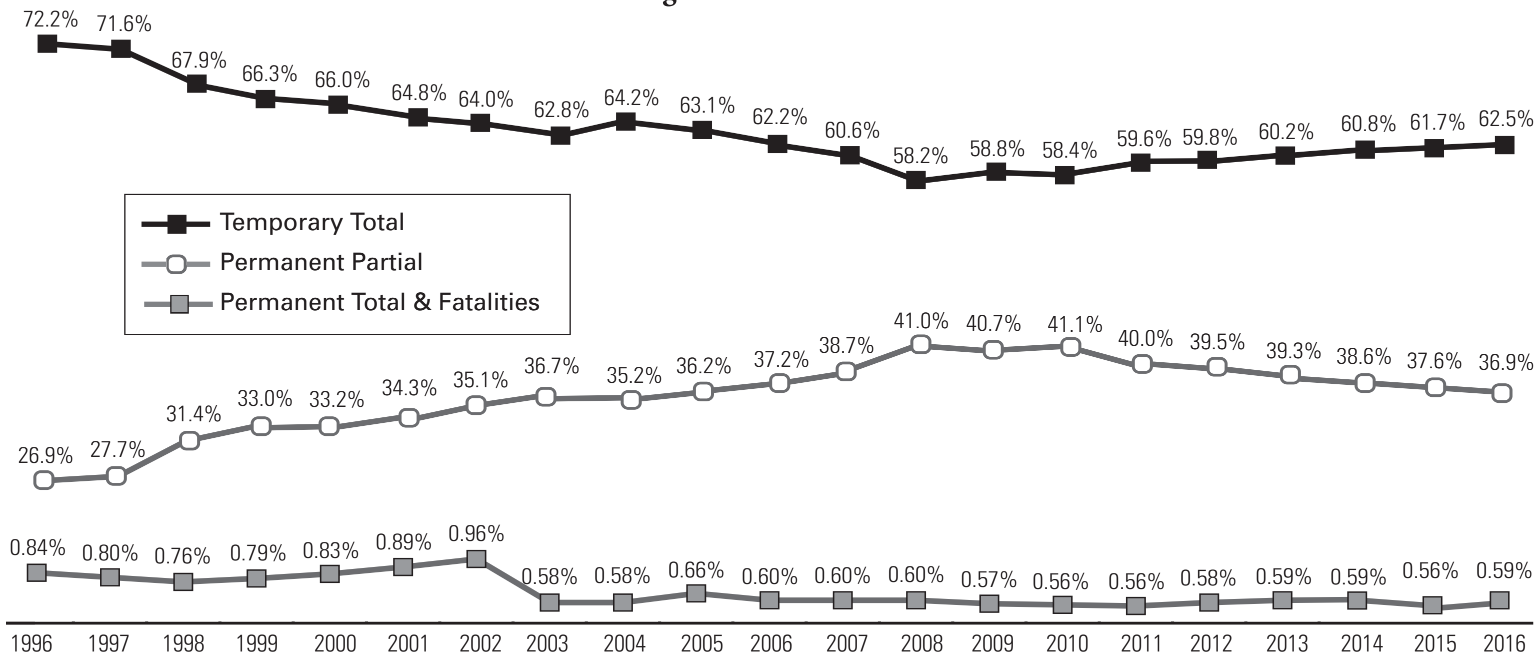
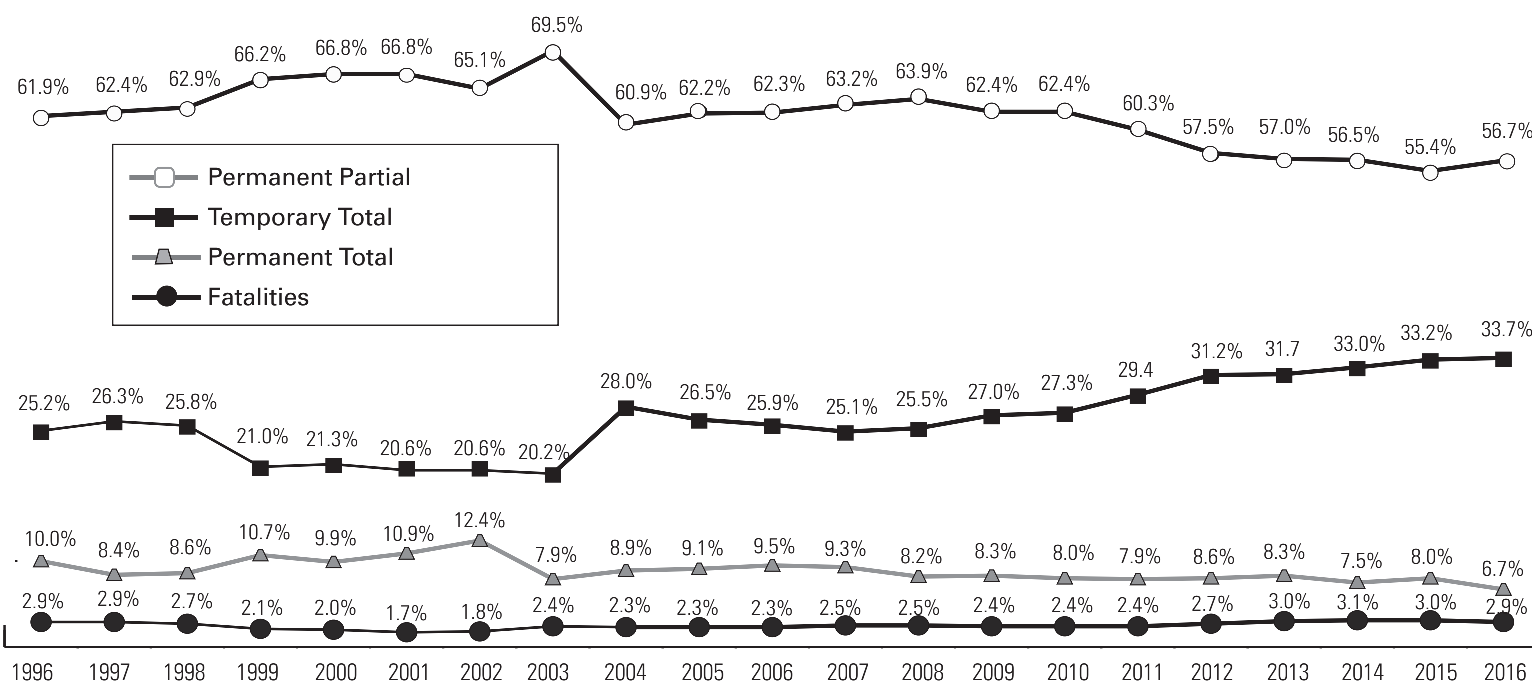


Figure 4b

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*. A breakdown of the percentage of cases under "Permanent Total & Fatalities" can be found in *Sources and Methods 2018* at nasi.org.

Source: NCCI 2000-2020, *Annual Statistical Bulletin*, Exhibits X and XII.

funds are paid by insurers, so these are included in reported premiums.

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

National Estimates of Employer Costs

Table 13 shows employer costs for workers' compensation by type of coverage for 1998 through 2018. In 2018, total employer costs were $98.6 billion, an increase of 1.1 percent since 2016, and of 5.0 percent since 2014.

This increase in employer costs is largely explained by trends in employment and wages over the study period. Controlling for growth in employment and wages, employer costs actually decreased by $0.16 per $100 of covered wages (12.2%) between 2014 and 2018. (Table 14) Among non-federal employers, costs per $100 of covered wages decreased by $0.19 (14.0%) across these five years, with the bulk of that decrease taking place in the latter years. Employer costs decreased by $0.07 per $100 covered wages, a 5.4% decrease, from 2014 to 2016 ($1.34 to $1.27), and by $0.12, or 9.1%, from 2016 to 2018 ($1.27 to $1.15).

In 2018, costs for employers insured through private carriers were 61.4 percent of total workers' compensation costs ($60.6 billion); costs for employers insured through state funds were 12.3 percent ($12.2 billion); costs for self-insured employers were 19.2 percent ($18.9 billion); and costs for federal government programs were 7.1 percent ($7.0 billion). (Table 13) Over the five-year study period (2014-2018), the share of costs paid by state funds decreased by nearly two percentage points, the share accorded to self-insured employers remained stable, and the shares accorded to both private insurance and to the federal government increased slightly.

State Estimates of Employer Costs

Table 14 reports estimates of employer costs for workers' compensation per $100 of covered wages by state from 2014 to 2018. Costs are aggregated across all types of payers (excluding the federal government) and across all industries. Consistent with the national trend, employer costs per $100 of covered wages decreased in 50 of 51 jurisdictions (compared to 45 jurisdictions experiencing decreases in last year's report and 39 in the prior year's report). Ohio experienced the largest relative decrease in standardized costs (39.4%), followed by Wyoming (36.4%), Oklahoma (33.3%), and Tennessee (28.6%).[51]

The decline in standardized costs in Oklahoma is likely the result of multiple factors. First, as described earlier, the state implemented significant changes to its workers' compensation laws in 2014 (see p.36 for more detail). Second, the "opt-out" provision, which was effective from 2014 through part of 2016, allowed employers to provide insurance for injured workers under alternative benefit systems. Without accurate estimates of the number of jobs covered in opt-out plans, our estimates of covered jobs and wages would over-estimate coverage, which would

licenses, and fees, divided by direct losses paid (for more detail see *Sources and Methods 2018*). 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).

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

Table 13

Workers' Compensation Employer Costs, by Type of Coverage, 1998-2018

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
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	84,681	7.3	51,267	60.5	10,995	13.0	17,880	21.1	4,539	5.4
2013	89,234	5.4	55,025	61.7	12,097	13.6	17,508	19.6	4,604	5.2
2014	93,880	5.2	57,436	61.2	13,319	14.2	18,211	19.4	4,914	5.2
2015	96,700	3.0	59,308	61.3	13,320	13.8	18,641	19.3	5,432	5.6
2016	97,510	0.8	60,189	61.7	13,074	13.4	18,585	19.1	5,663	5.8
2017	97,949	0.8	60,675	61.9	12,262	12.5	18,901	19.3	6,110	6.2
2018	98,587	0.7	60,564	61.4	12,162	12.3	18,886	19.2	6,975	7.1

a Costs for second injury funds and special funds are included in the totals. The costs for special funds are estimated from assessment rates, based on premiums and losses. Employee contributions to workers' compensation costs in New Mexico, Oregon, and Washington state are included in the totals from 2011 to 2018.

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, and 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.

result in lower standardized costs (and benefits) than they should be.[52]

In North Dakota there were also large decreases in standardized employer costs in 2014-2016 (of $0.23, or 13.5%), and then a similar decline from 2016 to 2018 ($0.20, or 14.2%). This decline likely reflects changes to the state's workers' compensation law that were enacted in 2013, which affected both medical and cash benefits.[53]

Wyoming experienced by far the largest decrease in employer costs between 2016 and 2018. It is not clear why the state experienced such a steep decline in employer costs in such a short period of time. As Wyoming law professor Mike Duff notes, the state's coal industry has "been slowly dying over the last five years," which may be one factor, along with "a legal system [that] is likely to produce continuing steep reductions in employer costs." The latter includes a definition of total disability, "loss of use of the body as a whole," that makes compensation more difficult for disabled workers to obtain and an "odd lot doctrine" that leads to small, closed-end partial awards that may not fully compensate disabled workers.[54]

Hawaii is the only state in which employer costs per $100 of covered wages increased. This modest increase (of 6.4%) likely reflects increases in the fee schedule for medical services that were enacted in 2013 (NCSL, 2013). Indeed, Hawaii experienced the highest percent increase in standardized medical benefits paid (18.8%) in the country between 2014 and 2018. (Table 10)

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

This simple example demonstrates that a meaningful comparison of employer costs across states must control for variations in the proportions of employers in different insurance classifications (which are, in turn, based on the riskiness of industries and occupations) in each state. Such comparisons are beyond the scope of this report.[55]

Furthermore, the cost data reported here likely do not capture the full impact of recent changes in laws that have altered the workers' compensation market within a state. Because the Academy reports costs paid in a particular year, regardless of injury date, cost data for 2018 include a substantial proportion of cash benefits paid for injuries that occurred in previous years, under legal regimes and economic conditions that may have been quite different from the current conditions in a state. (Note, too, that the current data are for 2018, and therefore nearly two more years of changes are not captured in this report.)

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52 The Oklahoma Department of Insurance did not track the number of workers covered by opt-out plans between 2014 and 2016. However, there is preliminary evidence that roughly 22,500 employees were covered by alternative plans in 2014 (Grabell and Berkes, 2015). If correct, this would represent 1.5 percent of Oklahoma's workforce at the time, although some officials believe even that number to be high. It is possible that the number of employers opting out of Oklahoma's workers' compensation system increased in 2015 and 2016, which would lead to different estimates in standardized costs and benefits. More data is needed to improve estimates.

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

54 Elaine Weiss correspondence with Mike Duff, September 2020.

55 As noted below in the section on estimates of employer costs and in Appendix E, Oregon's biannual report does provide such comparisons.

Benefits Paid Relative to Employer Costs

Table 15 reports ratios of workers' compensation benefits paid relative to employer costs, from 1998 through 2018. The benefits and costs measures are standardized estimates, per $100 of covered wages.

The reader is cautioned that the ratios represent benefits and costs paid in a given year, but not necessarily for the same claims. The benefits measure includes payments for all injuries/illnesses that occurred in the given year as well as for some injuries and illnesses that occurred in prior years. The costs measure (premiums paid to insurers and state funds), on the other hand, includes projected future liabilities for injuries and illnesses that occurred in the given year. In other words, the costs and benefits paid in a given year are not tracking the full costs of a particular set of claims.[56]

Employer costs in 2018 were $1.21 per $100 of covered wages. (As noted above, benefits per $100 of covered wages fell to $0.77 in 2018.) As shown in Figure 1, these are the lowest levels of both standardized costs and benefits in the past 39 years of data.

When benefits and costs for a given year are assessed jointly, this creates a 2018 benefit/cost ratio of 0.64:1. This means that, on average, $0.64 of benefits were paid to injured workers for every dollar of employer costs. Employer costs for workers' compensation exceed benefits paid (i.e., the benefit/cost ratio is less than one) because some part of employer costs go to administrative expenses and profits for workers' compensation insurers. In addition, employer premiums must account for future inflation in medical costs. That is, employers are paying up front for the costs of current claims that will be paid in future years. Finally, the costs of workers' compensation insurance include a risk premium to compensate for the expected variation in costs from year to year.

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

The benefit/cost ratio in 2018 (0.64) continued to be at its lowest point since 2006. The ratio increased from 0.63 in 2006 ($0.63 of benefits per $1.00 of employer cost) to 0.80 in 2010, and then declined to 0.64 in 2016-18. There 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 benefits largely reflect injuries in prior years while premiums reflect expected future benefits for current injuries) and so the benefit/cost ratio increases. In periods of expansion, the opposite occurs.

Underwriting Results

Figure 5 provides data on the benefit/cost ratio and on the Incurred Loss Ratio (ILR) for 1980 to 2018. The *benefit/cost ratio* (Table 15) measures benefits paid to workers divided by costs for employers during each year. The *Incurred Loss Ratio* is the sum of the benefits paid for injuries that occur in a year plus the reserves for future benefit payments for those injuries as a percentage of net premiums paid by employers in the year.

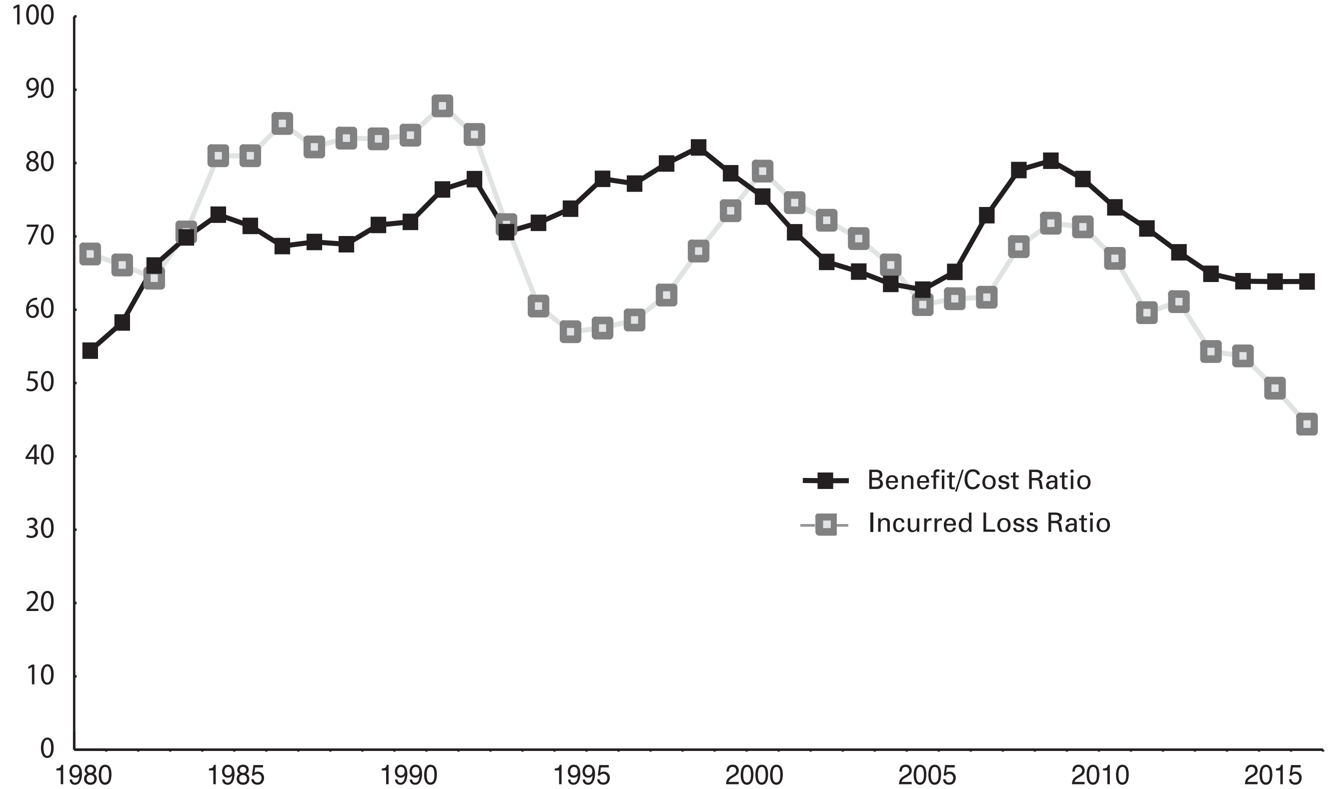
The data in Figure 5 reflect several important developments in workers' compensation since 1980. The workers' compensation insurance industry was unprofitable from 1984-1992, with benefits and operating expenses exceeding premiums plus investment income in every year.[57] As a result, the

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

57 The underwriting results discussed in this section are from Brandenburg et al. 2017 and Brandenburg 2019.

Figure 5

Benefit/Cost Ratios and Incurred Loss Ratios, 1980-2018



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

> *The 2018 benefit/cost ratio, 0.64, continues to be at its lowest point in over a decade.*

Incurred Loss Ratio was unusually high during those years as shown in the figure. One consequence of these adverse underwriting results is that the insurance industry successfully pursued deregulation of the workers' compensation insurance market, which had previously relied on administered pricing.[58] In turn, the profitability of the industry improved rapidly in the latter half of the 1990s.

By 2000, the workers' compensation insurance industry had largely adapted to the new competitive environment, and since then changes in the benefits/costs ratio have tracked changes in the Incurred Loss Ratio.[59] Both measures provide information about the relationship between benefits to workers and costs to employers. There are differences, however, between the two measures that make their close

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58 Thomason, Schmidle, and Burton (2001, 42-43) provide this discussion of deregulation in the 1990s: "After the initial moves to deregulation in the early 1980s, the introduction of open competition slowed in the balance of the 1980s. . . . Deregulation reemerged with vigor during the 1990s: open competition statutes became effective in 16 states between 1991 and January 1, 1995, and in an additional 5 states after that date. Deregulation in some of those states – especially those that adopted open compensation in the early 1990s when the industry was still experiencing losses – reflected support from the insurance industry, but deregulation in other states (most notably California [in 1995]. . .) was generally resisted by the industry."

59 We performed a statistical test of the relationship between the benefit/cost ratio and the incurred loss ratio for the yearly observations from 2000 to 2018 shown in Figure 5. In a regression in which the dependent variable was the benefit/cost ratio, the coefficient on the incurred loss ratio as the independent variable was positive and highly significant. Further statistical analysis suggests that this relationship is driven by private insurance.

Table 14

Employer Costs for Workers' Compensation Per $100 of Covered Wages, by State, 2014-2018

State	2014	2015	2016	2017	2018	Percent Change 2014-2016	Percent Change 2016-2018	Percent Change 2014-2018	Ranking (1=largest percent increase, 2014-2018)
Alabama	$1.04	$1.02	$1.00	$0.95	$1.01	-4.3	0.8	-3.5	8
Alaska	2.32	2.28	2.32	2.19	2.25	-0.1	-3.0	-3.1	6
Arizona	1.01	0.98	0.95	0.88	0.83	-6.1	-12.1	-17.5	35
Arkansas	0.80	0.78	0.76	0.74	0.70	-5.7	-7.2	-12.5	25
California	2.02	1.98	1.97	1.84	1.70	-2.6	-13.4	-15.7	31
Colorado	1.03	1.05	1.02	0.97	0.92	-1.7	-9.5	-11.0	22
Connecticut	1.31	1.30	1.23	1.20	1.10	-6.5	-10.3	-16.2	34
Delaware	1.44	1.43	1.47	1.47	1.44	2.0	-2.2	-0.3	2
District of Columbia	0.53	0.63	0.48	0.51	0.51	-9.7	6.0	-4.3	9
Florida	1.59	1.43	1.39	1.47	1.30	-12.7	-6.0	-17.9	38
Georgia	1.16	1.12	1.10	1.09	1.08	-5.3	-1.3	-6.5	11
Hawaii	1.57	1.64	1.67	1.62	1.67	6.0	0.3	6.4	1
Idaho	1.66	1.70	1.70	1.69	1.64	2.7	-3.8	-1.2	4
Illinois	1.30	1.21	1.15	1.08	1.00	-11.6	-13.2	-23.3	43
Indiana	0.85	0.84	0.81	0.75	0.70	-4.6	-13.8	-17.7	36
Iowa	1.60	1.56	1.54	1.48	1.35	-4.2	-12.1	-15.8	32
Kansas	1.30	1.22	1.14	1.06	0.99	-12.7	-13.2	-24.2	44
Kentucky	1.11	1.07	0.98	0.91	1.00	-12.1	1.8	-10.5	20
Louisiana	1.63	1.56	1.51	1.52	1.50	-7.2	-0.6	-7.8	13
Maine	1.41	1.39	1.37	1.35	1.29	-2.8	-5.8	-8.4	15
Maryland	1.09	1.07	1.00	0.98	1.01	-8.3	1.0	-7.4	12
Massachusetts	0.74	0.71	0.73	0.74	0.73	-0.7	-0.6	-1.3	5
Michigan	0.95	0.91	0.80	0.74	0.70	-16.2	-12.3	-26.6	47
Minnesota	1.12	1.13	1.13	1.04	0.99	0.5	-12.7	-12.3	23
Mississippi	1.51	1.42	1.29	1.27	1.22	-14.6	-5.4	-19.2	40
Missouri	1.16	1.16	1.13	1.19	1.04	-2.5	-8.2	-10.6	21
Montana	2.24	2.15	2.12	2.01	1.84	-5.3	-13.3	-17.9	37
Nebraska	1.35	1.28	1.25	1.19	1.14	-7.6	-8.1	-15.1	28
Nevada	1.03	0.99	0.95	0.89	0.93	-8.1	-1.4	-9.4	18

New Hampshire	1.26	1.16	1.10	1.04	0.98	-12.1	-11.7	-22.4	42
New Jersey	1.56	1.52	1.50	1.46	1.42	-3.8	-5.3	-8.9	17
New Mexico[a]	1.60	1.58	1.45	1.39	1.35	-8.8	-7.4	-15.6	30
New York	1.42	1.46	1.49	1.47	1.41	5.3	-5.6	-0.6	3
North Carolina	1.16	1.10	1.06	0.97	0.90	-8.5	-15.1	-22.3	41
North Dakota	1.68	1.63	1.45	1.28	1.25	-13.5	-14.2	-25.8	45
Ohio	1.06	0.91	0.84	0.72	0.64	-21.1	-23.2	-39.4	51
Oklahoma	1.82	2.14	1.38	1.28	1.21	-24.1	-12.1	-33.3	49
Oregon	1.22	1.12	1.12	1.07	1.00	-8.0	-11.5	-18.5	39
Pennsylvania	1.48	1.47	1.45	1.34	1.35	-2.5	-6.6	-8.9	16
Rhode Island	1.13	1.14	1.18	1.12	1.09	4.2	-7.8	-3.9	8
South Carolina	1.81	1.74	1.72	1.71	1.66	-4.6	-3.8	-8.3	14
South Dakota	1.32	1.29	1.21	1.16	1.14	-8.2	-6.0	-13.7	27
Tennessee	1.14	0.99	0.94	0.88	0.81	-17.2	-13.7	-28.6	48
Texas	0.74	0.67	0.57	0.54	0.55	-22.2	-4.8	-26.0	46
Utah	0.92	0.88	0.88	0.83	0.78	-4.7	-11.1	-15.2	29
Vermont	1.82	1.83	1.79	1.68	1.63	-1.4	-9.0	-10.3	19
Virginia	0.77	0.75	0.76	0.76	0.74	-0.6	-2.8	-3.4	7
Washington[b]	1.66	1.66	1.68	1.57	1.45	1.6	-13.8	-12.4	24
West Virginia	1.58	1.58	1.47	1.42	1.32	-6.7	-10.1	-16.1	33
Wisconsin	1.67	1.70	1.71	1.63	1.58	2.7	-8.1	-5.5	10
Wyoming	2.01	2.04	2.03	1.70	1.28	1.0	-37.0	-36.4	50
Total Non-Federal	$1.34	$1.31	$1.27	$1.21	$1.15	-5.4	-9.1	-14.0	
Federal Employees[c]	$1.51	$1.46	$1.39	$1.31	$1.25	-7.4	-10.2	-16.8	
TOTAL[c]	$1.37	$1.34	$1.31	$1.26	$1.21	-4.6	-7.9	-12.2	

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

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

b In Washington state both employers and employees contribute to workers' compensation premiums. In 2018, employees contributed 26.9 percent of total premiums (25.7 percent of state fund premiums and 50 percent of self-insured employer cost-of-living-adjustment premiums).

c The "Federal Employees" row depicts the total costs of the Federal Employees Compensation Act (Table B1) per $100 of federal employee covered wages. In past reports we have included costs of the Longshore and Harbor Workers' Compensation Act and the Black Lung Benefits Act. Consistent with Tables 10-12, data on all three programs is included in the "Total" row. See Appendix B for more information about federal programs.

Source: National Academy of Social Insurance estimates.

Table 15

Workers' Compensation Benefit/Cost Ratios, 1998-2018

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
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	0.47	0.46	0.93	1.31	0.71
2014	0.47	0.46	0.93	1.37	0.68
2015	0.44	0.43	0.87	1.34	0.65
2016	0.42	0.42	0.84	1.31	0.64
2017	0.40	0.40	0.80	1.26	0.64
2018	0.38	0.39	0.77	1.21	0.64

Notes: 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.

relationship particularly noteworthy – for example, the benefit/cost ratio pertains to all employers, including those who purchase insurance from private carriers or state insurance funds as well as those who self-insure, while the Incurred Loss Ratio (ILR) pertains only to employers who purchase insurance from private carriers.[60] In essence, since 2000, as the insurance industry underwriting results wax and wane, so do the Academy results for the benefit/cost ratio.

60 Another difference is that the benefits/costs is based on benefits paid in the year while the ILR is based on benefits incurred in the year

The declining benefit/cost ratio and Incurred Loss Ratio since 2010 may help explain the increasing profitability of the workers' compensation insurance industry. The most comprehensive measure of underwriting results is the Overall Operating Ratio, which is calculated as (1) the sum of all insurance company expenditures (2) minus investment income (3) as a percentage of net premiums. In 2010, the Overall Operating Ratio was 98.1 percent of net premiums ($98.10 per $100 of net premiums), while in 2018 the ratio was 74.5 ($74.50 per $100 of net premiums). As discussed in Brandenburg et al. (2017), the lower the Overall Operating Ratio, the more profitable the workers' compensation insurance industry. The decline in the Overall Operating Ratio from 98.1 in 2010 to 74.5 in 2018 represents a 24.1 percent improvement in underwriting results. To put the 2018 results in an historical context, the 74.5 Overall Operating Ratio represented the best underwriting results for the workers' compensation insurance industry since the National Association of Insurance Commissioners data series began in 1976.

In summary, since 2010, the ratio of benefits paid to workers to costs for employers and the Incurred Loss Ratio have steadily declined. These developments are reflected in the decline in the Overall Operating Ratio, as workers' compensation has become an increasingly profitable line of insurance for private carriers.

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, 2019d). Estimates are derived from a representative sample of establishments in the private sector, state and local governments. Costs are reported for five benefit categories (paid leave, supplemented pay, insurance, retirement and savings, and legally required benefits) per employee hour worked. Workers' compensation benefits are included within the legally required benefits category. The purpose of the BLS report is to provide average estimates of employer costs per hour worked, inclusive of wages, salaries, and employee benefits.[61]

The purpose of the Academy's report is quite different. The BLS collects data on a broad range of employee benefits, while this Academy report focuses on workers' compensation. The Academy seeks to provide summary data on workers' compensation benefits paid to workers and costs borne by employers at the state and national levels. Our estimates of $62.9 billion in benefits paid and $98.6 billion in costs borne by employers in 2018 are the only data that answer questions about aggregate benefits and costs of workers' compensation in the United States.

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

The Oregon Workers' Compensation Rate Ranking study (Oregon Department of Consumer and Business Services, 2018) also provides estimates of employer costs for workers' compensation. The study, conducted on a biennial basis by the state of Oregon, compares workers' compensation premium rates across states for a standardized set of insurance classifications. The standardization is designed to factor out differences in hazard mix (riskiness of industries) across states to provide a measure of interstate differences in costs for comparable risk distributions.[62] The standardized rates are based on the Oregon mix of insurance classifications, hence the rankings could be somewhat different if they were standardized based on another state. (See the table in Appendix E.)

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.[63]

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

62 See Table in Appendix E for details about various aspects of the Oregon study and a comparison to the Academy study.

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

Table 16

Fatal Occupational Injuries - All and Private Industry, 1998-2018

	Number of Fatal Injuries		Fatal Injury Incidence Rates	
Year	All	Wage & Salary Workers	All	Wage & Salary Workers
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
2001a	5,900	4,770	4.3	3.8
2002	5,534	4,481	4.0	3.5
2003	5,575	4,405	4.0	3.4
2004	5,764	4,587	4.1	3.5
2005	5,734	4,592	4.0	3.5
2006	5,840	4,808	4.2	3.6
2007b	5,657	4,613	4.0	3.5
2008	5,214	4,183	3.7	3.2
2009	4,551	3,448	3.5	2.8
2010	4,690	3,651	3.6	3.0
2011	4,693	3,642	3.5	2.9
2012	4,628	3,571	3.4	2.8
2013	4,585	3,635	3.3	2.8
2014	4,821	3,728	3.4	2.8
2015	4,836	3,751	3.4	2.8
2016	5,190	4,098	3.6	3.0
2017	5,147	4,069	3.5	2.9
2018	5,250	4,178	3.5	2.9

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

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

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

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

Costs to Workers

In some states, a portion of the costs of workers' compensation are directly paid by workers, as discussed in more detail in Appendix C. In Washington, for example, workers contribute directly to the insurance premiums for workers' compensation through payroll deductions. In 2018, about 22.5 percent of the total costs of workers' compensation in Washington were paid directly by workers.[64] In some states, workers pay a portion of the costs for special workers' compensation funds. In Oregon, for example, workers pay into the Workers' Benefit Fund, a benefit adjustment fund for long-term cases, return-to-work programs, and death benefits. New Mexico has a quarterly workers' compensation assessment for each employee that goes toward funding the Workers' Compensation Administration of New Mexico.[65] Data in this report primarily covers the employer-paid portion of workers' compensation, but New Mexico, Oregon, and Washington explicitly require employee contributions and are thus included in our estimates.[66]

In addition, workers bear considerable costs that are outside the workers' compensation system, such as the portion of lost wages that are not replaced by workers' compensation benefits. Most workers' compensation statutes provide for weekly benefits that are two-thirds of pre-injury wages. However, the statutes also include weekly maximum and minimum benefit amounts, such that the mean replacement rate is less than the two-thirds nominal replacement rate.[67] In addition, many states impose limits on the duration of permanent partial disability benefits (so that benefits may cease while workers are still experiencing lost earnings from a workplace injury or illness). The limits on duration further reduce the real replacement rate of cash benefits.[68]

Studies comparing lost earnings with workers' compensation benefits show that the proportion of lost earnings replaced by workers' compensation benefits is smaller than can be explained by statutory provisions purportedly making it more difficult to claim benefits for a host of substantive and procedural reasons. This suggests that conclusions drawn only from statutory provisions overestimate the extent of workers' injury-related lost earnings replaced by workers' compensation benefits. (See footnotes 37, 58, and 59.)

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

Some injured workers may also 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 loss of fringe benefits that occur during periods of injury-related work absence; loss of home production attributable to a work-related injury or illness; and loss of employer contributions to health insurance premiums (unless the worker is also on leave under the Family and Medical Leave Act, or the employer's

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64 Employees contributed 25.7 percent of state fund premiums and paid half of the cost-of-living adjustment premium for self-insured employees in 2018, which accounted for 11.3 percent of self-insured workers' compensation costs.

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

66 See Appendix C for further discussion of these programs.

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

68 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.

insurance plan allows continued participation during periods of injury-related work absence). Refer to Leigh and Marcin (2012) for estimates of how the costs of work-related injuries are allocated among insurers, government payers, and injured workers.

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

Finally, a large portion of costs borne by workers are for work-related injuries and illnesses that never result in a successful workers' compensation claim. Occupational illnesses in particular are frequently uncompensated (see, e.g., Boden and Ozonoff, 2008; Fan et al., 2006; Roseman et al., 2006; Spieler, 2017 and Patel, 2020.)

Incidence of Workplace Injuries and Workers' Compensation Claims

Incidence of Work-Related Injuries

Fatal injuries. The BLS collects information from the National Census of Fatal Occupational Injuries on work-related injuries that result in a worker's death (DOL, 2019). Over the 20-year period from 1998-2018, total workplace fatalities declined by roughly 13 percent, and the fatality rate (controlling for employment) declined by approximately 25 percent.[69]

The trend in absolute numbers shifted in the past few years. According to the BLS data, 5,250 fatal work-related injuries occurred in 2018, an increase of 2.0 percent from 2017, continuing an upward trend in fatalities (aside from a one-year dip from 2016-2017) that began in 2014. (Table 16) This total number, however, reflects no change since last year in the rate of 3.5 fatal injuries per 100,000 full-time employers.

The leading cause of work-related fatalities in 2017 remained transportation incidents, accounting for roughly 40 percent of all fatal injuries. Other leading causes of fatalities were: contact with objects and equipment, which increased by 13% (and now make up 15% of fatalities); and falls, slips, and trips, which fell sharply (now also 15%). Both overdoses and suicides on the job rose, the former for the sixth consecutive year, together accounting for another 11.6% of fatalities (DOL, 2019).

Nonfatal injuries and illnesses. The BLS also collects information on reported nonfatal work-related injuries or illnesses from a sample survey of employers (Survey of Occupational Injuries and Illnesses) (DOL, 2019a). The survey reported 2.83 million recordable nonfatal workplace injuries and illnesses in private industry workplaces in 2018, roughly one-third of which (900,400) involved days away from work (DOL, 2019a). Both metrics — nonfatal workplace injuries and illnesses and cases involving days away from work – remained steady relative to 2017, despite increases in employment over that time.

The incidence rate per 100 FTE (full-time employee) workers, which controls for changes in employment levels, likewise remained steady, at 2.8 per 100 workers in both 2017 and 2018. (Table 17) This represents a break in the decline in the incidence of all reported nonfatal occupational injuries and illnesses that had been a consistent trend over the prior two decades. Since 1998, the incidence rate has decreased 58 percent from 6.7 per 100 FTE workers, to 2.8 per 100 FTE in 2018. (Since 2002, after the Occupational Safety and Health Administration (OSHA) changed recordkeeping requirements, the incidence rate per 100 FTE workers is down 36 percent.)[70]

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

70 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.

Injuries involving lost work time or work restrictions. Figure 6 and Table 17 show trends in the incidence of reported work-related injuries and illnesses among private-industry employees for cases involving either days away from work or injury-related job accommodations (job transfer or restrictions on work). These data also come from the BLS employer survey (DOL, 2019a).

Annual workplace fatalities declined by about 25 percent over the past twenty years.

Consistent with the declining incidence of fatal workplace injuries, the incidence of reported injuries or illnesses involving days away from work has also declined, down from 2.0 per 100 FTE workers in 1998 to 0.9 per 100 in 2018. This is the fourth year in which the rate has been below 1.0 per 100 workers across the 20-year study period. (Table 17 and Figure 6) While the incidence rate of injuries or illnesses involving days away from work has declined steadily since 1998, the incidence of cases resulting in job transfers or work restrictions only began to fall more recently, around 2004-2005. In 2005, that rate was 1.0 per 100, similar to the prior decade, but has since fallen to 0.7, where it has been since 2011, a decline of roughly one third.

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

In 2018, the most common reported nonfatal workplace injuries and illnesses that resulted in days away from work in private industry were: sprains, strains and tears (just over one third of all cases); soreness or pain, including back pain (17.8%); and bruises, contusions, and fractures (roughly 8.8% each) (DOL, 2019a). The three major industry sectors with the highest incidence of injuries and illnesses involving days away from work in private industry were: agriculture, forestry, fishing, and hunting (5.3 per 100 FTE); transportation and warehousing (4.5); and arts, entertainment, and recreation (4.1). Each of these industry sectors had incidence rates that were more than four times the incidence rate (0.9 per 100 FTE) for the private sector as a whole. The health care and social assistance industry sector had 577,000 injuries and illnesses, far ahead of any others in terms of absolute numbers (DOL, 2019a).

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, 2020a).[71] The data, replicated in Table 18 for years 1996-2016 (the most recent year reported), show declining trends in the incidence (or frequency) of claims similar to the declining trends in the incidence of work-related injuries reported by the BLS.

According to the NCCI data, the number of workers' compensation claims covered by privately insured employers declined by 58.0 percent between 1996 and 2016 (compared to the BLS estimate of 52.5 percent decrease in injuries and illnesses for private industry employers over the same time period). The NCCI data indicate that the number of temporary total disability claims from private industry declined by 60.7 percent between 1996 and 2016 (compared to the BLS estimate of a 47.0 percent decline in injuries and illnesses involving days away from work for private industry employers (Tables 17 & 18).[72]

71 NCCI measures the incidence 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.

72 While the trends in private-sector injury or illness claims from the BLS and NCCI are similar over time. There are a number of

Table 17

Non-Fatal Occupational Injuries and Illnesses Among Private Industry Employers, 1998-2018

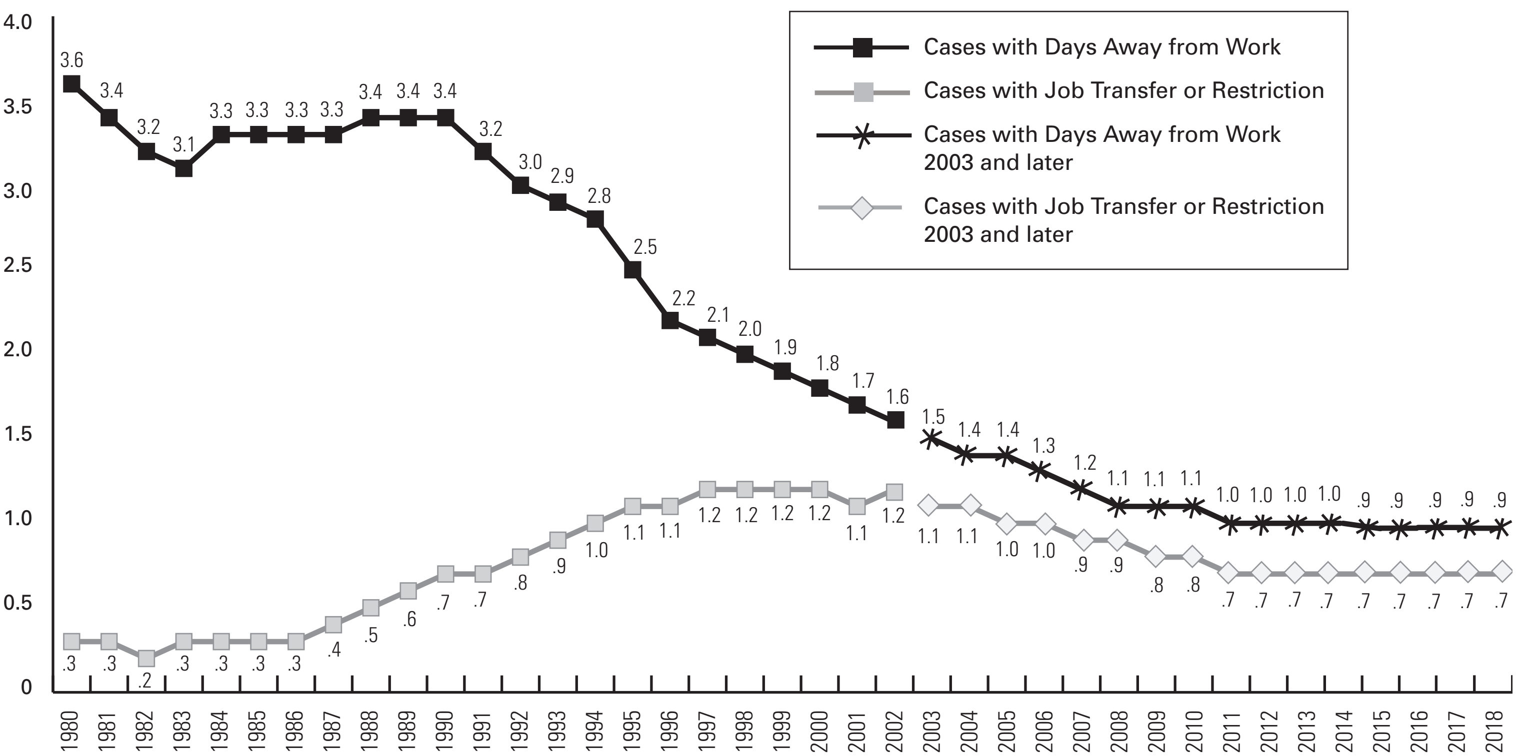
	Number of Cases (millions)			Incidence Rate (per 100 full-time workers)		
Year	All Cases	Cases with Any Days Away from Work	Cases with Job Transfer or Restriction	All Cases	Cases with Any Days Away from Work	Cases with Job Transfer or Restriction
1998	5.9	1.7	1.1	6.7	2.0	1.2
1999	5.7	1.7	1.0	6.3	1.9	1.2
2000	5.7	1.7	1.1	6.1	1.8	1.2
2001	5.2	1.5	1.0	5.7	1.7	1.1
2002*	4.7	1.4	1.1	5.3	1.6	1.2
2003	4.4	1.3	1.0	5.0	1.5	1.1
2004	4.3	1.3	1.0	4.8	1.4	1.1
2005	4.2	1.2	1.0	4.6	1.4	1.0
2006	4.1	1.2	0.9	4.4	1.3	1.0
2007	4.0	1.2	0.9	4.2	1.2	0.9
2008	3.7	1.1	0.8	3.9	1.1	0.9
2009	3.3	1.0	0.7	3.6	1.1	0.8
2010	3.1	0.9	0.7	3.5	1.1	0.8
2011	3.0	0.9	0.6	3.4	1.0	0.7
2012	3.0	0.9	0.7	3.4	1.0	0.7
2013	3.0	0.9	0.7	3.3	1.0	0.7
2014	3.0	0.9	0.7	3.2	1.0	0.7
2015	2.9	0.9	0.7	3.0	0.9	0.7
2016	2.9	0.9	0.7	2.9	0.9	0.7
2017	2.8	0.9	0.7	2.8	0.9	0.7
2018	2.8	0.9	0.7	2.8	0.9	0.7

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

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

Figure 6

Private Industry Occupational Injuries and Illnesses: Incidence Rates, 1980-2018



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 (2019a).

The reader is cautioned that injury rates that have been extrapolated from workers' compensation claims data may not be wholly accurate because key stakeholders have incentives to under-report or over-report occupational injuries and illnesses.[73] There is also evidence that changes in workers' compensation laws and procedures since 1990 have made it more difficult for workers to file claims, resulting in reductions in reported injury and claim rates (Ruser and Boden 2003, Guo and Burton 2010).

There are many reasons to suspect under-reporting on the part of workers, employers, and/or medical providers. Workers may not report injuries for one

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 NCCI only records workers' compensation claims for private insurers and competitive state funds in 38 jurisdictions. And even in these jurisdictions, NCCI does not record any workers' compensation claims that occurred at self-insured firms. Third, there is evidence that some employers do not comply with OSH recordkeeping or Survey of Occupational Injuries and Illness reporting instructions, leading to underreporting of workers' compensation-eligible claims in BLS data (Rappin et al., 2016).

73 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.

Table 18

Workers' Compensation Claims Per 100,000 Insured Workers: Private Carriers in 38 Jurisdictions, 1996-2016

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	3,277	2,464	75.2%	486	14.8%	321	9.8%
2013	3,189	2,390	74.9%	481	15.1%	314	9.8%
2014	3,069	2,303	75.0%	466	15.2%	296	9.6%
2015	2,953	2,222	75.2%	451	15.3%	275	9.3%
2016	2,869	2,162	75.4%	442	15.4%	261	9.1%
Percent change, 1996-2016	-58.0	-59.1		-60.7		-37.7	

Source: National Council of Compensation Insurance, 1997-2020, Exhibit XII, *Annual Statistical Bulletin*. The most recent data available is 2016.

or more of several reasons: they do not know that the injury is covered by workers' compensation; they believe that filing for benefits would be too time-consuming, difficult, or stressful; they believe that the injury is something to be expected as part of their job; or they fear employer retaliation (Galizzi et al., 2010; Pransky et al., 1999; Strunin and Boden, 2004). Employers may fail to report injuries because: their recordkeeping is faulty; they want to maintain a superior safety record to protect their experience rate; or they are unaware that an injury is covered by workers' compensation (Azaroff et al., 2002; Lashuay and Harrison, 2006; and Wuellner and Phipps, 2018). Medical providers may fail to report injuries and illnesses that take time to develop, such as carpal tunnel syndrome, noise-induced hearing loss, and lung diseases like silicosis, because they are unaware of the workplace connection.[74]

There are also incentives for workers and/or medical providers to over-report injuries or illnesses as work-related. The 100 percent coverage of medical costs under workers' compensation creates incentives for both groups to identify a work-related cause when the etiology of an injury or illness is uncertain. Workers have incentives to report an injury as work-related because there are no deductibles or co-payments for health care. They may also receive more generous cash benefits from workers' compensation than from a private disability plan or state unemployment insurance.

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

Addendum

Alternative, Additional and Other Disability Benefits for Disabled Workers

The primary purpose of this report is to describe trends in workers' compensation benefits, costs, and coverage with respect to two key stakeholder groups: the injured workers who receive benefits (and in three states pay part of the costs of the program); and the employers who pay for most of the costs. As the exclusive remedy for work-related injury and death, workers' compensation is often the only insurance to compensate for lost earning or earning capacity and medical or rehabilitation expenses. However, workers' compensation cash and medical benefits can be supplemented by other sources of income and medical care. Disability plans for injured workers may provide financial compensation, coverage for medical expenses, and other benefits to workers as well as to their dependents, and survivors.

The following section presents some of the alternative and additional benefits that may be available to injured workers and their families. Unless otherwise noted, the employer costs and worker benefits of these programs are not reflected in the main body of this report. The extent to which any of these benefits replace workers' compensation or provide additional coverage that may be stacked on, integrated into, or coordinated with workers' compensation varies greatly, as does the extent to which choosing one program over another shifts costs to or from one or more parties. Full descriptions and analyses of these programs are beyond the scope of this report.

This addendum describes the major disability support programs that interact with workers' compensation, namely: temporary sick leave, short- and long-term disability benefits, Social Security Disability Insurance, and Medicare & Medicaid.

Alternative Disability Plans

Paid Sick Leave. Paid sick leave is a common form of wage replacement for short-term absences from work due to illnesses or injuries unrelated to work. About 71 percent of all private-sector employees had access to some type of paid sick leave in 2018, provided either through their employer or a private short-term disability plan (DOL, 2018). Sick leave typically pays 100 percent of wages for a number of days, depending on the worker's job tenure and hours worked. Unlike workers' compensation, paid sick leave provided by the employer or an employer-funded disability insurance plan is a taxable benefit and does not cover medical or rehabilitation expenses.

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

Paid sick leave may sometimes be utilized to cover work absences and resulting lost earnings associated with minor work-related injuries or during the waiting period (three to seven days) of workers' compensation disability claims. Compared to filing a claim for workers' compensation temporary disability benefits, sick leave is administratively much easier for workers to access and employers to administer. For employers, the workers' compensation option has reporting requirements and may carry negative impacts on premium rates for workers' compensation. 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 there is a provision to use paid sick leave). Although these factors may provide incentives for employers and injured workers to rely on paid sick leave rather than workers' compensation for wage replacements, evidence of cost-shifting is limited. One limitation of paid sick leave is that it applies to lost earnings.

Short-term disability benefits. Five states (California, Hawaii, New Jersey, New York, and Rhode Island) and Puerto Rico have Temporary Disability Insurance (TDI) programs, also known as State Disability Insurance (SDI) or paid medical leave, that provide short- to medium-term disability benefits for employees (Eligibility, 2017). In these jurisdictions, SDI 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 in which such insurance is not required. Employers pay the full cost of the short-term disability insurance in most cases, but about 15% of workers with short-term disability plans are required to contribute to the plan (DOL, 2018). 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 state and municipal short-term disability benefit programs for public employees (particularly for police and firefighters) that coordinate with workers' compensation programs.

Short-term disability plans typically pay a lower proportion of average earnings (40 to 60 percent vs. two-thirds of gross wages or 80% of spendable earnings that are typical in workers' compensation). However, STD benefits are not limited by a statutory maximum weekly benefit, but rather by the provisions of the STD policy. The proportion of benefits supported by employer contributions are taxable (i.e., benefits from temporary disability plans paid for entirely by the employer are fully taxable). Benefits from STD plans fully paid for by the employee with pre-tax dollars are also fully taxable, while benefits from group STD plans paid for by the employee with post-tax dollars and individually purchased STD plans are not taxable. The degree to which STD plans may be coordinated with workers' compensation is typically defined by the individual policy.

Long-term disability insurance. Long-term disability (LTD) insurance covered 33 percent of private-sector employees in 2018 (DOL, 2018). Such coverage is most common among relatively high paying management, professional, and related occupations. About 57 percent of workers in management and professional-related occupations were covered by long-term disability plans as of 2018, compared to 31 percent of workers in sales and office occupations and 14 percent of workers in service occupations (DOL, 2018). LTD insurance may be a fully employer paid insurance, group insurance fully paid by workers, or a shared cost. Long-term disability insurance is also sold in individual policies, typically to high-earning professionals. Individual policies are not included in the coverage statistics reported to the DOL.

Long-term disability benefits are usually paid after a waiting period of three to six months or after short-term disability benefits end. Long-term disability insurance is generally designed to replace 60 percent of earnings, although replacement rates of 50 or 66 percent are also common. Almost all long-term disability insurance is coordinated with Social Security Disability Insurance (SSDI) and workers' compensation. That is, private long-term disability benefits are reduced dollar-for-dollar by the amount of Social Security or workers' compensation benefits received. If Social Security benefits replace 40 percent of a worker's prior earnings, for example, a long-term disability benefit that replaces 60 percent of earnings would pay the balance (20%) to achieve a 60 percent wage replacement. The taxation status of LTD plans mirrors those of the STD plans described above. The Social Security benefit formula is progressive, meaning that it replaces a larger share of lower income workers. Given the Social Security offset provision, this will make LTD less attractive to lower-wage workers (Miller, 2019).

Retirement benefits. Retirement benefits may also be available to workers who become disabled because of a work-related injury or illness. Retirement plans are funded by employee and employer contributions. They provide income based on either a formula (Defined Benefit) or investment performance (Defined Contribution). Most defined-benefit pension plans have some disability provision; in these cases, 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), Medicare, and Medicaid provide cash and medical benefits, respectively, to workers who become disabled and unable to work prior to normal retirement age. These programs are funded by employee and employer contributions based on a percentage of earned income. 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. For a small proportion of workers who are ineligible or excluded from workers' compensation coverage – those who are self-employed or who are classified as independent contractors or "gig" workers, and workers in Texas and Wyoming whose employers choose not to cover them – SSDI effectively serves this role. However, this is true only for workers deemed by SSA to be totally and permanently disabled. SSDI benefits are taxable federally if the recipient's income exceeds a threshold amount ($25,000 single, $32,000 married joint filing). Most states do not tax SSDI, but 13 states (Colorado, Connecticut, Kansas, Minnesota, Missouri, Montana, Nebraska, New Mexico, North Dakota, Rhode Island, Utah, Vermont, and West Virginia) tax SSDI benefits to varying degrees (Depersio, 2019).

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.[75]

Workers' compensation cash benefits for temporary disability commence immediately following the injury and applicable three-to-seven-day waiting period (waiting periods are typically compensated for claims with durations that exceed a "retroactive period" of five to forty-one days), 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 his or her training and expertise.

Medicare pays health care costs for persons who receive SSDI benefits after an additional 24-month waiting period (or 29 months after the onset of disability). (Medicaid may pay workers if their income and assets meet requirements.) Medicare covers all medical conditions, but as described below, when the primary disability is work-related, workers' compensation is the required benefit provider.

Dual beneficiaries. According to the Medicare Secondary Payer Act, workers' compensation is the primary payer for illnesses and injuries covered under workers' compensation laws. Medicare is the secondary payer for medical costs after the workers' compensation payer's obligation is met.[76]

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75 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.

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

Aspects of Various Disability Policies that Support Injured Workers

Program	Paid by	Pre or post tax dollars	Earnings replacement	Medical Expenses	Commencement/ Duration	Taxation of benefits	Included in NASI Costs and Benefits
Workers' Compensation	**Employer**	**n/a**	**60% of gross to 85% of Net of preinjury average earnings**	**Covered**	**Immediately following injury or after unwaived waiting period of 3 to 41 days. Typically continues as long as disability lasts.**	**Not taxable**	**Yes**
"Carve-outs" and parallel programs	Employer only	n/a	Typically, equivalent to workers' compensation	Covered	Equivalent to workers' compensation	Not taxable	Partially (see "Carve-outs on page 8)
Paid Sick Leave	Employer	n/a	100% regular wage or salary	Not covered	Immediately following injury. Typically limited to two weeks or extent of accumulated credits if allowed but practices vary widely	Taxable	No
Short Term Disability (STD)	Employer only	n/a	40-60% regular wage or salary	Not covered	Varies from immediately following absence or immediately following end of paid sick leave or a defined post initial absence period	Taxable	No
Short Term Disability (STD)	Employer Employee	n/a Pre-tax	40-60% regular wage or salary	Not covered	Varies from immediately following absence or immediately following end of paid sick leave or a defined post initial absence period	Taxable	No
Short Term Disability (STD)	Employer Employee	n/a Post-tax	40-60% regular wage or salary	Not covered	Varies from immediately following absence or immediately following end of paid sick leave or a defined post initial absence period	Employer-paid portion and employee-paid portion paid with pre-tax dollars are taxable	No
Long-term disability (LTD)	Similar to STD	Similar to STD	50% - 70% of regular wages	Not covered	Typically commences end of STD and, or depletion of Paid Sick Leave	Employer-paid portion and employee-paid portion paid with pre-tax dollars are taxable	No
State Disability Insurance	Employee Payroll tax	Post-tax dollars	60% - 70% of average earnings in previous 5 to 18 months	Not covered	Date of Injury to a maximum of 52 weeks	Not taxable unless a substitute for Unemployment Insurance	No
Social Security Disability Insurance For workers not covered by Workers' Compensation	Employer and worker or Worker only if self-employed	Pre-tax	Subject to formula based on age, average earnings, years working, dependents; approx 25-90% of average earnings	Not covered	Five months post on-set of disability that is going to last more than 12 months; payable to retirement age subject to reviews depending on expectation of improvement.	Part of taxable income so total taxable income may be taxed if above exempt thresholds	No

Source: Terry Bogyo produced this table for the 2020 report. Citations for data points can be found throughout the addendum.

Table 19

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

Type of Case	Total Number	Total Percent	Workers Number	Workers Percent	Dependents Number	Dependents Percent
All Disability Insurance Beneficiaries	10,162,488	100.0	8,537,332	100.0	1,625,156	100.0
Total Dual Eligibles	1,103,096	10.9	919,615	10.8	183,481	11.3
Currently Receiving SSDI and WC or PDB	534,436	5.3	447,855	5.2	86,581	5.3
SSDI Reduced by Cap	82,824	0.8	63,945	0.7	18,879	1.2
SSDI Not Reduced by Cap	350,981	3.5	298,833	3.5	52,148	3.2
Reverse Jurisdiction	41,448	0.4	34,685	0.4	6,763	0.4
Pending Decision on WC or PDB	59,183	0.6	50,392	0.6	8,791	0.5
SSDI Previously Offset by WC or PDB	568,660	5.6	471,760	5.5	96,900	6.0

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, 2020a).

If a worker becomes eligible for both SSDI and workers' compensation cash benefits, one or both programs will reduce benefits to ensure that the payments to beneficiaries do not exceed allowable limits based on the worker's past earnings.[77] 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.[78] The offset provision affects 35 states; 15 states that had established reverse-offset laws prior to the 1965 legislation received exemptions.[79] In reverse-offset states, workers' compensation benefits are reduced (offset) by SSDI benefits.

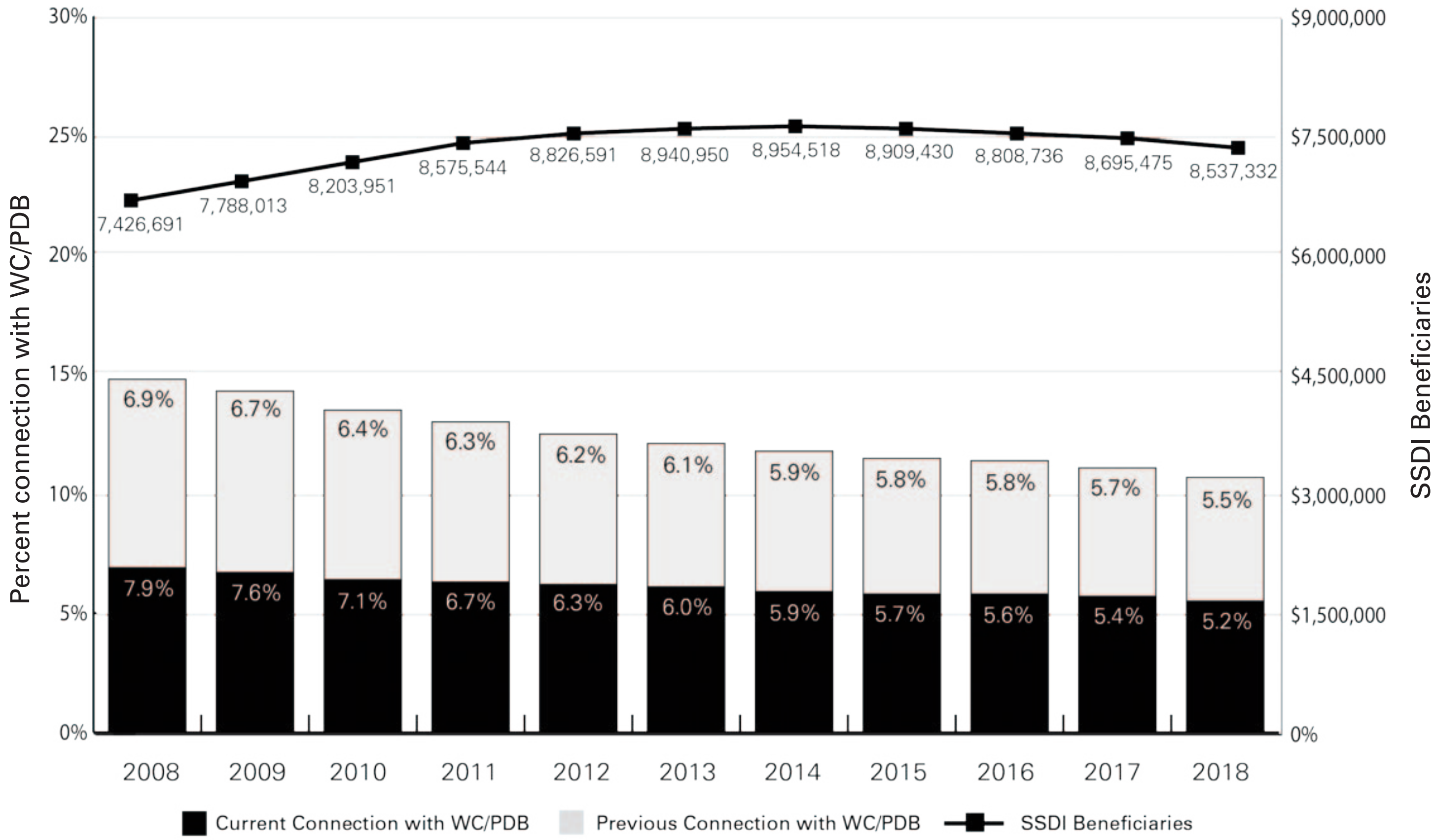
77 The interaction between workers' compensation and SSDI is complex. Studies have investigated the impact of changes to workers' compensation programs on SSDI outcomes using aggregate data and found mixed results (e.g. Guo and Burton 2012; McInerney and Simon, 2012). While the potential impact and magnitude 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 ane Schoeni, 2004; O'Leary et al., 2012). Burton and Gao (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.

78 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)).

79 States with reverse offset laws for some or all types of workers' compensation benefits are: Alaska, California, Colorado, Florida,

Figure 7

Proportion of Worker SSDI Beneficiaries with Connection to Workers' Compensation or Public Disabilty Benefits, 2008-2018



As of December 2018, about 8.5 million workers with disabilities and 1.6 million dependents received SSDI benefits (SSA, 2020). (Table 19) About 534,000 (5.3%) of these individuals were dual beneficiaries of workers' compensation or other public disability benefit (PDB) programs in 2018.[80] Of these, about 83,000 persons (0.8% of total beneficiaries; 15.9% of beneficiaries currently receiving SSDI and WC or PDB) were currently receiving scheduled SSDI benefits because of the offset provision.

Between 2008 and 2018, the total number of disabled workers receiving SSDI benefits increased by 15.0 percent, though there was a 4.7 percent decline from 2014 to 2018 (Figure 7). 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 by 2.7 percentage points to 5.2 percent of all SSDI recipients in 2018. The decline in the proportion of SSDI recipients with a current connection to WC or PDB is due to the combination of the increased number of SSDI recipients and a decline in the

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

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

absolute number of workers with a current connection to WC or PDB, which fell by 30.2 percent over the time period. The proportion of SSDI recipients with a previous connection to WC or PDB also declined between 2008 and 2018 due to a 14.9 percent decrease in the total number of beneficiaries with a previous connection to WC or PDB corresponding with a 9.6 percent increase in the total number of SSDI beneficiaries.

Glossary

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

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

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

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

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

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

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

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

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

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

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

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

Disability: A loss of earning capacities and/or actual loss of earnings.

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 that are large enough for the insured's experience to be a reliable indicator of benefit costs in the future.

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

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

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

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

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

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

Incurred Losses (or Incurred Benefits): Benefits paid to the valuation date plus liabilities for future benefits for injuries that occurred in a specified period, such as an accident year.

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

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

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

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

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

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

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

No-fault: A liability rule that, in workers' compensation, holds the employer fully liable for medical costs and compensation for injury-related work absences, without proof of negligence.

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

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.

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.

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

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

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

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

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

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

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

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

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

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

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

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

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

U.S. DOL: The U.S. Department of Labor administers a variety of federal labor laws including those that guarantee workers' rights to safe and healthy working conditions, a minimum hourly wage and overtime pay, freedom from employment discrimination, unemployment insurance, and other income support. For more information, visit www.dol.gov.

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

WCRI: The Workers' Compensation Research Institute (WCRI) is a research organization providing information about public policy issues involving workers' compensation systems. For more information, visit www.wcrinet.org

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

Appendix A: Coverage Estimates

The basis for the Academy's estimates of workers' compensation coverage is the number of jobs in each state that are covered by unemployment insurance (UI) (DOL, 2019b). Jobs that are not required to be covered by UI include: some farm and domestic jobs that 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 C).

All U.S. employers who are required to pay unemployment taxes must report quarterly data to their state employment security agencies regarding their jobs and wages covered by unemployment insurance. These employer reports are the basis for statistical reports prepared by the U.S. Bureau of Labor Statistics, known as the ES-202 data. These data are a census of the universe of U.S. jobs covered by unemployment insurance (DOL, 2019b).

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

(1) Jobs that are not reported as covered by UI are assumed not to be covered by workers' compensation.

(2) Jobs that 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, 2018).

(3) All federal jobs are covered by workers' compensation, regardless of the state in which they are located.

Small Firm Exemptions. Private firms with *fewer than three employees* are exempt from mandatory workers' compensation coverage in five states: Arkansas, Georgia, New Mexico, North Carolina, and Virginia. Firms with *fewer than four employees* are exempt in two states: Florida and South Carolina. Firms with *fewer than five employees* are exempt from mandatory coverage in four states: Alabama, Mississippi, Missouri, and Tennessee[81]. 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

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

an annual data series that reports national and state-level employment by enterprise size and industry.[82] 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 2017 (the most recent year the data are available), these proportions were: Alabama, 4.2 percent; Mississippi, 4.6 percent; Missouri, 4.4 percent; and Tennessee, 3.5 percent (Census SUSB, 2020).

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 (2020), 71.8 percent are in firms with fewer than four employees and 43.9 percent are in firms with fewer than three employees.

For the five states that exempt firms with fewer than three workers, the proportions of jobs in small firms were reported to be: Arkansas, 4.7 percent; Georgia, 4.4 percent; New Mexico, 5.0 percent; North Carolina, 4.5 percent; and Virginia, 4.4 percent (Census SUSB, 2020). 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 (4.69% x 43.9%).

For the two states that exempt firms with fewer than four workers, the proportions of jobs in small firms were: Florida, 5.6 percent, and South Carolina, 4.2 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 3.0 percent (4.23% 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 899,672 jobs were excluded from workers' compensation coverage in 2018 because of small-firm exemptions from mandatory coverage.

Agricultural Exemptions. We assume that agricultural jobs are excluded from workers' compensation coverage if they are in a state where agricultural jobs are exempt from mandatory coverage. Only 14 jurisdictions have no exemption for agricultural jobs: Alaska, Arizona, California, Connecticut, District of Columbia, Hawaii, Idaho, Massachusetts, New Hampshire, New Jersey, Ohio, Oregon, Washington and Wyoming.[83] In states with agricultural exemptions, we identify the number of agricultural jobs using the Quarterly Census of Employment and Wages (DOL, 2019b). The Quarterly Census provides estimates of total employment by state and industry using North American Industry Classification System (NAICS) codes. We estimated that 437,336 jobs were excluded from workers' compensation in 2018 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, 2018). Its most recent survey estimated that 82 percent of private-sector jobs were covered by workers' compensation in 2018. 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

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

83 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…"

number of jobs covered by workers' compensation. In 2018, we estimated that 2.2 million jobs in Texas were not covered by workers' compensation.

Employed Workforce Coverage Estimates. The workers' compensation coverage estimates described above are an estimate of the proportion of UI-covered jobs that are also covered by workers' compensation. However, there are a number of jobs that are not covered by either UI or workers' compensation. To develop an estimate of the proportion of all jobs in the economy that are covered by workers' compensation, not just UI-covered jobs, we rely on data from the Current Population Survey (CPS). The CPS reports total employment in the country – which was 156.761 million in 2018 (DOL, 2019c). 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, 2019) to identify the distribution of employed individuals with one, two, three, or 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.[84] [85] This measure allowed us to calculate the percentage of total jobs among the employed workforce that are covered by workers' compensation using a consistent unit of measure in the numerator and denominator: jobs.

As Table A.2 shows, workers' compensation covered 86.7 percent of the total jobs in the economy in 2018. Since 2014, the proportion of total jobs covered by workers' compensation remained relatively stable. The slight increase of less than 0.4 percentage points occurred because growth in the number of workers' compensation covered jobs has outpaced growth in total employment and total jobs in the economy. Between 2014 and 2018, total employment and total jobs increased by 6.5 and 6.6 percent respectively, while workers' compensation covered jobs increased by 7.2 percent. The number of multiple-job holders as reported by the CPS increased to 7.8 million in 2018, up 8.7 percent since 2014 and exceeding a pre-recession high of 7.7 million in 2007 (DOL, 2019c).

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84 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, 2019c). Next, we use data from the Integrated Public Use Microdata Series of the CPS (IPUMS-CPS, 2019) 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 2015 and prior years. During that period, total jobs 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 use this now 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.

85 The BLS reports that 5.0 percent of the U.S. employed workforce held more than one job in 2018.

Table A.1

Documenting Workers' Compensation Coverage Estimates, 2018 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	1,908,623	1,592,866	67,691	5,263	1,835,669	96.2
Alaska	306,161	245,346	-	-	306,161	100.0
Arizona	2,770,500	2,422,774	-	-	2,770,500	100.0
Arkansas	1,190,915	1,006,858	20,754	7,254	1,162,907	97.6
California	17,110,217	14,682,744	-	-	17,110,217	100.0
Colorado	2,621,180	2,241,015	-	14,679	2,606,501	99.4
Connecticut	1,655,848	1,444,703	-	-	1,655,848	100.0
Delaware	441,333	383,047	-	1,213	440,120	99.7
District of Columbia	575,652	534,771	-	-	575,652	100.0
Florida	8,561,005	7,584,817	302,697	50,201	8,208,107	95.9
Georgia	4,328,657	3,763,843	73,455	13,890	4,241,312	98.0
Hawaii	624,581	531,132	-	-	624,581	100.0
Idaho	717,657	592,508	-	-	717,657	100.0
Illinois	5,893,835	5,178,953	-	14,915	5,878,920	99.7
Indiana	3,013,877	2,645,757	-	13,401	3,000,476	99.6
Iowa	1,532,368	1,292,832	-	16,988	1,515,380	98.9
Kansas	1,357,924	1,128,007	-	11,236	1,346,688	99.2
Kentucky	1,849,489	1,587,208	-	5,248	1,844,241	99.7
Louisiana	1,890,357	1,607,480	-	4,554	1,885,803	99.8
Maine	599,802	515,344	-	3,640	596,162	99.4
Maryland	2,534,507	2,184,604	-	4,099	2,530,408	99.8
Massachusetts	3,540,031	3,149,205	-	-	3,540,031	100.0
Michigan	4,287,657	3,751,161	-	25,176	4,262,481	99.4
Minnesota	2,850,866	2,479,987	-	18,312	2,832,554	99.4
Mississippi	1,105,636	891,453	40,602	6,440	1,058,594	95.7
Missouri	2,739,677	2,371,870	103,939	9,441	2,626,297	95.9

Montana	451,602	377,470	-	4,199	447,403	99.1
Nebraska	961,278	804,668	-	12,227	949,051	98.7
Nevada	1,351,925	1,211,543	-	4,508	1,347,417	99.7
New Hampshire	651,094	572,608	-	-	651,094	100.0
New Jersey	3,995,129	3,464,899	-	-	3,995,129	100.0
New Mexico	793,485	636,766	14,108	8,668	770,709	97.1
New York	9,318,078	7,993,702	-	23,589	9,294,489	99.7
North Carolina	4,338,426	3,690,800	72,672	19,677	4,246,077	97.9
North Dakota	408,242	342,906	-	3,850	404,392	99.1
Ohio	5,327,212	4,673,111	-	-	5,327,212	100.0
Oklahoma	1,556,843	1,275,992	-	9,712	1,547,131	99.4
Oregon	1,892,807	1,616,816	-	-	1,892,807	100.0
Pennsylvania	5,770,838	5,173,792	-	20,187	5,750,651	99.7
Rhode Island	470,696	421,095	-	748	469,948	99.8
South Carolina	2,057,909	1,737,947	52,830	5,578	1,999,501	97.2
South Dakota	415,654	347,655	-	5,339	410,315	98.7
Tennessee	2,927,891	2,555,650	89,221	5,447	2,833,223	96.8
Texasd	12,101,133	10,383,151	-	46,325	9,876,604	81.6
Utah	1,442,527	1,242,548	-	4,793	1,437,734	99.7
Vermont	303,335	254,317	-	2,824	300,511	99.1
Virginia	3,713,700	3,179,688	61,703	8,698	3,643,299	98.1
Washington	3,297,906	2,735,509	-	-	3,297,906	100.0
West Virginia	669,986	558,295	-	827	669,159	99.9
Wisconsin	2,847,430	2,473,609	-	24,190	2,823,240	99.2
Wyoming	264,651	204,813	-	-	264,651	100.0
Total Non-Federal	143,338,132	123,739,635	899,672	437,336	139,822,920	97.5
Federal Employees	2,795,195				2,795,195	100.0
TOTAL	146,133,327	123,739,635	899,672	437,336	142,618,115	97.6

a. UI-covered employment reported in the ETA-202 data produced by the Bureau of Labor Statistics (DOL, 2019b)
b. Data on employees at small firms came from the U.S. Census Bureau (2005; 2020).
c. Data on agricultural workers came from the Quarterly Census of Employment and Wages (DOL, 2019b)
d. In 2018 there were 2,178,204 workers not covered by workers' compensation in Texas. Data on workers not covered by workers' compensation in Texas came from the Texas Department of Insurance (TDI, 2018).

Source: National Academy of Social Insurance estimates.

Table A.2

Workers' Compensation Coverage as a Percent of the Employed Workforce, 2008-2018 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)
2008	145,362	153,712	130,941	85.19	90.08
2009	139,877	147,847	125,246	84.71	89.54
2010	139,077	146,640	124,863	85.15	89.78
2011	139,885	147,478	126,281	85.63	90.27
2012	142,475	150,083	128,339	85.51	90.08
2013	143,941	151,676	130,561	86.08	90.70
2014	146,319	154,157	133,067	86.32	90.94
2015	148,845	156,871	136,001	86.70	91.37
2016	151,439	159,764	138,459	86.66	91.43
2017	153,334	161,698	140,397	86.83	91.56
2018	155,760	164,417	142,618	86.74	91.56

a. UI-covered employment reported in the ETA-202 data produced by the Bureau of Labor Statistics (DOL, 2019b)
b. Data on employees at small firms came from the U.S. Census Bureau (2005; 2020).
c. Data on agricultural workers came from the Quarterly Census of Employment and Wages (DOL, 2019b)
d. In 2018 there were 2,178,204 workers not covered by workers' compensation in Texas. Data on workers not covered by workers' compensation in Texas came from the Texas Department of Insurance (TDI, 2018).

Source: National Academy of Social Insurance estimates.

Appendix B: Federal Programs

Various federal programs compensate certain categories of workers and their dependents for work-related injuries or illnesses. The standard approach in this report has been to include in the national totals of workers' compensation data those federally administered programs that are financed by employers and are not included in the data reported by the states. The standard approach, however, excludes programs that cover private sector or public sector workers and are financed by general federal revenues. Henceforth the "standard approach" will be referred to as Scope I. For estimates of the total costs of workers' compensation to the United States, including those financed by federal or state general revenues, please see the Scope II and Scope III data in Appendix C: Alternative Measures of Workers' Compensation Benefits and Costs.

One difficulty with the data on the costs of federal programs is the relative incomparability to state program cost data. For the state data, cost estimates for employers who purchase insurance from private carriers and state-funds are based on a given year's premiums, which include estimates of the benefits that will be paid for injuries that occur during the year plus a loading factor that covers the carriers' underwriting expenses and other administrative expenses. For state data on the costs for self-insuring employers, costs are the sum of benefits paid in the year plus a loading factor added by the Academy in a procedure described on page 39. For most Federal programs, there are no data comparable to the state data on premiums, which includes both benefits and administrative costs. Most cost estimates in the following tables are based on benefits paid to workers in each year plus the administrative costs for that program to the extent such data are available. To this extent, the data in this Appendix are not perfectly comparable to much of the cost data in the body of the report. Federal program data on costs are comparable to state program data on employers that self-insure since the estimates of costs represent benefits paid plus administrative costs. Details on specific federal programs are provided below.

Table B.1

Federal Employees' Compensation Act, Benefits and Costs, 2014-2018 (in thousands)

	2014	2015	2016	2017	2018
Benefits					
Compensation Benefits	1,929,360	1,946,890	1,860,675	1,841,930	1,835,333
Medical Benefits	1,011,450	1,041,353	1,029,995	938,569	921,028
Total Benefits	2,940,811	2,988,242	2,890,670	2,780,499	2,756,361
Administrative Costs					
Direct Administrative Costs	173,570	156,233	161,130	167,752	171,852
Indirect Administrative Costs[a]	8,426	10,398	8,765	7,113	9,746
Total Administrative Costs	181,996	166,631	169,895	174,865	181,598
Costs borne by Federal Agencies[b]	3,114,380	3,144,475	3,051,800	2,948,251	2,928,213
Costs borne by General Revenues[c]	8,426	10,398	8,765	7,113	9,746

a Includes legal and investigative support from the Office of the Solicitor and the Office of the Inspector General.
b Includes "Total Benefits" and "Direct Administrative Costs".
c Includes "Indirect Administrative Costs".

Source: U.S. Department of Labor (2020).

Federal Programs Included in the Scope I Estimates

Federal Employees

The Federal Employees' Compensation Act of 1916 (FECA) provided the first comprehensive workers' compensation program for federal civilian employees. In 2018, total FECA benefits were approximately $2.8 billion. (Table B.1) Thirty-three percent of benefits were for medical care, down one percent since 2014. 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

Table B.2

Longshore and Harbor Workers' Compensation Act (LHWCA), Benefits, Costs, and Death Claims,[a] 2014-2018 (in thousands)

	2014	2015	2016	2017	2018
Benefits					
Insurance Carriers[a]	961,542	893,226	881,492	865,913	739,257
Self-Insured Employers	429,307	421,030	416,151	406,888	414,077
LHWCA Special Fund	117,694	113,307	109,643	107,117	102,612
DCCA Special Fund[b]	8,243	8,078	6,856	6,117	6,864
Defense Base Act[a,c]	707,468	667,644	673,083	669,667	562,021
Total Benefits	$2,224,254	$2,103,284	$2,087,225	$2,055,701	$1,824,830
Administrative Costs					
General Revenue	12,029	12,116	12,423	12,636	12,643
Special Funds	2,135	2,164	2,166	2,165	2,164
Indirect Administrative Costs[d]	1,534	1,426	915	842	949
Total Administrative Costs	15,698	15,705	15,503	15,642	15,756
Employer Assessments					
LHWCA Special Fund Assessment	118,000	108,000	112,000	114,000	106,000
DCCA Special Fund Assessment[b]	5,000	8,000	8,000	6,000	7,000
Total Employer Assessments	123,000	116,000	120,000	120,000	113,000
Costs borne by Private Employers[e]	2,347,254	2,219,284	2,207,225	2,175,701	1,937,830
Costs borne by General Revenues[f]	13,563	13,542	13,337	13,477	13,592

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

b The District of Columbia Workmen's Compensation Act Special Fund is an extension of the LHWCA to provide workers' compensation benefits in certain employments in the District of Columbia.

c Civilian overseas deaths in 2014 totaled 146; 2015 totaled 100; 2016 totaled 88; 2017 totaled 103; and 2018 totaled 74.

d 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 through general revenue appropriations.

e Equal to sum of "Insurance Carriers", "Self-Insured Employers", "Defense Base Act", 'LHWCA Special Fund Assessment", and "DCCA Special Fund Assessment". Does not include special fund administrative costs as they are financed by the employer assessments. Special fund benefits in each year are funded by prior years' assessments.

f Includes administrative costs paid out of general revenues, and indirect administrative costs.

Source: U.S. Department of Labor (2020).

most state programs.[86] Total administrative costs for the FECA program were $182 million in calendar year 2018, or 6.6 percent of total benefits paid (DOL, 2020). The benefits and direct administrative costs of the FECA program are included in the national totals in Scope I. Indirect administrative costs are included in Appendix C.

FECA financing is similar to the financing of workers' compensation in the private sector in that costs charged to each federal agency reflect benefits paid to the employees of that agency. In this regard the employer is paying for the benefits (as opposed to general revenues directly).

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 LHWCA to require coverage for other types of workers who fall outside the jurisdiction of state workers' compensation programs, such as employees working on overseas military bases, and persons working overseas for private contractors of the United States. Other extensions of the Act have required coverage for special groups of workers, such as workers on offshore drilling rigs.

Private employers cover workers protected by the LHWCA by purchasing private insurance or self-insuring. The Division of Longshore and Harbor Workers' Compensation also administers two special funds. The first pays certain types of claims authorized under the LHWCA (e.g. for second injuries, or in cases where an employer and his/her workers' compensation carrier are insolvent or out of business). The special fund is underwritten by annual assessments on employers. The second, the District of Columbia Compensation Act (DCCA) Special Fund, pays benefits to DC government employees who filed claims for injuries prior to July 26, 1982, when the District of Columbia Workers' Compensation Act was enacted. As such, all benefits paid by the DCCA special fund today are for injuries prior to that date (Szymendera, 2019). 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 LHWCA are not identified separately in the information provided by A.M. Best or the state agencies, so these benefits appear in Scope I in 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 in Scope I in the federal data.

As shown in Table B.2, employers paid $106 million to the LHWCA special fund in 2018, which covered benefit payments of $103 million. Direct and indirect administrative costs to the federal government totaled approximately $13.6 million. The administrative costs of the two special funds, about $2.2 million in 2018, are financed by assessments on private employers.

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 Scope I. Benefits under Part C are paid directly by the responsible mine

86 Statutory wage-replacement rates replace, on average, about two-thirds of a workers' pre-injury gross wage subject to minimum and weekly maximum benefits, which vary by state. For FECA covered workers, "compensation is generally paid at the rate of two-thirds of the salary if the employee has no dependents, and three-fourths of the salary if one or more dependents are claimed." (DOL, 2020a)

Table B.3

Black Lung Benefits Act, Benefits and Costs, 2014-2018 (in thousands)

	2014	2015	2016	2017	2018
Benefits					
Part B Compensation	127,664	112,651	98,651	82,646	72,297
Part C Compensation	148,926	141,290	143,212	136,508	129,674
Part C Medical Benefits	36,224	33,900	36,733	46,320	45,000
Total Benefits	$312,814	$287,841	$278,596	$265,474	246,972
Costs of Past Benefits					
Interest Payments on Past Advances[a]	549,181	1,037,392	1,335,288	2,015,732	2,890,135
Bond Payments[b]	477,757	498,739	528,293	434,794	420,486
Total Current Costs of Past Benefits	1,026,938	1,536,131	1,863,581	2,450,525	3,310,621
Administrative Costs					
Part B (SSA)	4,775	4,822	4,964	5,093	5,040
Part C (DOL)	30,633	31,198	33,236	35,472	35,590
Indirect Administrative Costs[c]	25,489	28,972	29,430	30,608	30,681
Total Administrative Costs	60,897	64,991	67,630	71,172	71,311
Employer Assessments					
Coal Tax Paid by Employers	573,694	524,230	436,889	417,628	342,443
Deferred Costs					
Trust Fund Advances from U.S. Treasury[d]	518,250	666,250	1,003,750	1,438,750	1,892,500
Costs borne by Private Employers[e]	573,694	524,230	436,889	417,628	342,443
Costs borne by General Revenues[f]	676,178	812,695	1,136,795	1,557,097	2,000,518
Costs borne by the Black Lung Trust Fund[g]	1,242,722	1,742,519	2,076,763	2,668,825	3,520,885

a 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.

b Repayment of bond principal and interest on principal debt as required by the Trust Fund debt restructuring portion of the EESA.

c 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.

d 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.

e Equal to "Coal Tax Paid by Employers".

f Includes Part B compensation, Part B administrative costs, indirect administrative costs, and trust fund advances from the U.S. treasury.

g Includes "Part C Compensation", "Part C Medical Benefits", "Interest Payments on Past Advances", "Bond Payments", and "Part C" administrative costs.

Source: U.S. Department of Labor (2020).

Table B.4

Benefits and Costs of the Energy Employees Occupational Illness Compensation Program Act: Parts B and E 2014-2018 (in thousands)

	2014	2015	2016	2017	2018
Benefits					
Part B					
Medical Benefits a	352,133	367,858	487,618	569,060	678,134
Compensation Benefits	345,561	286,540	293,228	277,294	258,389
Part E[b]					
Medical Benefits c	73,216	69,564	77,005	85,793	90,726
Compensation Benefits	260,728	264,166	278,859	326,351	335,859
Total Benefits	1,031,638	988,129	1,136,710	1,258,497	1,363,109
Administrative Costs					
Part B					
Direct Administrative Costs[d]	51,933	52,079	54,319	58,014	55,540
Indirect Administrative Costs[e]	908	763	1,024	1,215	1,340
Part E					
Direct Administrative Costs[d]	66,781	67,530	68,499	70,142	71,466
Indirect Administrative Costs[e]	604	793	530	522	657
Total Administrative Costs	120,226	121,165	124,373	129,892	129,004
Total Costs (Benefits and Admin Costs)	1,151,865	1,109,294	1,261,082	1,388,389	1,492,112

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

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

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

d Part B costs for 2002-2008 include funding for the Department of Health and Human Services/National Institute for Occupational Safety and Health's (DHHS/NIOSH) conduct of dose reconstructions and special exposure cohort determinations. For 2002, these costs were $32.7 million; 2003, $26.8 million; 2004, $51.7 million; 2005, $50.5 million; 2006, $58.6 million; 2007, $55.0 million; and 2008, $41.5 million. Beginning in 2009, these costs are a direct appropriation to DHHS/NIOSH. Part B costs for 2009-17 include funding for an Ombudsman position. For 2009, these costs were $0.1 million; 2010, $0.4 million; 2011, $0.2 million; 2012, $0.3 million; 2013, $0.5 million; 2014, $0.6 million; and 2015, $0.6 million; 2016, $0.7 million; 2017, $0.8 million; and 2018, Part E costs for 2005-17 also include funding for an Ombudsman position. For 2005 these costs were $0.2 million; 2006, $0.5 million; 2007, $0.7 million; 2008, $0.8 million; 2009, $0.8 million; 2010, $0.5 million; 2011, $0.8 million; 2012, $0.8 million; 2013, $0.8 million; 2014, $0.8 million; 2015, $0.7 million; 2016, $0.7 million; 2017, $0.9 million; and 2018, $0.9 million.

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

Source: U.S. Department of Labor (2020).

operator or insurer, or otherwise from the federal Black Lung Disability Trust Fund.

Table B.3 shows benefits paid under both parts of the black lung program from 2014 through 2018. Total benefits in 2018 were $247 million, of which $72.3 million was paid under Part B and $174.7 million under Part C. Part C benefits included $45 million for medical care (26% 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 2018, direct administrative costs for Part C were $35.6 million. Together with benefit payments of $174.7 million, expenditures under Part C were $210.3 million. Employers paid $342.4 million into the trust fund in 2018, but payments on past debt, totaling $3.3 billion in 2018, far exceeded the extra revenues.

To the extent that treasury loans to the Trust Fund are funded by general revenues, "Trust Fund Advances from the U.S. Treasury" are included under "Costs borne by General Revenues." A recent Government Accountability Office testimony stated that, "under federal law the Trust Fund borrows from Treasury's general fund when necessary to cover its expenditures. Federal law does not limit the amount the Trust Fund may borrow from Treasury's general fund—and hence from the taxpayer—as needed to cover its relevant expenditures."[87] Assuming the borrowed money is paid back, these advances will not represent costs against general revenues in the long-run, though the aforementioned GAO testimony is not optimistic about the Trust Fund's financial future under current law. As the coal tax and Treasury advances provide income that allows the Trust Fund to cover its obligations, it is not appropriate to add any of the three latter items in the table.

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 anywhere in the report.

Federal Programs Included in Academy Scope II 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

Table B.5

Section 4 Radiation Exposure Compensation Act, Benefits Approved and Costs, 2014-2018 (in thousands)

	2014	2015	2016	2017	2018
Total Benefits Approved[a]	85,224	70,673	60,280	60,400	62,791
Total Administrative Costs[b,c]	2,764	2,292	1,955	1,959	2,036
Total Costs (Benefits and Admin Costs)	87,987	72,965	62,234	62,358	64,827

a Only Section 4 (downwinders and on-site) are shown here as "the National Defense Authorization Act for FY 2005 contained language requiring the Energy Employees Occupational Illness Compensation Fund to pay uranium workers – uranium miners, millers, and ore transporters". (US DoJ RECA Trust Fund FY 2020 Budget & Performance Plan) Section 5 beneficiaries are thus captured in Table B4.

b RECA "established monetary compensation for individuals who contracted specified diseases in three defined population", and is thus very striaghtforward to administer. As of March 2019, the program was "administered by a staff of five attorneys, eight claims examiners, and eight contractors within the Constitutional and Specialized Torts Section of the Civil Division's Torts Branch."

c A job posting in August of 2020 by the U.S. Department of Justice Civil Division for a trial attorney position indicates a salary between $86,335 and $157,709 per year. Glassdoor indicates average salaries in August of 2020 of $80,555 and $44,500 for a Department of Labor claims examiner and a Department of Justice paralegal specialist, respectively. Using the average salary for the trial attorney position ($122,022) and the figures from Glassdoor, then multiplying by the staff numbers in note "b" yields administrative salary costs of $1,610,550. This figure is divided by 1.028154 to account for inflation between July 2018 and July 2020 (BLS CPI Inflation Calculator). Finally, we multiply the resulting figure by 1.2, assuming an additional 30% of administrative costs beyond salary costs. This method is used to estimate administrative costs in 2018. An equal portion of administrative costs is assumed for 2014-2017.

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

87 Testimony of Cindy Barnes Brown before the Committee on Education and Labor, Subcommittee on Workforce Protections, House of Representatives, p.1. June 20, 2019. GAO.

exposure to radiation, beryllium, or silica, in the production or testing of nuclear weapons and other materials. The program pays medical benefits for the treatment of covered conditions, and lump sum cash payments of up to $150,000 for eligible workers.

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

Table B.4 provides information on benefits and costs of both Parts B and E of the EEOICPA for 2014-2018. In 2018, total benefits paid under Part B were $936.5 million, of which $258.4 million (27.6%) were paid as compensation benefits (DOL, 2020). Part E benefits in were $426.6 million, of which $335.9 million (79%) were compensation. Benefits under both Parts B and E are financed by general federal revenues and are not included in our national totals. Benefits and costs associated with both Part B and Part E are included in Scope II and Scope III in Appendix C.

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

Table B.6

Federal Veterans' Compensation, Benefits and Costs, 2014-2018 (in thousands)

	2014	2015	2016	2017	2018
Recipients					
Veterans Less than 30 Percent Disabled[a]	1,704	1,718	1,727	1,731	1,735
Veterans 30 Percent Disabled or More	2,355	2,544	2,728	2,917	3,109
Total Recipients	4,059	4,263	4,455	4,648	4,844
Benefits					
Disability Compensation Benefits	57,220,595	62,463,382	67,352,772	73,350,268	80,812,210
Survivors DIC Benefits[b]	6,055,000	6,245,000	6,425,000	6,690,000	7,035,000
Total Benefits	63,275,595	68,708,382	73,777,772	80,040,268	87,847,210
Administrative Costs					
Direct Administrative Costs[c]	1,774,009	1,807,011	1,855,028	2,187,997	2,342,942
Indirect Administrative Costs[d]	860,934	946,143	1,103,927	1,193,515	1,310,558
Total Administrative Costs	2,634,943	2,753,154	2,958,955	3,381,513	3,653,500
Total Costs (Benefits + Admin Costs)	65,910,538	71,461,536	76,736,727	83,421,781	91,500,710

a Does not receive dependency benefit.
b Dependency and Indemnity Compensation and Death Compensation.
c These figures come from the "General Operating Expenses" line of the VA Agency Financial Report, and are multiplied according to the portion of total VBA benefits accounted for by Veterans' Comp and Survivors DIC benefits.
d These figures come from the "Indirect Administrative Program Costs" line of the VA Agency Financial Report, and are multiplied according to the portion of total VA program costs accounted for by the VBA, and then according to the portion of total VBA benefits accounted for by Veterans' Comp and Survivors DIC benefits.

Source: U.S. Department of Veterans Affairs (2019 and 2020).

uranium mines. The lump sum payments are specified by law and range from $50,000 to $100,000. Table B.5 shows annual approved benefits under the Radiation Exposure Compensation Act (RECA) from 2014 through 2018. The $62,791 million in benefits approved in 2018 represent a 4 percent increase from 2017, but a decrease of 26 percent over the five-year study period (DOJ, 2019). The program is financed with federal general revenues and is not included in national totals in this report. Benefits and costs associated with RECA are included in Scope II and Scope III in Appendix C.

Federal Programs Included in Academy Scope III Estimates

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 B.6 shows the number of recipients, and the value of cash benefits paid, and estimates of administrative costs for 2014 through 2018. As shown in Table B.6, 4.84 million veterans were receiving monthly compensation payments for service-connected disabilities in 2018. Of these, 62.0 percent of veterans had a disability rating of 30 percent or more.

Due to its large number of beneficiaries, the inclusion of a high proportion of serious injuries, and the provision medical care through an entirely separate health care system, Veterans' Compensation data is included only in Scope III of the data estimates in Appendix C.

Federal Programs Not Included in Academy Estimates of the Benefits and Costs of 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).

Appendix C: Three Measures of Workers' Compensation Benefits and Costs[88]

Introduction to Three Measures of the Scope of Workers' Compensation Programs

Three measures of the scope of workers' compensation programs in the United States are examined in this Appendix. The Appendix will also explore which benefits and costs associated with work-related injuries and diseases should be included in or excluded from the Academy's data.

Scope I—Standard: workers' compensation programs for civilian workers prescribed by state or federal laws that are paid directly by employers or workers. This standard approach has been used (with minor exceptions discussed below) in previous editions of Workers' Compensation: Benefits, Costs, and Coverage published by the National Academy of Social Insurance. The standard approach is also used in all tables, figures, and text in the 2020 Report except for Appendix C.

Scope II—Augmented: Scope I plus workers' compensation programs for civilian workers prescribed by state or federal government laws paid from general revenues of state or federal governments. This augmented approach is introduced in this Appendix.

Scope III—Expansive: Scope II plus workers' compensation programs for veterans prescribed by state or federal government laws that are paid directly by employers, workers, or from general revenues of state or federal governments. This expansive approach is also introduced in this Appendix.

Definition of Workers' Compensation Programs

Workers' compensation programs are no-fault statutory programs that (a) provide medical and/or cash benefits to current or former workers who receive benefits because they have an impairment and/or disability caused by a work-related injury or disease, or (b) provide cash benefits or other benefits to survivors of workers who died as a result of a work-related injury or disease. Significant components of this definition have this meaning:

- An *impairment* is an anatomic or functional abnormality or loss resulting from an injury or disease. The impairment can be physical or mental.[89]
- A *disability* is a loss of earning capacity and/or an actual loss of earnings.[90]
- *Work-related* means the worker meets the compensability requirements in the jurisdiction's workers' compensation statute[91]
- The workers' compensation program also includes these definitions:
  - the worker is entitled to workers' compensation benefits even if he or she is negligent
  - the worker is entitled to workers' compensation benefits even if the employer is not negligent
  - workers' compensation is the worker's exclusive remedy against the employer even if the employer is negligent

88 This new expanded version of Appendix C was developed jointly by John Burton and Griffin Murphy in August 2020. Appendix C in its current form is included for the first time in the 2020 annual report on workers' compensation published by the Academy. Although this iteration reflects Study Panel discussion and several changes, the analysis is a work in progress, and we anticipate additional changes to both the conceptual framework and data in future years.

89 The National Commission on State Workmen's Compensation Laws (National Commission 1972, 137) defines impairment as "an anatomic or functional abnormality or loss."

90 The National Commission (1972,137) defines disability as "loss of actual earnings or earning capacity as a consequence of impairment."

91 Compensability rules vary among jurisdictions. Larson and Robinson (§ 1.1 (Desk ed. 2017) indicate that in the typical act "an employee is automatically entitled to certain benefits whenever the employee suffers 'a personal injury by accident arising out of or in the course or employment' or an occupational disease."

Which Programs Should be Included in NASI Measures of Workers' Compensation Benefits, Costs, and Coverage

Scope I—Standard:

Workers' Compensation Programs for Civilian Workers Prescribed by State or Federal Laws that Are Paid Directly by Employers or Workers

In most states, the direct costs of the workers' compensation programs are paid by employers who either purchase insurance from private carriers or state funds or self-insure and thus pay the costs directly. In three states, however, a portion of the direct costs of workers' compensation is paid by employees.

States in Which Costs Are Paid by Employees. New Mexico applies a per-capita assessment based on employment on the last day of the quarter. Since 2004, the quarterly workers' compensation fee has been $4.30 per covered worker, which is split between employers and employees. The employers' share is $2.30 per covered worker, and the employees' share is $2.00. Most of the total fee ($2.00 from employers and $2.00 from employees) is now used

Table C.1

Employee Costs, Employer Costs, and Benefits for States in which Employees Directly Pay for a Portion of the Workers' Compensation Program, 2014–2018
(Millions of Dollars)

	2014	2015	2016	2017	2018
New Mexico					
Employee Costs	6.0	6.0	6.0	6.1	6.2
Employer Costs	440.8	479.9	488.2	449.2	444.0
Total Costs	446.7	486.0	494.3	455.3	450.1
Benefits	326.2	327.0	308.7	292.5	300.1
Oregon					
Employee Costs	44.9	47.0	48.5	41.9	42.7
Employer Costs	913.0	896.7	952.3	967.5	949.9
Total Costs	957.9	943.8	1,000.8	1,009.4	992.6
Benefits	657.1	632.2	629.2	682.0	669.7
Washington					
Employee Costs	586.1	628.7	667.6	681.0	706.9
Employer Costs	2,101.8	2,217.4	2,431.1	2,425.8	2,439.5
Total Costs	2,688.0	2,846.1	3,098.7	3,106.8	3,146.4
Benefits	2,399.9	2,412.3	2,437.1	2,464.8	2,537.8
Total					
Employee Costs	637.0	681.7	722.1	729.0	755.8
Employer Costs	3,455.6	3,594.1	3,871.7	3,842.6	3,833.3
Total Costs	4,092.6	4,275.8	4,593.8	4,571.6	4,589.1
Benefits	3,383.2	3,371.4	3,375.1	3,439.3	3,507.6

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

primarily to fund the operation of the New Mexico Workers' Compensation Administration. (Funds from General Revenue previously paid for these administrative costs.) The additional $0.30 per covered worker is paid by employers to fund the Workers' Compensation Uninsured Employers Fund.

Oregon assesses employers and employees for the Workers Benefit Fund, which pays monthly cost-of-living increases for workers. Between April 2014 and 2016, the Oregon Workers Benefit Fund Assessment was 3.3 cents per hour worked – employers paid 1.65 cents and workers paid 1.65 cents per hour. In 2017 and 2018, the assessment fell to 2.8 cents per hour worked—1.4 cents per hour for each party.

Washington state employees pay part of the workers' compensation premium costs through payroll deductions. These deductions go toward state fund medical benefits and cost-of-living adjustments for the Supplemental Pension Fund. In 2018, employees contributed 25.7 percent of state fund premiums and paid half of the cost-of-living adjustment premium for the aforementioned fund.

Treatment of the Costs Paid by Employees in Academy Reports. Prior to the 2019 Academy Report, costs paid by workers in Washington were included as costs of the program, but the costs paid by workers in New Mexico and Oregon were not included.[92] There are four reasons why all payments by workers to a workers' compensation program should be included as costs of the program, as the most recent report does:

(1) To provide results that are consistent across all states.

(2) To provide a more accurate measure of the costs of workers' compensation programs.

(3) To ensure that the data for both benefits and costs are accurate for workers in New Mexico and Oregon. Prior to 2019, the benefits received by injured workers who paid for part of the costs of workers' compensation in New Mexico and Oregon were included in the Academy data for those states but the costs were not, and it is misleading to include the benefits but not the costs

(4) To recognize the distinction between the nominal incidence of the costs of a program and the actual incidence. The nominal incidence for employers who purchase workers' compensation insurance is the premiums for their policies. For employers who self-insure, the nominal cost is the benefits paid to workers plus the administrative expense of providing he benefits. The nominal incidence for employees is the assessments, fees, or payroll deductions paid by employees in New Mexico, Oregon, and Washington. The actual incidence of workers' compensation for employers is the increase in operating costs and the reduction in profits that are a result of providing the benefits. For employees, the actual incidence of the program is the reduction in wages that is the result of being covered by a workers' compensation program. The incidence for consumers is the higher prices charged by employers as a result of the workers' compensation program.

Most labor economists understand that employers bear the nominal incidence of workers' compensation insurance because the premiums are paid by those employers. However, these economists assert that a substantial portion of the actual cost of workers' compensation is paid by workers in the form of wages that are lower than the workers would have received in the absence of workers' compensation. While the degree of cost shifting to workers may have changed to some degree since the 1990s, the consensus remains that it is invalid and misleading to assess who pays for the costs of the program by focusing solely on the nominal share paid by employers.[93]

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

93 A review of the theory and empirical findings by Chelius and Burton (1994, 26) reached this conclusion: "a substantial portion of workers' compensation costs (and even, according to some estimates, all of the costs) are shifted onto workers. [emphasis in original]" Leigh et al. (2000, 178-79)) provide another survey of the incidence of the costs of workers compensation. They noted a lack of consensus among economists but offered this "suggestion" for the incidence of workers' compensation costs: Employers 40 percent; Consumers 20 percent; and Workers 40 percent.

Data on Costs Paid by Employees. Based on these four reasons, the Academy will now include employee contributions in all tables, figures, and analyses in its annual reports on *Workers' Compensation: Benefits, Costs, and Coverage*.[94] The amounts for the last five years are shown in Table C.1.

The importance of the costs of the workers' compensation programs relative to the total costs of the program varies substantially among the three states. In New Mexico, the $6.2 million of costs paid by employees represented 1.4 percent of the total costs of $450.1 million in 2018. In Oregon, the $42.7 million of employee costs represented 4.3 percent of the total costs of $992.6 million for the workers' compensation program in 2018. In Washington, the employee contributions were a much more important share of program costs than in the two other states. The costs paid by employees of $706.9 million represented 22.5 percent of the total costs of $3,146.4 million in Washington in 2018.

For the three states in combination, employee contributions of $755.8 million were 16.0 percent of total costs in 2018. From a national perspective, the total costs of all U.S. workers' compensation programs were $98,641 million, as shown in Table 13, of which the employee contribution in the three states of $755.8 million represented only 0.8% of the national total. Nonetheless, the inclusion of the costs paid by employees provides a more accurate measure of the magnitude of the program.

Scope II—Augmented:

Workers' Compensation Programs for Civilian Workers Prescribed by State or Federal Laws that Are Paid Directly by Employers or Workers or From General Revenues of a State or Federal Government

Previous Coverage of Workers' Compensation Programs in the Academy Report. The 2019 Academy Report restricted the data on benefits, coverage, and costs to those workers' compensation programs for which the costs are paid by employers or workers in the form of (1) insurance premiums to private or public insurers, (2) direct payment by employers of benefits to workers or to health care providers, and (3) payments by workers in the form of assessments or a portion of the insurance premiums. (This represents the Standard Approach.)

The *2019 Academy Report* (pp. 5-6) provides additional information on the scope of the report: Consistent with previous editions of this report, the current report uses a *standard approach* to determine which workers' compensation programs to include in the estimates in all tables, figures, and the main text:

- The *standard approach* includes workers' compensation programs for civilians prescribed by state or federal laws that are paid directly by employers or workers. The scope of this approach includes all state workers' compensation programs plus the Federal Employees' Compensation Act (FECA), which provides benefits to federal civilian employees, the portion of the Longshore and Harbor Workers Act (LHWCA) paid by employers, which provides protection to longshore, harbor, and other maritime workers, and the portion of the Black Lung Benefits Act financed by employers, which provides compensation to coal miners with black lung disease.

Analysis of the Previous Coverage of Workers' Compensation Programs. The previous procedure used by the Academy (the Standard Approach) only considers the coverage, benefits, and costs of workers' compensation programs that are financed by employers or workers. The exclusion of programs that are not financed by employers or workers underestimates the full extent of coverage, benefits, and costs of workers' compensation programs in the United States. Accurately measured, workers' compensation programs provide more benefits to disabled workers and their survivors than the $62.0 billion reported by NASI for 2017 (*2019 Academy Report*: Table 1). And while, according to the *2019 Academy Report* (Table 1), the costs to employers of workers' compensation in 2017 were $97.4 billion, the total costs to the economy include not just costs directly paid by employers and workers, but the costs of the workers' compensation program paid from general revenues, which are in turn are paid for by

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

Table C.2

Costs of Workers' Compensation Programs Paid from General Revenue and Benefits Associated with those Payments: The Augmented Approach
(Millions of Dollars)

		2014	2015	2016	2017	2018
Federal Programs[a]						
FECA						
	Costs	8	10	9	7	10
LHWCA						
	Costs	14	14	13	13	14
Black Lung						
	Costs	676	813	1,137	1,557	2,001
	Benefits	128	113	99	83	72
EEIOCPA						
	Costs	1,152	1,109	1,261	1,388	1,492
	Benefits	1,032	988	1,137	1,258	1,363
Radiation						
	Costs	88	73	62	62	65
	Benefits	85	71	60	60	63
State Programs						
Rhode Island						
	Costs[b]	20	21	20	18	18
Total of Augmented Costs and Benefits						
	Costs	1,958	2,029	2,493	3,039	3,589
	Benefits	1,245	1,171	1,296	1,402	1,498

a See Appendix B for more information on federal programs.
b Contact did not indicate whether revenue was used for specific purposes.

Sources: U.S. Department of Labor (2020); U.S. Department of Justice (2019); and Rhode Island Department of Labor and Training.

taxes on employers and individuals. This means that past Academy reports understated both benefits and costs.

The Scope II—Augmented version of coverage is confined to data on the civilian population. This procedure is consistent with other data series limited to the civilian population and the civilian labor force, which also exclude data on members of the military or veterans.[95] (The inclusion of the benefits and costs of the Federal Veterans' Compensation Program in Scope III—Expansive is discussed in the next subsection.)

Which federal programs are already included in the current coverage of workers' compensation data by relying on Scope I coverage?

- The Federal Employees Compensation Act (FECA)
  - Total benefits and direct administrative costs

95 A recent example of a document covering only the civilian population and civilian labor force is BLS (2019e).

Table C.3

Costs and Benefits of Workers Compensation Programs in Scope I (Standard Approach) and in Scope II (Augmented Approach) of Workers' Compensation Programs
(Millions of Dollars)

	2014	2015	2016	2017	2018
Scope I					
Costs	93,880	96,700	97,510	97,949	98,587
Benefits	63,624	62,721	62,384	62,488	62,860
Additional Costs and Benefits in Scope II					
Costs	1,958	2,029	2,493	3,039	3,589
Benefits	1,245	1,171	1,296	1,402	1,498
Scopes II, Cumulative					
Costs	95,839	98,729	100,003	100,989	102,176
Benefits	64,868	63,892	63,	63,889	64,358

- The Longshore and Harbor Workers' Compensation Act (LHWCA)
- Total benefits and special fund administrative costs

- The Black Lung Benefits Act
  - Part C benefits, costs of past benefits, and Part C administrative costs

Which federal or state programs (or portions of programs) are added to the current coverage of workers' compensation programs by adopting Scope II—Augmented coverage?

The additional Federal programs (or portions of programs) shown in Table C.2 include:

- The Federal Employees Compensation Act (FECA)
  - Indirect administrative costs

- The Longshore and Harbor Workers' Compensation Act (LHWCA)
  - Administrative costs paid by general revenues and indirect administrative costs

- The Black Lung Benefits Act paid from general revenue
  - Part B benefits, Part B administrative costs, indirect administrative costs, and advances from the U.S. Treasury

- The Energy Employees Occupational Illness Compensation Act (EEIOCPA)
- The Radiation Exposure Compensation Act (RECA) of 1990

In addition to these Federal programs, which are funded at least in part by general revenues, Table C.2 also includes limited information on state workers' compensation programs for which benefits and/or costs are financed from general revenue and thus fall within the Scope II—Augmented definition of coverage. However, the sole state program that relies on general revenues and for which there is available data is Rhode Island. Further research is needed regarding the extent to which other state programs are general-revenue financed.

The results in Table C.2 show that, using the Augmented Approach (Scope II), the total of workers' compensation costs increased from $1.958

billion in 2014 to $3.589 billion in 2018, or by 83 percent. Over the same time period, the total amount of benefits added by the Augmented Approach increased from $1.245 billion to $1.498 billion, which represents a 20 percent increase.

The information in Table C.3 helps to assess the difference in costs and benefits associated with the augmented approach (Table C.2), versus the standard approach. The Scope I—Standard entries in Table C.3 are the data included in the Tables and Figures in the 2020 Academy Report. Table C.3 also includes the Totals from Table C.2 showing the amounts of benefits and costs added by Scope II—Augmented.

The Standard Approach indicates that the costs of workers' compensation programs in 2018 were $98.6 billion. The additional costs associated with the Augmented Approach were $3.6 billion, which represents a 3.6 percent increase in costs. The combined costs of the Scope I—Standard and Scope II—Augmented measures are $102.2 billion.

The Standard Approach indicates that the benefits provided by workers' compensation in 2018 were $62.9 billion. The additional benefits associated with the Augmented Approach were $1.5 billion, which represents a 2.4 percent increase in benefits. The combined benefits of the Scope I and Scope II measures in 2018 are $64.4 billion.

Scope III—Expansive:

Workers' Compensation Programs for Civilian Workers or Veterans Prescribed by State or Federal Laws that Are Paid Directly by Employers or Workers or from General Revenues of a State or the Federal Government

Scope III—Expansive is the most inclusive measure of the costs and benefits of workers' compensation programs because it adds data on the Federal Veterans' Compensation Program to the programs included in Scope II. The data on the detailed information on the Federal Veterans' Compensation Program are included in Appendix Table B.6. The data in Table C.4 pertain to the benefits paid to veterans "who are disabled by injury or disease incurred in or aggravated during active military service."

The results in Table C.4 show that the costs of the Federal Veterans' Compensation Program increased from $65.9 billion in 2014 to $91.5 billion in 2018, which is a 38.9 percent increase over five years. The benefits paid to disabled veterans increased from $63.3 billion in 2014 to $87.9 billion in 2018, which is also an increase of 38.9 percent over the five-year period.

How significant are the costs and benefits associated with the Expanded Approach shown in Table C.4? The information included in Table C.5 helps answer that question. The Scope I—Standard entries in Table C.5 are the data included in the Tables and Figures in the 2020 Academy Report. Table C.5 also includes the totals from Table C.3 showing the cumulative amounts of benefits and costs associated with Scope I—Standard and Scope II—Augmented.

The cumulative amount of the Standard Approach and the Augmented Approach indicates that the costs of workers' compensation programs in 2018

Table C.4

Costs and Benefits of the Federal Veterans' Compensation Program
(Millions of Dollars)

	2014	2015	2016	2017	2018
Costs	93,800	96,623	97,105	97,951	98,638
Benefits	63,625	62,710	62,042	62,528	62,984

Source: U.S. Department of Veterans' Affairs (2019a and 2019b)

Table C.5

Costs and Benefits of Workers Compensation Programs in Scope I (Standard Approach), in Scope II (Augmented Approach), and Scope III (Expanded Approach)
(Millions of Dollars)

		2014	2015	2016	2017	2018
Scope I						
	Costs	93,880	96,700	97,510	97,949	98,587
	Benefits	63,624	62,721	62,385	62,488	62,860
Scopes I and II, Cumulative						
	Costs	95,839	98,729	100,003	100,989	102,176
	Benefits	64,868	63,892	63,681	63,889	64,358
Additional Costs and Benefits in Scope III						
	Costs	65,911	71,462	76,737	83,422	91,501
	Benefits	63,276	68,708	73,778	80,040	87,847
Scope III, Cumulative						
	Costs	161,749	170,191	176,740	184,410	193,677
	Benefits	128,144	132,600	137,458	143,930	152,205

were $102.2 billion. The additional costs associated with the Expanded Approach, which includes the Federal Veterans' Compensation Program, were $91.5 billion, an 89.6 percent increase relative to when those costs are excluded. In 2018, the Expanded Approach costs totaled $193.7 billion.

The cumulative amount of the Standard Approach and the Augmented Approach indicates that the benefits paid by workers' compensation programs in 2018 were $64.4 billion. The additional benefits associated with the Expanded Approach were $87.9 billion, which represents a 136.5 percent increase in benefits due to the inclusion of the Federal Veterans' Compensation Program. In 2018, the Expanded Approach benefits totaled $152.2 billion.

Public and Private Programs That Should Not Be Included in Scope I—Standard, II—Augmented, or III—Expansive of the NASI Measures of Workers' Compensation

Benefits, Costs, and Coverage

Several programs that provide cash or medical benefits to disabled workers, their dependents, or their survivors are not included in the Academy's data because these programs do not comply with the definition of workers' compensation programs presented in this Appendix.

Public Programs

Several public programs that provide cash and/or medical benefits should continue to be excluded from Academy's reports because they do not meet the Academy's definition of workers' compensation:

- The benefits and costs of the Social Security Disability Insurance Program. This program does not meet the definition of a workers' compensation program because the benefits are not restricted to workers disabled by a work-related injury or disease.
- The benefits and costs of Temporary Disability Insurance Programs available in several states.

These programs do not meet the definition of a workers' compensation program since benefits are not restricted to workers disabled by a work-related injury or disease.

- The cash benefits, medical care, or damages received by disabled workers under the Federal Employers' Liability Act of 1908 (FELA), which applies to interstate railroad workers disabled on the job. The Act *inter alia* allows workers to sue their employers for negligence in industrial accidents.[96]
- The cash benefits, medical care, and damages received by disabled workers under the Jones Act of 1920, which allows merchant seamen to sue their employers for negligence under statutory provisions similar to the FELA.[97]
- The benefits provided by the September 11th Victim Compensation Fund (VCF). The benefits are not limited to workers but are also available to "certain persons who lived, worked, or were near the World Trade Center on September 11, 2001." (Szymendera 2019a)

Programs Provided by Employers and Other Remedies

Employee benefits plans other than workers' compensation that provide cash or medical benefits to workers with disabilities should not be included as a cost of workers' compensation since the plans are not based on a statute and/or are provided to workers whether or not their disabilities are work-related. These employee benefit plans include:

- Sick Leave Plans, as described on page 55 in the Addendum of the 2020 Academy Report.
- Long-term disability benefits, as described on pages 56-57 of the Addendum to the 2020 Academy Report.
- Retirement benefits, as described on page 57 of the Addendum to the 2020 Academy Report.
- The damages received by workers in tort suits against employers or third parties because of negligence or other criteria for recovery (such as intentional injury). Tort suits do not meet the definition of a workers' compensation program, since the recoveries are not based on a statutory remedy and/or because the recoveries require the employer to be negligent.

Which Benefits and Costs Associated with Work-related Injuries and Diseases Should be Included in Scope I—Standard of the Academy Data Based on the Previous Analysis?

Benefits and Costs that Should Continue to be Included in Scope I of the Academy Report

- All benefits and costs used to prepare the tables in the Academy's 2020 Report.
- The benefits and costs of all special funds within the workers' compensation system should be included as benefits and costs of the program. These funds include Second Injury Funds, Guaranty Funds, Uninsured Employer Funds, Benefit Adjustment funds for long-term beneficiaries, and Occupational Disease Funds, among others.[98]
- Direct payments by workers to a workers' compensation program should be included as costs of the program. As previously discussed, the payments by workers in New Mexico, Oregon, and Washington were included the Standard Approach beginning with the 2019 Academy Report.

Benefits and Costs that Should be Added to Scope I—Standard of the Academy Report (To the Extent these Benefits and Costs are not Already Included)

- The expenses incurred by state or federal agencies that administer workers' compensation programs should be included as a cost of the programs. These expenses should include all items in an agency's budget, including interest payments. In some states, the agencies' costs are

96 The discussion of the Federal Employers' Liability Act of 1908 (FELA) is based on Williams and Barth (1973, 50-52).

97 The discussion of the Jones Act of 1920 is based on Williams and Barth (1973, 52).

98 A compilation of the various types of special funds then in existence and of the variety of financing mechanisms for the funds is provided by Larson and Burton (1985, 117-57).

included as assessments on premiums charged by carriers and/or in assessments on self-insuring employers. In some state or federal programs, some or all of these administrative costs are paid from general revenues. All of these costs of administering the program should be included.

- Medical rehabilitation or vocational rehabilitation benefits that are a component of a state's workers' compensation program should be included as a benefit and a cost of the state's workers' compensation programs. However, vocational rehabilitation benefits for persons with disabilities provided by the federal-state Vocational Rehabilitation (VR) Program should not be considered benefits or costs of the workers' compensation program, since these benefits are provided to many persons for whom the source of disability is not work-related.
- Expenditures for the prevention of injuries or diseases are already included in the Academy's estimates of the costs of workers' compensation if they are included in the premiums paid to workers' compensation carriers. The costs of workers' compensation should also include safety and health programs if the expenditures are included in the budgets of workers' compensation agencies. However, expenditures for the prevention of injuries or diseases should be excluded from the Academy estimates of the costs of workers' compensation if they are made by separate state or federal agencies, such as the Occupational Safety and Health Administration (OSHA). Expenditures for the prevention of injury or diseases should also be excluded from Academy estimates of the costs of workers' compensation if they are incurred by employers or workers but not included in workers' compensation premiums paid by employers or in payments by workers to the program. These excluded expenditures are important to improving workplace safety and health, but as a practical matter are beyond the scope of this report.

Benefits and Costs that Should Continue to be Excluded from the Academy Report

The losses to workers of earnings (including wages or other employer-provided benefits) as a result of work-related injuries or diseases that are not compensated by workers' compensation programs should be excluded. The measurement of these losses is a legitimate and important subject for researchers and policy makers but is beyond the scope of the Academy reports. These losses include:

- Lost earnings that are not compensated because not all employers and employees are covered by workers' compensation programs
- Lost earnings that are not compensated because not all work-related injuries and diseases meet the compensability rules of workers' compensation programs
- Lost earnings during the temporary disability period that are not compensated because of waiting periods, maximum weekly benefits, replacement rates of less than less than 100 percent, or duration limits on temporary disability benefits.
- Lost earnings during the permanent disability periods that are not compensated because of maximum weekly benefits, replacement rates of less than 100 percent, or duration limits on permanent partial and permanent total disability benefits.
- Earnings losses of deceased workers that are not considered in determining death benefits because of maximum weekly benefits, replacement rates of less than 100 percent, or duration limits on survivors' benefits.
- The risk premiums in the wages received by workers for performing jobs with risks of injury or disease should not be included as benefits for workers or as costs for employers.
- Employee benefits in workers' compensation programs should include the gross amount of the benefit, not the net amount received by the worker after the payment of attorneys' fees.
- Many workers' compensation cases are settled with compromise and release (C&R) agreements, in which the workers and the employer (or insurance carrier) agree on a compromise on the amount of the benefits, the benefits are paid in a lump sum, and the employer is absolved of additional liability for the injury. There have been several studies of the effect of C&R agreements, which perhaps should be mentioned in the text of the Academy of annual report.
- The loss of tax revenues to federal, state, and local governments because workers' compensation benefits are not taxable. There are costs to

the governments in the loss of tax revenue, and there are benefits to workers because the benefits replace a higher percentage of lost wages than if benefits were taxable. The tax-free status of workers' compensation benefits is also probably advantageous to employers because the benefits are more adequate than taxable benefits would be, thus reducing the pressures on state legislatures to increase cash benefits. However, the effect of workers' compensation benefits not being taxable is beyond the scope of this report.

Summary

Three measures of the scope of workers' compensation programs in the United States are examined in this Appendix. Each has its merits and limitations.

The **Standard Approach** represents the measures of benefits and costs of the workers' compensation programs that are paid directly by employers and employees. This approach is the only measure of workers' compensation programs that has been used in previous versions of the Academy report and in the main text of this year's edition. The Standard Approach will continue to be the primary measure of the workers' compensation that will be used in subsequent years in order to maintain continuity of the Academy data. In 2018, the Standard Approach indicated that the amount of benefits paid to workers by the workers' compensation system was $62.860 billion and that costs totaled $98.587 billion.

The **Augmented Approach** represents a measure of benefits and costs of the workers' compensation that adds those workers' compensation programs that are paid from general revenues of states or the Federal government. The additional benefits provide a more comprehensive measure of the assistance provided to workers disabled at the workplace by workers' compensation programs as well as a better accounting of the costs to society (including taxpayers) of the costs of the programs. A drawback of the Augmented Approach is that considerable effort is required to collect the data. In 2018, the Augmented Approach accounted for an additional $1.498 billion to the benefits paid to workers and an additional $3.589 billion to the costs of the program.

The **Expansive Approach** adds the benefits and costs of the Federal Veterans' Compensation Program, which provides benefits to veterans who "are disabled by injury or disease incurred in or aggravated during active military service." This program arguably is not a workers' compensation program. However, the Academy Report on Workers' Compensation Benefits, Coverage, and Costs has included the Veterans Program in its list of Federal Programs in the Appendix since the 2003 edition. In 2018, the Expansive Approach accounted for an additional $87.847 billion to the benefits and $91.501 billion to the costs of programs for persons disabled in their occupations.

Appendix D: Workers' Compensation under State Laws

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

The benefit parameters defined in this table include the following:

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

Table D

Workers' Compensation State Laws as of 2019 (implemented at various points)

	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	$245	$892	Duration of TTD disability	66 2/3% PIWW	$892	No	None	$220	300 weeks	$892	500 weeks
Alaska	3 days, for income benefits only	28 days	$276	$1,255	Until medically stable	80% of spendable earnings	$1,255	No	Up to max TTD weekly rate.	% of impairment x $177k, paid in lump sum[b]	No unscheduled PPD	$1,255	12 years[c]
Arizona	7 days	14 days	n/a	$1,222	Duration of TTD disability	66 2/3% AMW	$1,222	No	None	$672	None unless rearranged by Industrial Commission	$1,222	None[d]
Arkansas	7 days	14 days	$20	$711	450 weeks	66 2/3% PIWW	$711	No	Limit on weekly amount but not total amount	$533	450 weeks	$695	$225,875; benefit in excess payable from Death and PD Trust Fund
California	3 days	14 days	$195	$1,299	104 weeks[e]	66 2/3 of AWW	$1,299	No	None	$435	n/a	$1,299	$320,000 Spouse plus Children[f]
Colorado	3 days	14 days	$321	$1,023	Duration of TTD disability	66 2/3% of AWW	$1,023	No	None	$310 for scheduled injuries; $988 unscheduled	400 weeks[g]	$1,023	None[d]
Connecticut	3 days	7 days	$267	$1,328	Duration of TTD disability	75% (of after-tax income)	$1,298	No	None	$1,046	520 weeks plus healing period	$1,328	None
Delaware	3 days	7 days	$242	$726	Duration of TTD disability	66 2/3% AWW	$714	No	None	$714	300 weeks	Spouse = $726 With Children = $871	None
District of Columbia	3 days	14 days	$384	$1,535	Duration of TTD disability	66 2/3% PIWW	$1,522	No	First $75,000 in benefits paid by employer / insurer. Amounts over $75,000 paid from PTD Trust Fund	1,522	500 weeks; may petition for additional 167 weeks	$1,535, Max 100% SAWW	None
Florida	7 days	21 days	$20	$971	260 weeks, for other injuries 6 months	66 2/3% PIWW	$971	Age 75[h]	None	$704	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 = $938 With Children =$971	$150,000

Georgia	7 days	21 days	$50	$675	400 weeks unless catastrophic injury	66 2/3% PIWW	$675	No	None	$575	300 weeks	$675	$270,000 for surviving spouse with no dependents; 400 weeks or until age 65 if spouse remarries
Hawaii	3 days, TTD only	None	$231	$925	Duration of TTD disability	66 2/3% PIWW	$925	No	None	$899	312 weeks	Spouse = $694 With Children = $925	312 weeks
Idaho	5 days	14 days	$122	$734	Duration of TTD disability. Benefit continues in recovery period.	67% of AWW	$734	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 = $367 With Children = $489	500 weeks
Illinois	3 days, TTD only	14 days	Varies w/ dependency[j]	$1,549	Duration of TTD disability	66 2/3% AWW	$1,549	No	None	$837	500 weeks	$1,549	$500,000 or 25 years[d]
Indiana	7 days	21 days	$50	$780	500 weeks[L]	66 2/3% AWW	$780	500 weeks[L]	$390,000	None	$390,000	$1,170	$390,000 or 500 weeks[d]
Iowa	3 days; no waiting period for PPD	14 days	None	$1,819	Duration of TTD disability	80% (of spendable earnings)	$1,819	No	None	$1,804	500 weeks	$1,819	None[d]
Kansas	7 days	21 consecutive days	$444	$666	Duration of TTD disability	66 2/3% AWW	$666	Up to Monetary Limit	$155,000	$645	415 weeks; functional impairment only = $75,000, all other cases = $130,000	$666	$300,000
Kentucky	7 days	14 days	$178	$979	Duration of TTD disability; injuries and diseases after 7/14/18 award terminates upon age 70	66 2/3% AWW	$979	Duration of TTD disability; injuries and diseases after 7/14/18 award terminates upon age 70	None	$716	425 weeks if rating is 50% or less; 520 wks if over 50%; limited to qualification for normal old age Social Security	Spouse = $445 With Children = $668	When employee would have reached 70[d]
Louisiana	7 days	13 days	$183	$688	Duration of TTD disability	66 2/3% PIWW	$688	No	None	$665	520 weeks	$688	None[d]
Maine	7 days[m]	14 days	None	$857; $771 from 1/93-1/13	520 weeks[n]	66 2/3% AWW; 80% AWW injuries prior to 1/13	$857	No	None	$857	520 weeks with potential to extend for extreme hardship	$857	500 weeks

Table D continued

Workers' Compensation State Laws as of 2019 (implemented at various points)

	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
Maryland	3 days, TTD only	After 14 days	$50 or employee's AWW	$1,080	Duration of TTD disability	66 2/3% PIWW	$1,080	No	$45,000	$810	None	$1,116	144 months[o]
Massa-chusetts	5 days	21 days	20% SAWW; $286 from	$1,432	156 weeks	60% AWW	$1,432	No	None	$1,338	N/A	SAWW at time of death; $1,432	250 weeks; time limit does not apply to children[d]
Michigan	7 days	14 days	$259	$1,037	Duration of TTD disability	80% (of spendable earnings)	$1,037	800 weeks[p]	None	$934	N/A	$934	500 weeks; time limit does not apply to children
Minnesota	3 days	10 days	$130 or the worker's actual wage, whichever is less	$1,134[r]	90 days after MMI or after end of retraining, up to a total of 130 weeks	66 2/3% PIWW	$1,099[r]	Until age 72 or 5 years after injury, whichever is later	None	$1,099[r]	$540,800	$1099[r]	Benefits end after 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	$505	450 weeks	66 2/3% AWW	$505	450 weeks	$227,444	$494	450 weeks	$505	450 weeks or $222,516
Missouri	3 days	14 days	$40	$982	400 weeks	66 2/3% PIWW	$982	No	None	$514	400 weeks	$982	None[d]
Montana	4 days or 32 hours, whichever is less	21 days or more[t]	None	$819	Disability until MMI, restrictions are identified and job analyses are approved, or return to work	66 2/3% PIWW	$819	Until injured worker qualifies for normal old age Social Security benefit	None	$396	400 weeks	$819	benefits cease to spouse at 500 weeks or upon remarriage but continue to any other beneficiaries
Nebraska	7 days[u]	42 days	$49	$882	Until MMI or return to work	66 2/3% PIWW	$882	No	None	$890	300 weeks	$882	None
Nevada	5 days[u]	5 days[u]	None	$935	Duration of TTD disability	The maximum as of July 1, 2018, is equal to SAWW x 150% x 4.33 x 66 2/3% = $3,904.36	$935	No	Per maximum compensation limit and formula	$902	Benefits paid for 5 years or to age 70, whichever is later	$935	None
New Hampshire	3 days	14 days or more	$316[v]	$1,629	Duration of TTD disability	60% of wage loss	$1,629	No	None	$1,629	350 weeks for a whole person award	$1,629	None

New Jersey	7 days	7 days	$252	$945	400 weeks	70%	$921	600 weeks	None	$945	600 weeks	$945	Lifetime with exceptions
New Mexico	7 days	28 days	$36	$845	80% or more, 700 weeks; less than 80%, 500 weeks	66 2/3% PIWW	$845	No	None	$845	$557,872 if disability rating > 80%; $398,480 if < 80%	$845	700 weeks[d]
New York	7 days, wage replacement benefits only	14 days	$100.00	$934	Duration of TTD disability	66 2/3% PIWW	$934	No	None	$905	525 weeks if loss of earning capacity greater than 95%	$934	None[d]
North Carolina	7 days	21 days	$30	$1,066	Duration of TTD disability	66 2/3% PIWW	$1,06	500 weeks[w]	None	$1,028	$20,000	$1,066	500 weeks
North Dakota	5 days	5 days	$599	$1,248	104 weeks or MMI 260 weeks	66 2/3% PIWW	$1,248	Until injured worker qualifies for normal old age Social Security benefit	None	$359	Based on whole body impairment, up to 100% lump sum payment	$1,248	$300,000[d]
Ohio	7 days	14 days	$327	$980; $621 if getting Social Security retirement	Duration of TTD disability	72% PIWW for the first 12 weeks; 66 2/3% thereafter	$980	No	None	$317	225 weeks	$980	None[d]
Oklahoma	3 days, TTD only	None	None	$629	104 weeks, with additional 52 weeks if consequential injury found	70% AWW	$899	15 years or upon reaching Social Security retirement age, whichever is longer	None	$350	350 weeks	Spouse = $629 With Children = $899	None[d]
Oregon	3 days	14 days	Not less than $50 or 90% AWW; whichever is less	$1,389	Duration of TTD disability	66 2/3% PIWW	$1,389[x]	Lifetime plus benefits to surviving spouse and children	None	$1,339	n/a	Spouse = $696 With Children = $1,393	None
Pennsylvania	7 days	14 days	90% AWW if AWW is $600.55 or less	$1,081	Duration of TDD disability subject to conversion to partial benefits at 104 weeks[y]	66 2/3%	$1,081	Disability up to 500 weeks	None	$1,049	500 weeks	$1,081	None
Rhode Island	3 days	No payment for waiting period days	None	$1,275, up to 80% AWW	Duration of TTD disability	75% (of spendable income)	$1,275	No	None	$1,253	312 weeks, extendable if injury causes material obstacle to employment	$1,275	None, but ceases upon remarriage if no dependent children
South Carolina	7 days	14 days	$75 if wages are >$75; otherwise, comp rate is equal to wages	$867	Up to 500 weeks	66 2/3% PIWW	$867	500 weeks[z]	$433,335	$180	340 weeks	$866	500 weeks

Table D continued

Workers' Compensation State Laws as of 2019 (implemented at various points)

	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 Dakota	7 consecutive days, TTD only	7 days	$415	$829	Duration of TTD disability	66 2/3% PIWW	$829	No	None	$805	312 weeks	Spouse = $829 With Children = $829 + $50 per child	None[d]
Tennessee	7 days	14 days	$144	$960	450 weeks	66 2/3% PIWW	$960	Until age 65	None	$960	450 weeks	$960	None, but ceases upon remarriage if no dependent children
Texas	7 days	14 days	$146	$971	104 weeks	TTD 70% AWW; PTD 75%; PPD 70%	$971	No	None	$657	401 weeks	$971	None[d]
Utah	3 days	14 days	$45	$916	312 weeks	66 2/3% AWW at time of injury not to exceed 85% of the SAWW	$916	No[aa]	None	$614	312 weeks	$779 + $20 / child (5 max)	None; if spouse remarries, receives 52 weeks compensation in lump sum
Vermont	3 days TTD; 8 days PTD; no waiting period for medical benefits	10 days, TTD only	$451	$1,353	Duration of disability; insurer must review after 2 years	66 2/3% PIWW	$1,353	No	None	$1,311	405 weeks for non-spinal; 550 weeks spinal	$1,353	None[ab]
Virginia	7 days	21 days	$276	$1,102	500 weeks	66 2/3% PIWW	$1,102	Np	None	$1,082	500 weeks	$1,102	500 weeks
Washington	The 3 days immediately following the DOI	14 calendar days im-mediately following the DOI	$179[ac]	$1,507	Duration of TTD disability	60% to 75% (depending on marital status and number of children)	$1,507	None	There is a maximum payment for lump sums only, up to $8,500	$1,428	$205,485	$1,507	None[d] (exceptions for duty related law enforcement and fire fighter deaths)
West Virginia	3 days	7 con-secutive days	$193	$865	104 weeks	66 2/3% PIWW	$865	Payable until age 70, for all PTD awards granted on or after 07/1/2003	None	$410	None	$865	none, benefits cease upon remarriage of surviving spouse
Wisconsin	3 days	7 non-consecu-tive days	20	$1,051	Duration of TTD disability	66 2/3% PIWW	$1,051	No	None	$362	1,000 weeks	$1,051	1,000 weeks, not to exceed 4 times the average annual earnings of deceased worker

Wyoming	3 days	9 days	$293	SAMW; $935; 7/18 (updated quarterly)	24 months or in extraordinary circumstances may extend beyond to provide a reasonable recooperation period	66 2/3% PIMW or SAMW	$935; 7/18	Paid for 80 months then benefit becomes extended PTD and extended PTD must be renewed annually	None	$652; 7/19	None	2x the SAMW	100 months

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 Two-year lump sum upon remarriage by surviving spouse.

e There are some limited exceptions where benefits can be paid for 240 weeks.

f Amount may be higher based on Labor Code 4703.5

g Or at 5 years following determination of PTD for an accident date on or after an employee reaches age 70.

h Benefits can extend beyond age 75 if the individual does not qualify for Social Security benefits due to the injury resulting in many missed quarters of work, thus preventing eligibility for Social Security benefits.

i Spouse also entitled to tuition benefit at vocational technical center or community college.

j $220 if no dependents, with a maximum of $330 if 4 or more dependants. In all cases claimant receives rate based on actual wages if less than statutory min.

k If amputation of a member or enucleation of an eye takes place, weekly PPD maximum is $1,480.12.

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

m Does not apply to firefighters.

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

o 144 months or on the date of what would have been the 70th birthday of the deceased employee, provided that a minimum of 5 years of death benefits has been paid.

p 800 weeks conclusive payment with factual determination thereafter.

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

PIWW Pre-injury Weekly wage

PIMW Pre-injury Monthly wage

AWW Average weekly wage

NWW Net weekly wage

SAWW State-wide average weekly wage

SAMW State-wide average monthly wage

AMW Average Monthly wage

Sources: U.S. Chamber of Commerce (2020); Louisisana Department of Labor; Massachusetts Labor and Workforce Department; Minnesota Labor and Industry; New York Workers' Compensation Board; North Dakota Workforce Safety & Insurance; Ohio Bureau of Workers' Compensation; South Dakota Department of Labor and Regulation; Washington Department of Labor and Industries; Wyoming Department of Workforce Services

Appendix E: Comparing the NASI and Oregon Workers' Compensation Reports

Information on state workers' compensation costs can be compiled from a variety of sources, using various methods that are tailored to specific uses. There is no single method that is appropriate to all uses. Appendix E compares the sources and methods used to prepare two of the most widely known publications that relate to employer cost across states, produced by NASI and the State of Oregon. It is important to note that neither study is designed to evaluate the effectiveness or efficiency of state systems, an analysis that would require a very different approach.

Comparing the NASI and Oregon Workers' Compensation Reports

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

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

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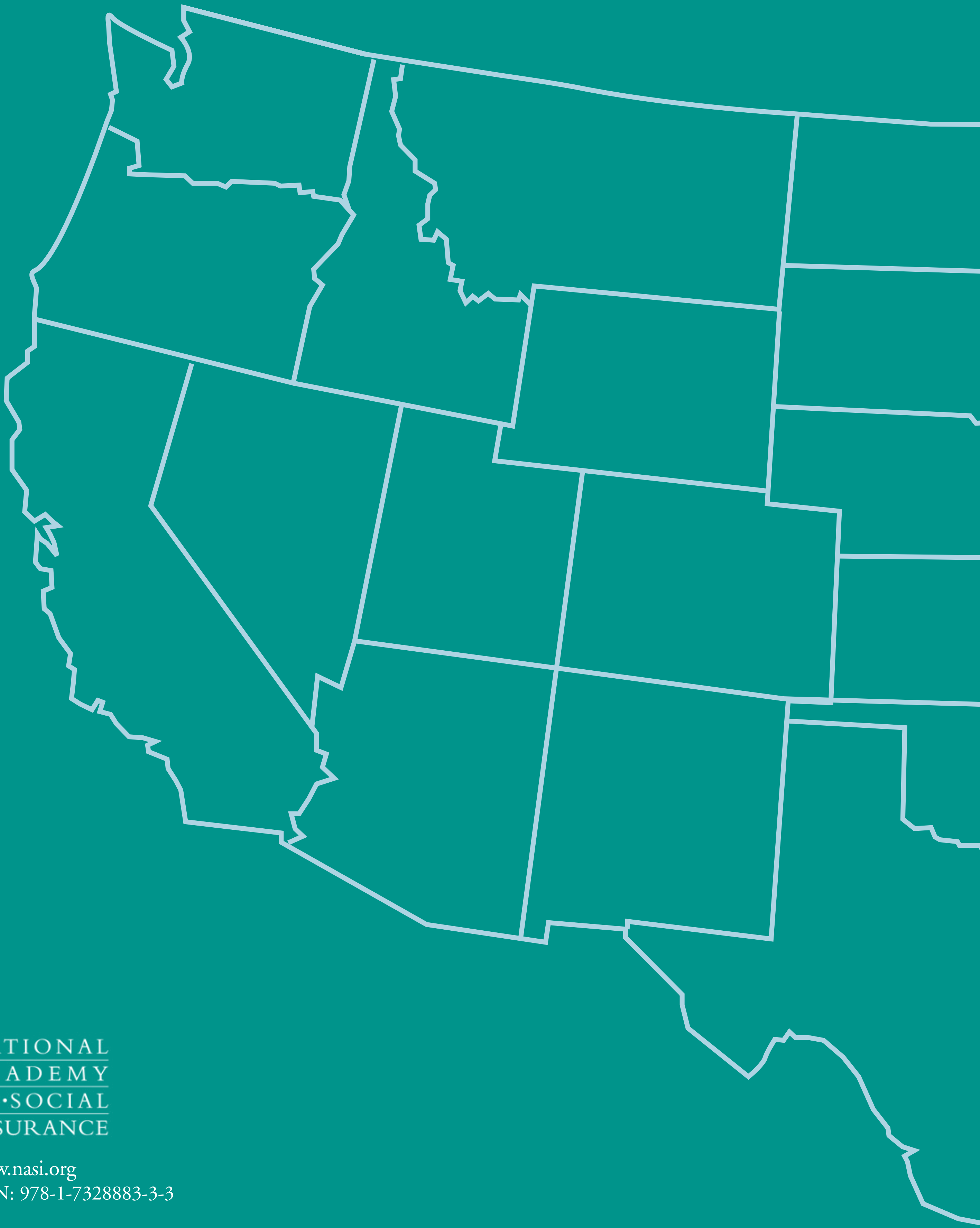

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