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How Will the Patient Protection and Affordable Care Act Affect Liability Insurance Costs?

David I. Auerbach, Paul Heaton, Ian Brantley



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Preface

The Patient Protection and Affordable Care Act (ACA) (Pub. L. 111-148, 2010) promises to bring substantial changes to the U.S. health care system, including potentially expanding coverage to millions of uninsured Americans. Although considerable research is already under way examining how the ACA will affect medical providers, consumers, and private health insurers, much less is known about how the ACA will affect liability insurers, despite the fact that liability insurers reimburse tens of billions of dollars for medical care each year in the United States. This report identifies several channels through which the ACA might affect liability insurance payments—also referred to here as *insurer costs*—summarizes the conceptual basis for and existing evidence for these channels and, where possible, calculates rough estimates of the sizes and directions of expected impacts. Although lingering uncertainties surrounding how the ACA implementation will proceed make offering precise quantitative predictions of the law’s impact unrealistic at this point, the report does aim to identify lines and states where the ACA’s effects may be more profoundly felt, areas in which impacts are expected to be modest, and highlight domains in which substantial uncertainty still exists. It represents one of the first systematic empirical explorations of the ACA’s potential effects on liability insurers and, as such, should be informative to insurance industry professionals, policymakers, and regulators.

This research was supported by Swiss Re and also in part by pooled contributions to the RAND Institute for Civil Justice. The Swiss Re Group is a leading wholesale provider of reinsurance, insurance, and other insurance-based forms of risk transfer. Dealing directly and working through brokers, Swiss Re’s global client base consists of insurance companies, medium-sized to large corporations, and public-sector clients. Swiss Re’s public research program supports research on cutting-edge topics at the intersection of risk management, insurance, and public policy.

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Summary

Implementation of the Patient Protection and Affordable Care Act (ACA) will greatly expand private coverage and Medicaid while making major changes to payment rates and the health care delivery system in a number of areas. Although considerable analysis has been devoted to understanding the impacts of reform on health care providers, insurers, and patients, less attention has been given to other payers that fund health care services, such as property and casualty insurers and workers' compensation (WC) programs.

This report identifies a number of potential mechanisms through which the ACA might affect claim costs for liability insurers.¹ For each mechanism, we discuss the conceptual basis for the mechanism, review existing scholarly evidence regarding the importance of the mechanism, and, where possible, attempt to use reasonable assumptions based on existing data to develop rough estimates of the size and direction of expected impacts as of 2016, when the ACA is expected to be fully in force. We discuss how each mechanism might operate across different liability lines and provide examples of how variation across states in existing legal rules, population demographics, and other relevant factors might mediate the operation of each mechanism. There is considerable uncertainty in our estimates, which are intended as broad indicators of sign and magnitude but are reported here quantitatively for convenience and to facilitate comparison between states and impacts. There are also other effects that could be large (such as systemic effects of ACA-induced changes to health care delivery) but that are extremely difficult to pinpoint. Some of these are discussed in Chapter Five of this report.

The main mechanisms we identify and characterize in the report are as follows:

- *individual substitution effect*, whereby uninsured individuals may use liability coverage as a vehicle for (1) untreated conditions unrelated to the accident in question or (2) related conditions made worse by lack of health insurance
- *collateral source effect*, whereby states that limit the collateral source rule allow for health insurance payments to be deducted from final liability awards
- *provider treatment effect*, whereby providers provide more care to individuals who have health insurance than those without because they have greater certainty of payment
- *direct fee effect*, whereby the ACA directly changes some rates paid to providers via Medicare, and some liability insurers use prevailing Medicare rates as a basis for determining how much to reimburse providers

¹ We focus on expected claim costs and not premiums paid or the net profits or losses to insurers or governments.

- *medical malpractice volume effect*, whereby individuals with health insurance have more-regular contact with the formal health care system and therefore may be more likely to make medical professional liability claims.

Our estimates of the range (across states) of these effects on each market we consider in the report are summarized in Table S.1.

These effects are relatively small in percentage terms—generally because they are relevant for only a fraction of the U.S. population (those gaining insurance coverage) or because the underlying changes are relatively small (e.g., the impact of the ACA on provider fees). However, under reasonable assumptions, some effects can generate potential cost changes as high as 5 percent or more in certain states and for certain insurance lines.

Most are in the negative (cost-reducing) direction. In the case of the individual substitution effect, liability insurers are, today, paying for some of the additional costs associated with treating the uninsured. When those individuals obtain health insurance, some of those costs will then be transferred to their insurance. For the collateral source effect, health insurance expansions mean that there is a new source of payment for medical care resulting from accidental injuries that can reduce liability awards in some cases. Under the direct fee effect, because the ACA reduces provider fees, liability insurers will, in some cases, be able to adopt those lower fees in their own payment schedules. The other two effects act to increase costs, with the larger impact coming through the increased frequency of malpractice suits associated with insurance coverage.

Although we do not provide direct quantitative estimates for general liability, homeowner's, or certain other lines that have a bodily injury component, the mechanisms described here are likely to operate similarly for these lines as for third-party auto, so the ACA may have a small cost-reducing effect for these lines in the short run.

More-detailed tables for each effect and for each individual state can be found in the main body of the report. Despite the limited size of many of these effects, they could have important implications both for insurers and for the general public. For example, the public

Table S.1
Range of Estimated Changes Across States in Liability Claim Costs, by Market

ACA Impact Mechanism	Auto (first party)	Auto (third party)	WC	Medical Malpractice
Individual substitution effect (%)	-0.1 to -1.6	0 to -0.8	-0.1 to -1.2	n/a
Collateral source effect (%)	n/a	0 to -3.8	n/a	0 to -3.0
Provider treatment effect (%)	n/a	0 to 2.0	n/a	n/a
Direct fee effect (%)	-0.7 to -0.8	-0.7	-0.8 to -1.7	n/a
Medical malpractice volume effect (%)	n/a	n/a	n/a	0.4 to 7.8
Combined impact (%)	-1.4	-1.7	-1.4	2.4
Combined impact (millions of 2016 dollars)	-200	-540	-930	120

NOTE: Percentages are rounded to the nearest 0.1 percent, and dollar figures are rounded to the nearest \$10 million. These data are estimates with a wide degree of uncertainty that is impossible to quantify and do not necessarily imply the level of precision to which they are reported. n/a = not applicable.

may be affected if some of these underlying cost changes are incorporated into premiums paid or if they prompt shifts in the types of coverage offered by insurers.

We also discuss a number of longer-run changes that could be fostered by the ACA that could exert more-significant downstream effects on insurance claim costs. These include shifts in tort law, changes in the supply of physicians, new pricing schemes for medical services prompted by the rise of accountable care organizations (ACOs), and changes in population health. Because such developments depend on a number of uncertain factors and may take several years to manifest themselves, we do not incorporate them into our quantitative estimates. Nevertheless, these trends merit continued attention and monitoring by stakeholders interested in the future of the insurance industry.

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Abbreviations

ACA	Patient Protection and Affordable Care Act
ACO	accountable care organization
ACS	American Community Survey
AHRQ	Agency for Healthcare Research and Quality
BI	bodily injury
COMPARE	Comprehensive Assessment of Reform Efforts
CMS	Centers for Medicare and Medicaid Services
CPI	Consumer Price Index
CSR	collateral source rule
D&O	director and officer
E&O	errors and omissions
ESI	electronically stored information
HMO	health maintenance organization
ICJ	RAND Institute for Civil Justice
IPAB	Independent Payment Advisory Board
IRC	Insurance Research Council
Kaiser/HRET	Kaiser Family Foundation/Health Research and Educational Trust
MEPS	Medical Expenditure Panel Survey
MIT	Massachusetts Institute of Technology
MPL	medical professional liability
NPDB	National Practitioner Data Bank
PIP	personal injury protection
SIPP	Survey of Income and Program Participation

SUSB Statistics of U.S. Businesses
WC workers' compensation

Introduction

Implementation of the Patient Protection and Affordable Care Act (ACA) will greatly expand private coverage and Medicaid while making major changes to payment rates and the health care delivery system in a number of areas. Although considerable analysis has been devoted to understanding the impacts of reform on health care providers, insurers, and patients, less attention has been given to other payers that fund health care services, such as property and casualty insurers and workers' compensation (WC) programs. In 2008, for example, WC programs paid out \$29 billion in medical claims, while property and casualty insurers made an additional \$30 billion in injury payments. Although these markets and payments are not directly the subject of the ACA, they account for a large amount of health spending, and there could be significant spillover and indirect effects of ACA provisions.

This report identifies a number of potential mechanisms through which the ACA might affect claim costs for liability insurers.¹ Because claim costs from an insurers' perspective represent claim payments from the perspective of those who are injured, this analysis also helps to identify the degree to which the ACA is likely to affect the amount of compensation flowing to injured parties through the tort and related systems of compensation. In addition, if insurance markets are competitive, we ultimately expect shifts in claim costs, either positive or negative, to affect premiums paid by consumers and businesses.

For each mechanism, we discuss the conceptual basis for the mechanism, review existing scholarly evidence regarding the importance of the mechanism, and, where possible, attempt to use reasonable assumptions based on existing data to develop rough estimates of the size and direction of expected impacts. We discuss how each mechanism might operate across different liability lines and provide examples of how variation across states in existing legal rules, population demographics, and other relevant factors might mediate the operation of each mechanism. Given that this report represents one of the first systematic empirical explorations of the ACA's potential effects on liability insurers, it should be informative to insurance industry professionals, policymakers, and regulators.

Lingering uncertainties surrounding how the ACA implementation will proceed make offering precise quantitative predictions of the law's impact unrealistic at this point. We report some projected impacts quantitatively for convenience and to allow for comparisons between states and lines, but we emphasize that there is considerable uncertainty in our estimates, which are intended as broad indicators of sign and magnitude rather than as specific predic-

¹ Throughout this report, we include WC under the umbrella term *liability insurers*, though the WC system is no longer a liability mechanism (i.e., paid via legal action) but rather a no-fault social-insurance compensation system. Similarly, we include first-party auto policies in our discussion despite the fact that, strictly speaking, these are not "liability" coverages because they make payments regardless of fault.

tions. There are also other effects that could be larger than those reported (such as systemic effects of ACA-induced changes to health care delivery) but that are extremely difficult to pinpoint. Some of these are discussed in Chapter Five of this report. We also note that our estimates are not designed to be direct forecasts of future costs because we are attempting only to identify the marginal contribution of the ACA to costs, and overall cost trends will depend on a myriad of other factors that are not considered in the report.

The report does aim to identify lines and states where the effects of the ACA may be more profoundly felt, identify areas in which impacts are expected to be modest, and highlight domains in which substantial uncertainty still exists. It also demonstrates how changes in assumptions regarding the behavioral effects of the ACA might affect quantitative projections regarding the law's effects. Here our purpose is not to staunchly defend a particular set of assumptions about the effects discussed in the report but rather to provide a more solid framework for thinking about the various ways in which the ACA might affect liability markets and to marshal existing empirical evidence so as to make an informed prediction regarding some likely effects of the law. Readers with differing assumptions about some of the key effects we discuss in the report (for example, the extent to which consumers use liability insurance to pay for primary health care) can use our framework to assess how their own alternative assumptions would affect conclusions about the impact (or lack thereof) of the ACA. Moreover, as implementation proceeds and more data and research become available regarding behavioral responses to the provisions of the new law, our framework can be used to improve estimates of the law's impacts.

We note that cost increases or decreases as described in this report do not necessarily reflect efficiency gains or losses for society or, in other words, changes in the absolute amount of societal resources spent on treating bodily injuries (BIs). Rather, as demonstrated in our more-detailed discussions of specific mechanisms of impact, in many cases, the ACA shifts whether costs of medical treatment are borne by private health insurers, patients, providers, government insurance programs, or liability insurers.

Organization of This Report

In Chapter Two of the report, we first provide basic background information on the main provisions of the ACA, then offer a brief primer on each of the liability lines that we consider. Chapter Three of the report discusses various mechanisms through which the ACA might affect liability costs. For each mechanism, we describe the mechanism conceptually, discuss extant research regarding that mechanism, and discuss the assumptions required to translate that effect into a quantitative estimate of a change in liability costs. Where appropriate, we draw from existing data to illustrate the types of effects that might be expected across different states or different lines of insurance. We also identify areas in which current data gaps make it difficult to predict the effects of the ACA. In Chapter Four, we offer an overall discussion of predicted impacts across particular insurance lines and states, combining information across the various mechanisms discussed in Chapter Three.

In the longer run, the ACA may generate more far-reaching changes to the health care system that could exert more-profound effects on liability insurers. Although, at this juncture, discussion of such changes remains speculative, in Chapter Five, we outline a few areas to monitor for potential future impact.

We finish the report with conclusions in Chapter Six, then two appendixes: Appendix A explains how the RAND Comprehensive Assessment of Reform Efforts (COMPARE) micro-simulation model works, and Appendix B provides additional detail regarding our investigation into the relationship between insurance coverage and paid medical malpractice claims.

Background on the Patient Protection and Affordable Care Act and Liability Insurance Lines

In this chapter, we review the main provisions of the ACA that might be expected to interact with liability insurance and offer a brief primer on the various lines of insurance that we consider in this report. Readers already familiar with the basics of the ACA and liability insurance may wish to skip to Chapter Three of the report.

The Patient Protection and Affordable Care Act

The ACA, as modified by the Health Care and Education Reconciliation Act (Pub. L. 111-152), was signed into law on March 23, 2010. The act contained a large number of provisions affecting the U.S. health care system, some beginning immediately and some, including large expansions of coverage, beginning in 2014. The provisions included numerous changes to government programs serving the elderly (Medicare) and the poor (Medicaid) and to the private health care market.

The major pieces of the act that are particularly relevant to liability markets can be grouped into coverage and noncoverage provisions. Many of these key provisions are expected to directly affect liability claim costs, while some would have more-indirect effects. These interactions form the basis for the analysis below.

Coverage-related provisions include the following:

- Private insurers must cover dependents up to the age of 26.
- Medicaid expands for most residents with income up to 133 percent of the federal poverty level. States may opt out of this provision.
- The individual insurance market (exchanges) is enhanced with income-based subsidies up to 400 percent of the federal poverty level, limited age rating, no premium adjustments for health status, guaranteed issue and renewal, and enhanced comparability and standardized products.
- Penalties are in place for individuals for not taking up coverage and for large firms for not offering it.

Other key provisions include

- reductions in payments to private Medicare health maintenance organizations (HMOs) (Medicare Advantage)
- reductions in Medicare rates paid to hospitals via smaller annual increases

- incentives to integrate and coordinate care (e.g., accountable care organizations [ACOs] and penalties for rehospitalization)
- elimination of cost-sharing for preventive and wellness benefits
- creation of the Independent Payment Advisory Board to recommend further cuts or reductions in payments if Medicare cost growth exceeds a target.

Although, as designed, the law included provisions designed to ensure that all states implemented the Medicaid expansion, the June 2012 Supreme Court ruling in *National Federation of Independent Business v. Sebelius* (132 S. Ct. 2763) gave states the ability to opt out of the Medicaid expansion. As of this writing, a number of states have chosen not to implement this part of the law.

Background on Liability Lines Considered in This Report

Table 2.1 shows the estimated size of the main markets we considered for this report, which are described in more detail below. Because of considerable variability across different types of general liability policies in the fraction of losses that represent medical payments, we do not provide an aggregate estimate for this line.

Auto

Auto insurance reimburses auto crash victims for damage to their vehicle and injuries and related economic losses associated with a crash. As in Table 2.1, we separate auto liability payments for the purpose of this discussion into first-party injury payments and third-party injury payments.¹ First-party injury payments occur primarily through MedPay and personal injury protection (PIP) coverages. These coverages provide payments for medical care—and certain other expenses, in the case of PIP—associated with an auto crash regardless of the fault of the insured. For these coverages, the auto insurer essentially acts similarly to a private health insurer as the direct payer for medical care (often up to a capped amount). In paying

Table 2.1
Liability Markets and Estimated Total Payouts in 2016 (billions of dollars)

Market	Auto (first party) ^a	Auto (third party) ^a	WC ^b	MPL ^c	Other General Liability
Estimated payouts in 2016 (billions of dollars)	14.5	32.9	65.0	4.8	n/a

^a Source: Authors' calculation using National Association of Insurance Commissioners, 2012.

^b Source: Authors' calculation using Sengupta et al., 2012.

^c Source: Authors' calculations based on data from the National Practitioner Data Bank (NPDB), extracted in 2013.

NOTE: MPL = medical professional liability. Data are projected to 2016 using the medical portions of the Consumer Price Index (CPI) for the medical portion of each liability market and the general Consumer Price Index for nonmedical payments. Medical CPI data were available from the Bureau of Labor Statistics for 2004 to 2010 only and were projected forward to 2016 using that prior trend. The same approach was used for the general CPI; although, in that case, data were available for 2004 to 2012.

¹ We do not expect the collision or property damage components of auto insurance to be significantly affected by the ACA.

for care, auto insurers usually pay providers based on undiscounted (or marginally discounted) list prices; they typically are not able to negotiate the large discounts from list price available to high-volume private health insurers, nor do they, in most cases, have access to administered prices paid by government payers, such as Medicare or Medicaid. Some states mandate that drivers carry PIP as part of the basic required auto liability policy, and PIP or MedPay is optional for drivers in other states. PIP and MedPay are typically primary coverages, so, in the event that an individual has one of these forms of coverage and private health insurance, the auto coverages pay bills first.

The primary source of third-party injury payments is BI coverage, which makes payments to individuals injured by the actions of the insured and is generally required in order to legally operate a motor vehicle. Because the BI claim process involves assigning fault in an accident, it is typical for medical care to be received and billed to the injured individual and his or her health insurer prior to the resolution of the BI claim process. While waiting for such a determination, providers may be uncertain of ultimate payment if the individual does not have health insurance. BI claims are ultimately settled or, more rarely, litigated with final payment amounts calculated to reflect the total medical expenses incurred following a crash; other forms of economic loss, such as lost wages; and, in some cases, payments for pain and suffering or other general damages.² Payments for general damages are thought to, in some cases, represent multiples of economic damages, so changes in the medical portion of a BI claim can theoretically spill over into other cost components (see, for example, Loughran, 2005). Thus, in contrast to first-party payments, BI payments can be thought of, in a general sense, as traveling through the traditional health insurance system prior to reaching the liability insurer.

In 2007, auto insurers collectively paid \$35 billion for medical costs associated with accidents, or 2 percent of all U.S. health care costs in that year. About \$10 billion represented first-party payments, and \$25 billion came from third-party BI payment sources.

Workers' Compensation

WC provides medical and wage insurance for employees who become sick or injured on the job or in the workplace. Immediately following an injury, a worker can file a claim seeking compensation for medical bills and lost wages. Benefits are awarded to the worker in two ways: The worker receives reimbursements for medical expenditures relevant to the injury or illness, and the worker collects full or partial reimbursements for wage losses experienced because of the injury or illness. Every state except for Texas requires employers to provide WC insurance (Sengupta and Reno, 2007), and nearly all private-sector employees are insured through WC. Employers bear the cost of the insurance, although there is some state variation in exemptions to mandatory coverage, with employers with fewer than three employees and certain categories of workers sometimes exempted from the system.

Some features of the WC insurance market vary from state to state, including the degree of experience rating, whether there is a state-run insurance pool, and the extent of premium regulation. Important for understanding potential effects of the ACA on WC claim costs is the fact that there is also considerable state variation in how WC insurers pay providers for care. Thirty-two states base payment rates on the Medicare fee schedule—though with differ-

² Underinsured/uninsured motorist insurance is actually a first-party coverage, but, for the purposes of the discussion that follows, it is likely to be affected by the ACA similarly to how BI will be affected, so it is most useful to think of this coverage as operating similarly to the auto third-party coverage.

ent degrees of markup—and the remainder appear to base payments on commercial fee rates (Coomer and Liu, 2010). In 2010, WC accounted for nearly 125 million workers and \$5.8 trillion in covered wages. During that same year, benefits totaled \$57.6 billion, approximately evenly split between medical (\$28.1 billion) and cash (\$29.5 billion) benefits (National Academy of Social Insurance, 2012).

Medical Professional Liability or Medical Malpractice

Medical malpractice law is a vehicle to compensate patients for injuries related to medical negligence in the delivery of care. Patients can seek monetary compensation within the statute of limitation for instances in which an injury is a result of substandard care according to state-level rules governing tort recovery. Medical malpractice broadly serves to appropriately protect those patients for whom genuine damage has occurred following an action or inaction by the physician during the process of care. To safeguard themselves, physicians and other providers cover their practice of care through medical malpractice insurance, also referred to as *MPL insurance*.

In 2012, nearly 12,000 medical malpractice claims paid on behalf of individual physicians and other providers accounted for \$4.3 billion in costs. A substantial additional number of claims were paid on behalf of institutions, such as hospitals, some of which self-insure, that are not included in the \$4.3 billion number. However, recent trends illustrate a decline in the number of paid claims in the past decade, from 19,794 in 2001 to 12,152 in 2012 across all states (National Practitioner Data Bank, 2013).³

Because MPL is liability that arises directly from interactions between physicians and patients, availability of health insurance can have direct impacts on MPL in a manner that differs from that with other forms of liability insurance, which interact with the health care system primarily through medical payments for injuries. However, medical care does make up a component of the total compensation made in MPL settlements, so many of the same issues that arise regarding medical payments for other coverages also arise in the MPL context. As with third-party auto coverages, medical care that is ultimately compensated in the MPL claim process is generally handled at least initially through the traditional health insurance system before becoming a component of an MPL claim.

At the state level, variations in tort law affect costs and the number of claims. Some states cap the total amount of medical malpractice awards or cap some components of an award, such as non-economic damages (pain and suffering). States also vary in their rules regarding the extent to which payments from collateral sources for injury-related costs can be factored into jury decisions regarding the amount of an award. For example, payments made by health insurers for medical care provided during an episode that is later the subject of a malpractice suit (or an auto settlement in the case of auto injury, for example) can be essentially subtracted from the final award in some states—a key issue to which we return below.

Other Forms of Liability Coverage

Disability

Many U.S. employers offer their workers disability insurance to cover both short- and long-term disabilities not resulting from workplace injuries that could result in lost wages and

³ Note that we do not assume a continued decline in our estimation of impacts.

long absences from work. One recent article estimated that roughly 50 million U.S. workers were covered by disability insurance and paid premiums of roughly \$350 per year, on average (Andrews, 2011). Because disability is not primarily a medical coverage but rather essentially serves a wage replacement function in the United States, there is potentially less scope for impact from the ACA on this coverage than on other insurance lines. Indeed, the interaction between availability of health insurance and use of disability coverage has received relatively little attention in the scholarly literature, although there may be some analogies with the lost-wage portion of WC. Although disability is not a primary focus of this report, at various points, we do note how some of the mechanisms described in the report might affect disability coverages.

General Liability

General liability is a commercial coverage that protects businesses against property damage and BI claims made against a company or organization. Commercial general liability policies are often bundled with other types of coverage in multiline policies. Because these policies can be more customized than the other types of liability discussed above, the expected portion of overall expenditures that are medical in nature is likely to vary across policies and carriers. Because the aggregate impact of the ACA depends in part on this portion, which is likely to vary a fair bit across lines and insurers, we do not calculate aggregate impacts for these lines or attempt quantitative estimates of the ACA for this coverage the way we do for other lines of insurance. However, for the purposes of thinking about how the ACA will affect insurer costs for general liability, the forces that we identify below for third-party auto coverages are likely to affect general liability coverages in similar ways. Thus, the results for third-party auto can be viewed as illustrative of the types of impacts we might expect to see for general and other liability coverages. Moreover, insurers or stakeholders can apply the framework we have outlined for third-party auto to consider about how costs for general liability might be affected by the ACA in a particular state or for a particular policy configuration.

Other Bodily Injury Lines

A range of other personal and commercial coverages include a BI component that provides compensation for third-party injuries that occur due to personal activities or business operations. For example, homeowner's policies typically cover not only property damage to a structure but also claims or suits involving accidental injury on a residential property. These coverages would likely be affected similarly to how third-party auto is affected, although again the specifics would depend on the details of the coverage.

Other Liability Lines

There are a number of other potential ways in which the ACA might affect liability through mechanisms other than changes in the direct provision of medical care. For example, the ACA could affect patterns of utilization of various drugs and medical devices in a manner that carries implications for product liability. However, because of the more specialized and product-specific nature of these risks, we did not consider product liability in this analysis.

The complexity of the law could also have implications for some liability lines. For example, the ACA institutes new compliance requirements that may affect directors and officers and therefore have implications for director and officer (D&O) insurance and could affect nonmedical professionals, such as insurance agents, and therefore implicate errors and omissions (E&O) insurance. The ACA may also promote production of new forms of electronically

stored information (ESI), such as electronic health records, and therefore hold implications for cyberliability insurance. However, in this respect, the ACA is not particularly unique; to some extent, almost any relatively large and complex new set of regulations could have such effects, at least in theory. We do not consider impacts on these lines in detail in this report.

Mechanisms of Impact from the Patient Protection and Affordable Care Act

In this chapter, we discuss the potential effects of the ACA, drawing from empirical data and analysis where possible to attempt to gauge the magnitude of effects across different lines of insurance and across different states. We identify a series of mechanisms by which the ACA could plausibly affect liability claims and payouts. For each mechanism, or effect, we describe what the effect is and provide examples of how the effect might be manifest in particular insurance markets. We then discuss the data and parameters that would be required to project the size of the effect and, where possible, compile the needed information in order to present a rough quantitative estimate of the size of the effect across different lines and states. To obtain the necessary inputs into the quantitative analysis, we draw on estimates from the scholarly literature, expert judgments, existing sources of data, and original modeling and analysis.

There are a number of uncertainties inherent in this exercise. Many of the effects are estimated based on applications of literature estimates that are only somewhat analogous to the situation at hand, or based on discussions with experts or our own data analyses. Although based in common sense and logic, there is considerable uncertainty and room for error—uncertainty that is impossible to quantify. We are more confident in the direction (sign) of the effects we identify, but it is possible that there are other, larger impacts we have not identified or even that the directions of the effects we presume are incorrect. Thus, we emphasize that our results should be considered not as precise estimates but as suggestive of the relative magnitudes of impacts of the ACA that might result—and could be informed by further analysis and study.

In our estimates, we consider expected impacts as of 2016, a future year under which the main impacts of the ACA as discussed are expected to be, more or less, in a steady state. Although there may be dynamic effects and adjustments resulting from certain features of the ACA—for example, changes in state-level case law due to litigation enabled by the ACA, entry or exit of liability insurers into particular markets, or general equilibrium effects resulting from complex behavioral changes by consumers or providers—our framework is largely a static one, holding the basic structure of liability markets in the United States constant. We also emphasize that the numbers in the report do not represent forecasts of future costs because future costs will depend on the confluence of a range of supply and demand factors, and here we are interested in trying to characterize the expected marginal impact of the ACA on costs, holding other factors relatively constant. Finally, many of the effects we discuss would not necessarily be reflected in liability premiums in perfect conjunction with the impact on costs. Premiums are adjusted based on myriad factors, such as business cycles, changes in the makeup of an insurer's customers, and competitive considerations. In the long run, however, we do expect premiums to roughly track costs.

We seek to capture the largest direct effects of the ACA, and we include discussions of potential secondary or other effects to the extent that they are relevant—but, in some cases, we do not incorporate particular mechanisms in our quantitative work if effects do not rise above a de minimis standard, are unsupported by existing empirical evidence, or are too ambiguous of direction (sign).¹ We also focus specifically on impacts that seem likely to affect insurer costs through changes in claim frequency or severity; we set aside other impacts that might affect the business operations of insurers but that are not directly tied to claims.²

In our discussion below, we do not purport to capture all potential mechanisms through which the ACA might affect liability markets;³ rather, we focus on mechanisms that we believe will be the main channels of impact of the ACA for liability insurers in the next few years.

General Framework

First, it is helpful to illustrate the main pathways in which the liability system interacts with the medical and health insurance regimes. Two alternative pathways are shown in Figure 3.1, which highlights a distinction between first-party and third-party payment. *First-party coverage* refers to cases in which the policyholder is also the beneficiary. When first-party coverage is available, it generally is the primary payer for medical care and thus steps in before private health insurance. In this case, whether the individual has health insurance does not directly affect liability insurer costs but can be relevant for secondary-type effects (for example, uninsured individuals may incur higher costs in a given accident that must then be paid for by the liability insurer directly).

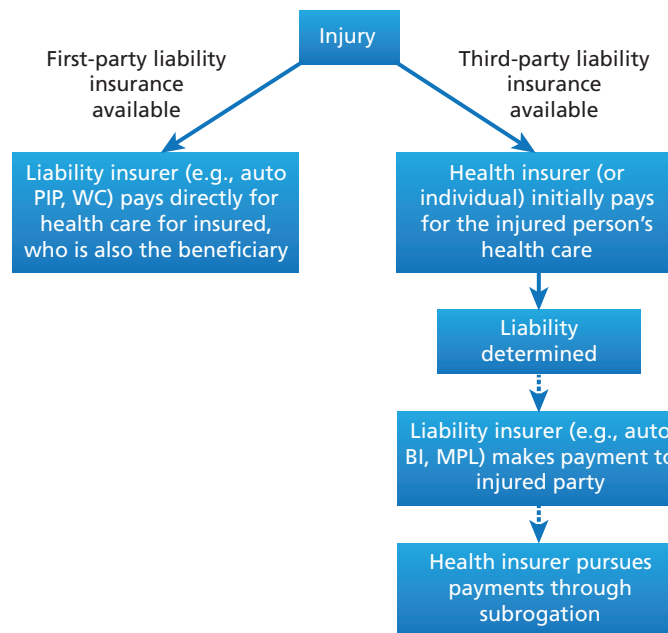
For third-party coverages, the policyholder's coverage pays for a different beneficiary. For example, for auto BI, the insurer pays the person injured by the insured, rather than the policyholder him- or herself. When third-party coverage is involved, whether an individual has health insurance can have a first-order effect, depending on how health insurance payments are handled in the legal regime (e.g., the collateral source effect, described below)—because health insurers typically are the first payers of health care providers. In the case in which health insurers initially pay for care that is ultimately also compensated by liability insurers, health insurers can, in some cases, seek recovery of their outlays out of the liability award through subrogation.

¹ For practical purposes, we define this as accompanying or other effects that could occur in addition to the effect in question (in either direction) but that are expected to amount to less than 10 percent of the size of the main effect.

² Examples of such factors include potential changes in regulatory reporting and compliance costs, changes in available technologies for medical billing management, or costs associated with insurers' need to provide insurance to their own employees.

³ For example, the ACA coverage expansions might plausibly increase federal and state budget deficits, which could potentially affect funding for courts, insurance regulators, corporate tax rates, and similar services. However, we believe that such effects, if any, would be likely to be small relative to the more-direct effects we discuss in this report, so we do not address them here.

Figure 3.1
Main Pathways of Interaction Between the Health Care and Liability Systems



RAND RR493-3.1

Individual Substitution Effect

Concept

Patients have some ability to use liability coverage to obtain treatment for (unrelated) health problems that health insurance would typically treat. Therefore, upon gaining health insurance under the ACA, the newly insured patient could have some of those health problems treated under normal health insurance mechanisms, and liability claims would fall. An uninsured individual may also incur higher treatment costs for health problems related to an accident if lack of access to care leaves the injured in a more fragile health state.

Markets Affected

This effect would be expected to occur in first- and third-party auto, general liability, and WC, although through somewhat different channels in each.⁴ In WC, reductions in the use of insurance to cover existing non-work-related illnesses would result in changes in both medical costs and potentially a reduction in lost-wage claims.

⁴ We concluded that this effect does not apply to medical malpractice because, at the time the medical care is received, an uninsured individual is typically not aware that there may be a future lawsuit in which he or she might be able to obtain an award to cover additional treatment.

Illustrations of How the Effect Could Operate

Bodily Injury

An individual without health insurance suffering from lower back pain is in an auto accident. He had not received formal medical treatment for the problem prior to the accident. He then undergoes testing and treatment for the problem and submits the medical costs to the auto insurer, claiming that the problem resulted from the accident. Were he insured, he might have seen medical providers previously and addressed the problem through surgery or therapy, eliminating the need to use liability insurance to cover care. Similarly, in a situation in which an auto crash did directly cause a back injury, the injury might be more severe if a victim had a preexisting lower back condition that had not been properly addressed because of a lack of health insurance.

Workers' Compensation

A worker without health insurance sustains an injury over the weekend and does not come to work Monday, seeking medical treatment instead and claiming that the injury was the result of a workplace injury (the Monday effect). Alternatively, in the case of an injury that is truly work-related, the worker remains away from work for an extended period, using the WC benefit in lieu of having health insurance.

Information Needed to Project the Effect's Sign and Magnitude

This effect would unambiguously reduce liability costs. The size of the reduction in liability costs should be a function of three main factors:

- the increase in insurance coverage among the relevant population
- the portion of liability claims used for unrelated illnesses or injuries for people who had health insurance at the time of the illness or injury versus those without health insurance
- the extent to which a given condition is made less severe (therefore requiring less treatment) once someone gains health insurance.

We discuss each of these factors below.

The Increase in Insurance Coverage Among the Relevant Population

To estimate this effect, we relied on RAND's COMPARE model (RAND Corporation, 2013b). The COMPARE microsimulation model provides a way of projecting how households and firms would respond to health care policy changes based on economic theory and existing evidence from policy variation (e.g., changes in Medicaid eligibility). The model was used to project the eventual impact of the law in the lead-up to the passage of the ACA and produces results similar to Congressional Budget Office estimates of changes in health insurance coverage and premiums. The model has also been used extensively since the passage of the ACA to, for example, model the expected coverage and cost impacts on individual states, on firms' decisions to self-insure, and on the costs and benefits of states' choosing to opt in or out of the Medicaid expansion. A more complete description of the underlying structure and assumptions of the model can be found in Appendix A.

To estimate the increase in coverage that is relevant to liability markets, we had to adapt the COMPARE estimates in two ways. First, we required a separate coverage estimate for each state. Although the underlying model is national, we used state-level data from the Census Bureau's American Community Survey (ACS) to separately calibrate the model for each of the

50 states and the District of Columbia. Second, to better analyze impacts on WC and disability insurance, we recalculated the expected coverage increase focusing on workers only. These markets are relevant primarily to workers, and workers may well experience different changes in coverage under the ACA than the general population. In particular, workers are expected to be less affected by the Medicaid expansions because their incomes are often higher than 133 percent of the federal poverty level.

Figures 3.2 and 3.3 display, by state, the estimated increase in the coverage rates of (1) the total population and (2) the population of workers who are expected to gain insurance coverage under the ACA, respectively.

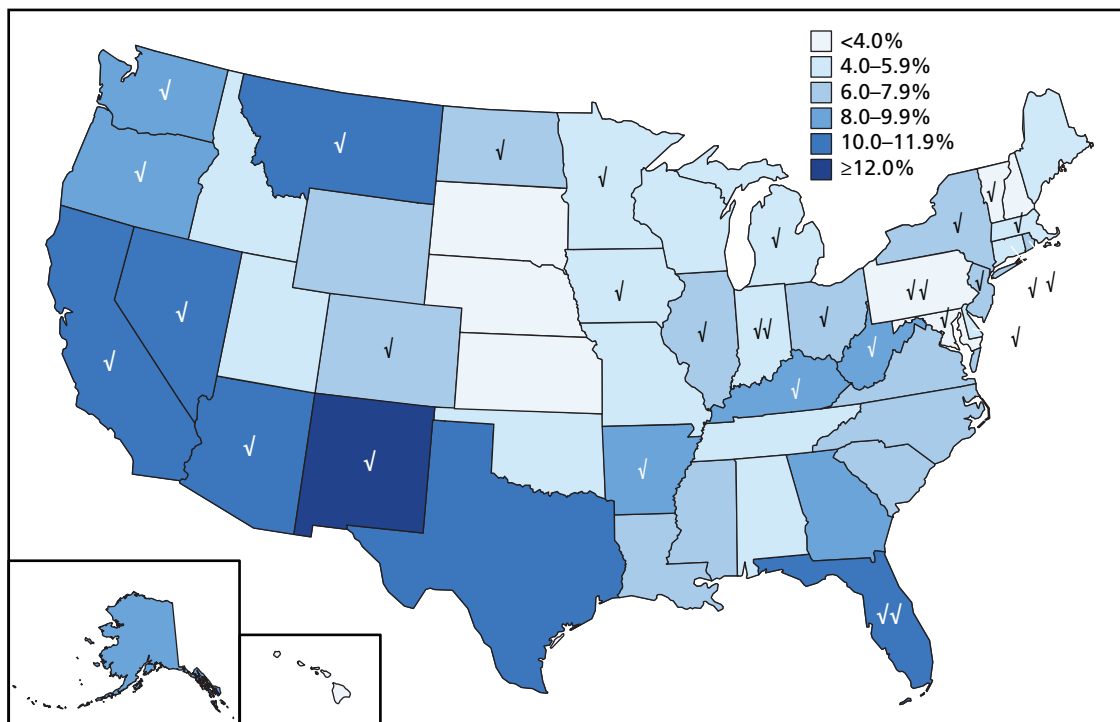
The increases vary considerably, ranging from less than 5 percent in some states to more than 10 percent in others. Increases for workers are generally close to those for the full population, though they do differ significantly in some states.

The Portion of Liability Claims Used for Unrelated Illnesses or Injuries for People Who Had Health Insurance at the Time of the Illness or Injury Versus Those Without Health Insurance

There is general agreement that insurance claimants have some ability to influence the amount of care received or time off of work that they receive following an injury (see, for example, Dionne and St-Michel, 1991). Yet there are few specific estimates of the magnitude of this effect relevant to our analysis. Thus, we used mainly an expert-judgment approach, informed

Figure 3.2

Expected Increase in Rates of Insurance Coverage Under the Patient Protection and Affordable Care Act, by State, 2016, Among the U.S. Population

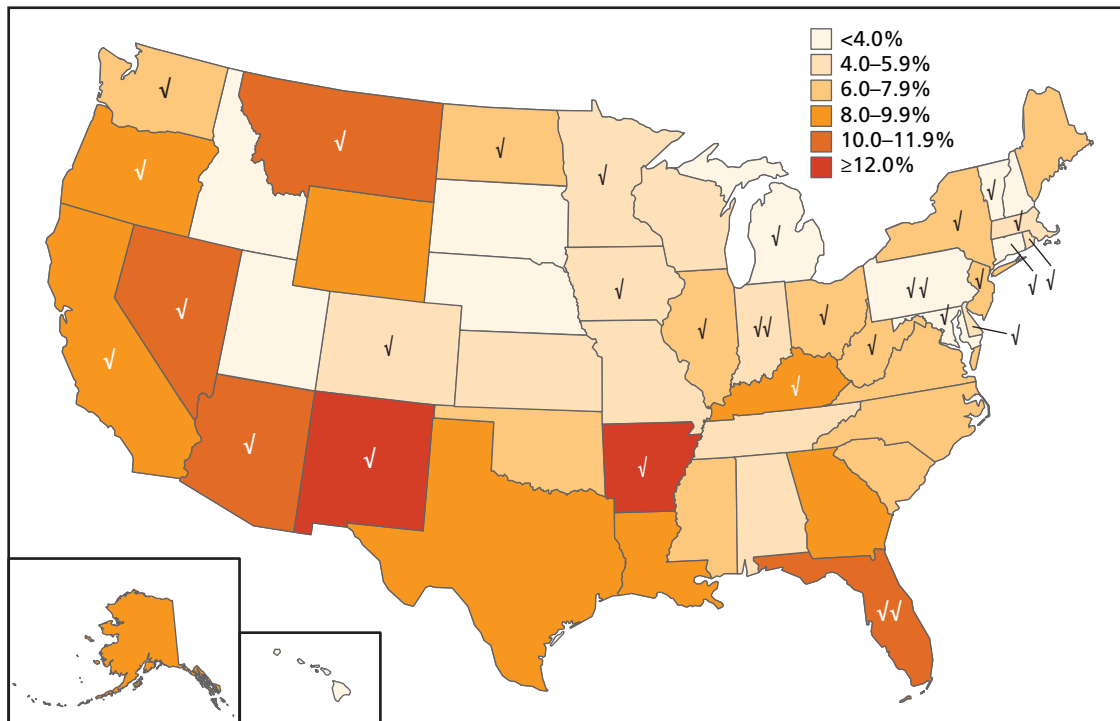


SOURCE: Authors' calculations using RAND COMPARE microsimulation model.

NOTE: √ = state that had opted for the Medicaid expansion as of November 20, 2013. √√ = state whose status with regard to the Medicaid expansion is unclear.

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Figure 3.3
Expected Increase in Rates of Insurance Coverage Under the Patient Protection and Affordable Care Act, by State, 2016, Among U.S. Workers



SOURCE: Authors' calculations using RAND COMPARE microsimulation model.

NOTE: √ = state that had opted for the Medicaid expansion as of November 20, 2013. √√ = state whose status with regard to the Medicaid expansion is unclear.

RAND RR493-3.3

by some results from the literature. One recent paper investigated the impact of the 2006 Massachusetts health reform on WC claims (Heaton, 2012). It found evidence that the number of emergency department and hospital inpatient claims sent to WC insurers decreased by 5 to 10 percent as a result of health care reform. Given that the magnitude of the increase in insurance coverage in the state was also in the 5- to 10-percent range, that implies a very large effect, although there are some unique features of the insurance market in Massachusetts (e.g., relatively parsimonious WC reimbursement rates) that make it unclear how widely the results from Massachusetts might generalize and what mechanisms might have been at play. Nevertheless, it provides some support for the hypothesis that increased coverage would be associated with lower WC claims.

Other papers that examine the relationship between claim filing in WC and health insurance suggest less clear linkages. The Monday effect was documented as early as 1989 (Smith, 1990), although a recent RAND study found no relationship between whether a worker had health insurance and his or her likelihood of filing a WC claim. Still, workers without health insurance did appear to have more workdays missed for a given claim (Lakdawalla, Reville, and Seabury, 2005).

In our expert-judgment approach, we discussed these situations—particularly the auto-related scenarios, in which the injured may obtain additional treatment for problems unrelated

to the accident—with representatives from the medical, legal, and insurer communities.⁵ The experts with whom we spoke generally were of the view that unrelated claims were certainly possible for insured people and for all types of care.⁶ Health insurance often involves large copayments and deductibles, and it may be convenient in some situations for even the insured to rely on liability coverage for care. Nevertheless, we had little guidance on the size of this effect as well. Ultimately, we settled on the following assumptions, based on our conversations and the publications noted above:

- For people without health insurance, 20 percent of care billed to insurers for workplace or auto injuries was applied to unrelated illnesses or injuries.
- For people with health insurance, the equivalent percentage is 10 percent.

In the WC context, though the mechanism is a bit different, we apply the same net 10-percent effect as the increase in the amount of WC claims made by a person without health insurance relative to one with health insurance.

The Extent to Which a Given Condition Is Made Less Severe (Therefore Requiring Less Treatment) Once Someone Gains Health Insurance

We also are considerably uncertain about the magnitude of this effect. Because liability insurers generally pay claims based on actual medical treatment received, in some cases, they must pay for extensive treatment for a fragile individual when a similar event might have caused only minor injury for a healthy individual.

There is a long literature that attempts to ascertain the impact of health insurance on health status. Most famously, the RAND Health Insurance Experiment found improved health with more-generous health insurance among some subgroups of individuals (Manning et al., 1987). That study did not include truly uninsured individuals, however, nor did it indicate how measured changes in health might interact with future injury events. More directly relevant to our inquiry is that an analysis of auto accidents among drivers with and without health insurance in Wisconsin in 1992 did not find greater injury severity among those without health insurance (Doyle, 2005). Even if the presence of health insurance improves physical resilience to injury, the extent to which such improvement translates to lower treatment costs is unclear.⁷ Thus, although we posit that this factor likely would further reduce liability costs as the ACA is implemented, we do not attempt to estimate its contribution quantitatively.

Final Assumptions and Estimates

We used the above assumptions when calculating predicted changes in medical costs borne by auto and WC. We departed from these estimates for the lost-wage portion of WC; here we reduced the effect size in half, based on the assumption that time away from work was inherently less subject to individual substitution, as is medical treatment.

⁵ Several of the experts with whom we consulted are noted in the acknowledgments.

⁶ We had considered assigning a higher likelihood of unrelated claims for outpatient care, which some might argue are more discretionary in nature, but abandoned this distinction after consulting various experts.

⁷ For example, some diagnostic tests are commonly applied to most patients to determine the extent of injury, regardless of their ultimate health status. Costs for such diagnostics would probably not fall even if the pool of injury victims became healthier.

Table 3.1 provides the final estimates of this effect on each market for which we calculate an estimate. For full state-by-state results for this and other effects discussed below, see Table 4.1 in Chapter Four. In addition to presenting the average effect across all states, we identify states where effects are expected to be atypically small or large. The estimated effects vary across states both because the nature of insurance markets differs by state (e.g., the degree of uptake of first-party auto insurance) and because the ACA's expected impact on coverage differs across states. Although we present quantitative estimates in the table to facilitate discussion and comparison, we emphasize that these numbers are subject to considerable uncertainty.

These changes are fairly modest in size—mainly because of the relatively small fraction of newly covered in each state (on the order of 5 to 10 percent) combined with the relatively modest assumed degree to which the substitution effect currently raises liability costs for uninsured individuals relative to those with insurance (on the order of 10 percent). The variation by state is considerable—driven mainly by differences in expected rates of new coverage.

Collateral Source Effect

Concept

Under standard liability law, the collateral source rule (CSR) holds that payments for injuries received by plaintiffs from collateral sources, such as health insurance, should not be taken into account in determining the amount of judgment against a tortfeasor.⁸ This rule is designed to avoid penalizing plaintiffs for purchasing insurance and to ensure that potential tortfeasors have incentives to take optimal care in avoiding injuries. However, some have argued that

Table 3.1
Estimated Change in Liability Payments, by State and Market, Under the Individual Substitution Effect

State	Auto (first party)	Auto (third party)	WC
Average predicted change across all states (%)	-0.6	-0.4	-0.6
States with smallest predicted change (%)	-0.1 (Wis.)	0.0 (Wis.)	-0.1 (Md.)
	-0.2 (Hawaii)	-0.1 (Hawaii)	-0.1 (Hawaii)
	-0.2 (D.C.)	-0.1 (D.C.)	-0.1 (W.Va.)
Median effect (%)	-0.6 (N.J.)	-0.3 (Va.)	-0.5 (Ind.)
States with largest predicted change (%)	-1.1 (Mont.)	-0.6 (Mont.)	-1.0 (Fla.)
	-1.2 (Nev.)	-0.6 (Nev.)	-1.2 (N.Y.)
	-1.6 (N.M.)	-0.8 (N.M.)	-1.2 (Ariz.)
Aggregate cost impact (millions of 2016 dollars)	-90	-130	-390

NOTE: Percentages are rounded to the nearest 0.1 percent, and dollar figures are rounded to the nearest \$10 million. Negative numbers indicate cost reductions. These figures are estimates with a wide degree of uncertainty that is impossible to quantify and do not necessarily imply the level of precision for which they are reported.

⁸ The liable party in the final adjudication.

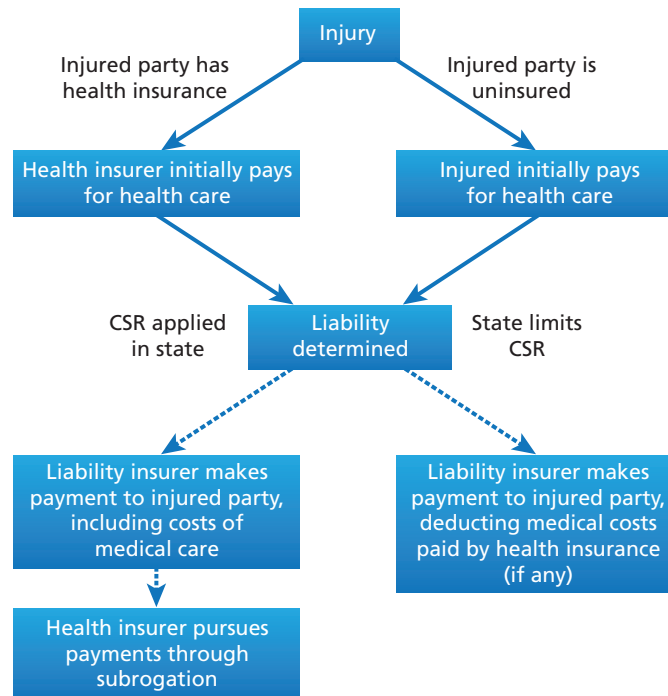
this rule allows plaintiffs to obtain “double recovery” for their injuries, and, since the 1980s, a number of states have enacted laws that limit the applicability of the CSR in particular classes of torts. In states with such limits in place, BI awards may be reduced by the amount that health insurance has paid. Thus, in such states, if more people have health insurance, liability payments should decrease. The distinction between the two categories of states is depicted in Figure 3.4, which expands the third-party payment pathway shown in Figure 3.1.

Following the legal settlement or judgment, some states limit the CSR (see the right branch of the figure). The liability final award is lower because the health insurance payment can be deducted from the award.⁹

Markets Affected

This effect is expected to occur in liability markets in which medical claims are paid under a legal settlement—that is, medical malpractice, third-party auto, and general or other liability.

Figure 3.4
Illustration of the Collateral Source Rule



RAND RR493-3.4

⁹ From the perspective of the injury victim, whether or not the CSR applies may have little effect on recovery. This is because, even when the rule applies, private health insurers can still seek reimbursement for some of their outlays after the award is made through subrogation, as shown in the left portion of Figure 3.4. As a practical matter, many states require injury victims to have been fully compensated for all their losses before subrogation is possible against their awards. In any case, whether or not subrogation occurs, the ACA can still shift payments away from liability insurers and the tort system toward other parties.

Illustration of How the Effect Could Operate

An individual with health insurance in a state that limits application of the CSR is injured in an auto accident and requires surgery. The ensuing medical care billed by the hospital and outpatient visits over the course of care (incorporating discounts negotiated by the health insurer) amounts to \$10,500, of which \$10,000 is paid by the health insurer with a small copay required of the individual. The individual involved in the accident recovers \$25,000 in total from the at-fault driver through that driver's BI policy, which includes a payment for general damages. The final award to the injured party is reduced by the \$10,000 already received in compensation through the health insurer, resulting in a final payment of \$15,000 (see pathway illustrated in Figure 3.4). If the individual had not had health insurance and had received no other third-party payments (such as from a hospital's uncompensated care fund) for the care, the final award would have been \$25,000.¹⁰

Information Needed to Project the Effect's Sign and Magnitude

The quantitative estimate of this effect results from the combination of four factors:

- an indicator of whether the state limits its CSR at the time of this writing
- the amount of medical payments made for BI in such states
- the percentage of those payments made on behalf of individuals who lack health insurance
- the increase in insurance coverage (reduction in the uninsured population) among the relevant population.

We next discuss briefly our estimates of the first three factors (the fourth has already been estimated).

An Indicator of Whether the State Limits Its Collateral Source Rule at the Time of This Writing

Drawing from existing databases (for example, see Avraham, 2011) and our own scan of the legal literature, we have identified 20 states that currently limit application of the CSR in auto cases and 15 in medical malpractice cases. Several states passed laws limiting the CSR in the 1980s and 1990s, although some laws have been subsequently repealed or invalidated by state supreme court decisions.

The Amount of Medical Payments Made for Bodily Injury and Medical Malpractice in Such States

To estimate these amounts for BI, we relied on the 2007 auto closed-claim database published by the Insurance Research Council (IRC), which contains a snapshot of individual auto insurance claims compiled from the files of property and casualty insurers across all 50 states. We began with an overall national estimate of the total amount of liability payments for BI and multiplied this by an estimate of the proportion of these payments attributable to medical care taken from the auto claim database (48 percent nationally). For medical malpractice, we begin with two recent studies that found that roughly half of ultimate jury awards are based on economic damages (including medical costs, lost wages, and other factors) and the other half

¹⁰ This does not consider the possibility that the uninsured individual may be charged more for the same care by the hospital.

are based on non-economic factors, such as pain and suffering (Pace, Zakaras, and Golinelli, 2004; Hyman et al., 2007). Without direct evidence, we further assume that roughly half of economic damages reflect medical charges, resulting in roughly 25 percent of total claim payments reflecting costs for medical care.

The Percentage of Those Payments Made on Behalf of Individuals Who Lack Health Insurance

Once we have generated an assumption regarding the fraction of claim payments that reflect medicals, we then must estimate how much of those payments were made on behalf of individuals without health insurance. It is payments to these individuals that would be reduced once they obtain coverage under the ACA and payments made on their behalf by health insurers are deducted from their awards. We do not have data on claims paid at the individual level or whether those claimants did or did not have health insurance. Thus, we must make assumptions based on the data we do have. In the strict sense, if all medical payments made by health insurers for BI claimants were removed from final awards, then the remaining medical payments for BI that we observe in states limiting the CSR would almost all have been paid to individuals without health insurance and would therefore be reduced proportionally by the percentage expected to gain health insurance (e.g., a 50-percent reduction in the number of uninsured would reduce payment amounts by 50 percent).

The situation is not that simple, however. Individuals with health insurance do typically pay some amount out of pocket for health care received. Furthermore, such payments are not always fully removed from liability awards. Thus, we must estimate the *extent* to which the medical payments for BI auto liability overrepresent individuals without health insurance, knowing that they only partially do so.

In our simplified model, using the auto context, we assume that, for a final award for BI resulting from an auto accident that amounts to \$20,000 (for example), \$10,000 goes to medical costs. For someone with health insurance at the time of the accident, we assume that the parameters of the award are the same (\$10,000 for medical costs, \$10,000 for nonmedical costs) but that, on average, \$5,000 of the medical costs are paid by a third party and thus, in a state limiting the CSR, are removed from the final award, which is \$15,000. The \$5,000 in medical costs in this scenario represent the net effect of a number of factors, including discounts that health insurers pay providers relative to what uninsured individuals are charged, adjustments resulting from the possibility of subrogation, out-of-pocket expenses, and the possible impacts of the individual substitution effect and the provider treatment effect (discussed below).¹¹ These assumptions together imply that, for a 10-percent increase in insurance coverage in a state limiting the CSR, medical payments for BI should decline by two-thirds of that amount (6.7 percent).¹²

For medical malpractice, we apply a similar assumption, although direct medical payments are assumed here to make up a smaller proportion of total awards, as noted above.

¹¹ As a partial test of this hypothesis, we analyzed whether the proportion of BI payments that involved medical care was higher in states with no CSR limits in our auto injury database. We did not find this to be the case. There are many factors that vary across states relevant to this comparison for which we were unable to control, but we consider this to be some evidence for a small effect rather than a large effect.

¹² Note that we also considered the possibility that the uninsured may be more or less likely to be involved in auto accidents and ultimate legal action than the insured but found no compelling evidence either way, which is consistent with Doyle (2005).

Final Assumptions and Estimates

Using the above parameters and the increase in the insured rate (as depicted in Figure 3.4), we arrive at the approximations for the impacts of the CSR in each market shown in Table 3.2.

In contrast with the individual substitution effect, the effects in this case are larger but concentrated in a smaller number of states because only some states limit the CSR. Effects are, in many cases, larger here than for the individual substitution effect because the difference between awards for individuals with or without health insurance in this case is large—the full amount of care paid for by the health insurer—and not merely a fraction like it is for the individual substitution effect.

Although we do not present quantitative estimates for this effect on general liability costs in Table 3.2, to the extent that CSR limits apply to a broad range of personal injury cases, we expect this mechanism to affect general liability qualitatively similarly to how it affects third-party auto.

Provider Treatment Effect

Concept

Providers have been shown to provide more care to patients with health insurance than to those without, presumably because there is considerable discretion in treatment choices, combined with the greater likelihood of payment when treating an insured patient (Hadley, Steinberg, and Feder, 1991). That additional care would be expected to increase liability claims proportionally in cases in which the health insurer is initially the payer at the time of care provision, and liability claims are filed only later. This mechanism applies only in states that do not limit application of the CSR.

Table 3.2
Estimated Change in Liability Payments, by State and Market, Due to the Collateral Source Rule

State	Auto (third party)	Medical Malpractice
Average predicted change across all states (%)	-1.0	-0.6
States with smallest predicted change (%)	0.0 (31 states)	0.0 (36 states)
Median effect (among states with nonzero effect) (%)	-2.2 (N.D.)	-1.2 (Ill.)
States with largest predicted change (%)	-3.3 (Ore.)	-1.8 (Fla.)
	-3.7 (Fla.)	-1.8 (Calif.)
	-3.8 (Mont.)	-2.0 (Nev.)
Aggregate cost impact (millions of 2016 dollars)	-340	-30

NOTE: Percentages are rounded to the nearest 0.1 percent, and dollar figures are rounded to the nearest \$10 million. Negative numbers indicate cost reductions. These figures are estimates with a wide degree of uncertainty that is impossible to quantify and do not necessarily imply the level of precision for which they are reported.

Markets Affected

This effect is relevant to the third-party auto insurance liability market, the medical malpractice market, and the general and other liability market.¹³

Illustration of How the Effect Could Operate

An individual without health insurance or any first-party auto insurance is found incapacitated at the scene of an auto accident in a state where the CSR applies. Because the individual is uninsured, the doctors offer the minimum possible treatment and charge the patient \$5,000. The patient later recovers this amount by filing a claim with the at-fault driver's BI insurer. If the driver had been insured, the physicians would have provided more-extensive treatment costing \$10,000, resulting in a larger settlement.

Information Needed to Project the Effect's Sign and Magnitude

Because claim payments for medical malpractice in many cases involve payments for both past and projected future medicals, it is unclear whether this effect would increase or decrease MPL insurers' costs. Those who have health insurance are likely to get more treatment immediately following an injury than the uninsured, which would tend to increase the size of their liability claims, but these claimants may need to pay less out of pocket in the future for medical treatment because they have access to their insurers' negotiated rates. Anecdotally, the experts we consulted indicated that juries seem inclined to augment awards for victorious plaintiffs who do not have health insurance, anticipating that such individuals may have high future out-of-pocket expenses. We lack sufficient data on the nature of medical claims in malpractice cases to provide reasoned estimates of the magnitude of this effect for MPL,¹⁴ but it may not be unreasonable to imagine that these effects are largely offsetting.

For third-party auto, this effect is expected to increase liability costs as some otherwise-uninsured individuals gain health insurance under the ACA. The effect would be present only in certain situations and results from the combination of the following factors:

- whether the state limits the CSR
- the amount of medical payments made for BI in such states
- the percentage of those payments made on behalf of uninsured individuals
- the increase in insurance coverage (reduction in the uninsured population) among the relevant population
- whether first-party auto coverage for medical is widely available in lieu of health insurance coverage
- the extent to which more treatment is provided to individuals with health insurance than to those without insurance.

¹³ Although theoretically this mechanism could also apply in medical malpractice cases, medical costs are a relatively small fraction of malpractice awards, and this effect is essentially subsumed within the medical malpractice volume effect discussed later.

¹⁴ One knowledgeable expert we consulted indicated that malpractice insurers themselves generally do not allocate claim payments in a way that allows one to cleanly separate medicals from other types of compensation, let alone past versus future medicals.

The first four factors are identical to those described in our analysis of the CSR, yet this effect occurs only in states that do *not* limit the CSR. The remaining two are discussed next.

Whether First-Party Auto Coverage for Medical Is Widely Available in Lieu of Health Insurance Coverage

The provider treatment effect is expected to occur particularly when, at the time of treatment, physicians and hospital administrators are unclear about whether they will receive payment for their treatment of uninsured individuals. In states without mandatory first-party auto insurance requirements (tort states, except Oregon), payment is more uncertain because the person injured in the crash must first file a liability claim and demonstrate that the other driver was at fault before receiving compensation. From the provider's perspective, payment is generally more certain in states that do require first-party coverage (no-fault states and Oregon), but, even in these states, payment is not certain for all patients, both because some individuals neglect to purchase required auto insurance coverages and because many first-party auto policies are capped at relatively low levels (e.g., \$5,000) and treatment costs can exceed these caps. We employ a rough assumption that the effect is halved in no-fault states and Oregon because providers treating uninsured accident victims in those states would be more assured of payment and thus might provide levels of care more on par with what they provide similarly injured patients who have health insurance.

The Extent to Which More Treatment Is Provided to Individuals with Health Insurance Than to Those Without Insurance

This effect was estimated in Doyle (2005) using a sample of severe auto crashes that occurred in Wisconsin between 1992 and 1997. The author found that accident victims who lacked health insurance at the time of the crash received fewer procedures and hospital days and charges amounting to roughly 20 percent less treatment than the insured. The author carefully controlled for differences among the patients themselves and concluded that the effect was a supply-side effect, whereby providers treated patients more intensively because of the higher expected payment for services provided. We employ this estimate directly.

Final Assumptions and Estimates

The final estimates of this effect are shown in Table 3.3.

Though the effect itself is substantial in this case (a 25-percent increase in treatment costs for those gaining insurance), it occurs only in some states, is dampened in no-fault states, and is applicable only to those gaining insurance coverage. Thus, the final aggregate impact on third-party auto is modest.

General liability lines might see a similar modest increase in costs from the provider treatment effect, although the effect would be observed across a larger number of states because there is no equivalent to first-part auto in the general liability context.

Direct Fee Effect

Concept

Most liability insurers that reimburse directly for medical expenses tie the rates they pay providers to either Medicare or private rates. Medicare hospital rates are reduced under the ACA, and there is considerable evidence suggesting that such rate reductions also spill over into pri-

Table 3.3
Estimated Change in Liability Payments, by State and Market, Due to the Provider Treatment Effect

State	Auto (third party)
Average predicted change across all states (%)	0.4
States with smallest predicted change (%)	0.0 (20 states)
Median effect (among states with nonzero effect) (%)	0.5 (S.D.)
States with largest predicted change (%)	1.2 (Ark.)
	1.3 (Texas)
	2.0 (N.M.)
Aggregate cost impact (millions of 2016 dollars)	140

NOTE: Percentages are rounded to the nearest 0.1 percent, and dollar figures are rounded to the nearest \$10 million. Negative numbers indicate cost reductions. These figures are estimates with a wide degree of uncertainty that is impossible to quantify and do not necessarily imply the level of precision for which they are reported.

vate rates. Thus, the rates liability insurers pay—at least, insofar as they are pegged to Medicare rates—would also decrease, reducing overall payouts.¹⁵

Markets Affected

This effect is expected to occur in liability markets, in which medical care is paid for by liability insurers either directly or after the fact; the medical portion of WC, both first- and third-party auto insurance, and general liability. The effect could hypothetically influence medical malpractice, but we do not estimate an effect in that market as noted below.

Illustration of How the Effect Could Operate

A worker is injured in a workplace accident and, over the course of care, is treated by both inpatient and outpatient providers. The WC insurer has contractual arrangements with such providers to pay for care at rates 20 percent above what Medicare pays. Because of the ACA, Medicare rates are below what they would have otherwise been, so the insurer pays less for the care received than it otherwise would have.

Information Needed to Project the Effect's Sign and Magnitude

Obtaining a rough quantitative estimate of the magnitude of this effect is fairly straightforward and results from the combination of four factors:

- the change in rates paid to providers for care as a result of the ACA
- the amount of care paid for on behalf of the relevant liability insurers, broken down into inpatient and outpatient care (which are differentially affected by the ACA)
- whether insurers in a given state base their payments on commercial or Medicare rates

¹⁵ We discuss other issues, such as cost-shifting and induced demand, later.

- an adjustment based on the portion of care paid for by these insurers that is at a cap or policy limit, in which case a small percentage reduction in payment rates may not affect payouts.

The Change in Rates Paid to Providers for Care as a Result of the ACA

For this portion of the estimate, we borrow from estimates of the Centers for Medicare and Medicaid Services' (CMS's) Office of the Actuary. Before the ACA was passed, CMS projected Medicare hospital expenditures to be \$308 billion in 2016 (CMS, undated). The ACA trims these rates via reductions in annual rate increases that were built into previous law—under the rationale that those previous adjustments did not account for hospitals' ability to improve productivity and thus they were being overpaid. The CMS actuaries estimate \$14 billion in reductions in Medicare payment to hospitals via this adjustment in 2016, which represents a 4.5-percent cut. This is the main direct impact of the ACA on Medicare rates, but there are several other impacts that are quantifiable.

First, recent research has identified a spillover effect on commercial rates resulting from changes in Medicare rates. There has been controversy in the past over the direction of this effect, with some arguing that, if Medicare rates fell, providers would tap into unused market leverage and charge commercial insurers higher rates to make up the shortfall. This mechanism is inconsistent with a model in which providers are profit-maximizing, however, and some recent studies have cast doubt on this hypothesis (Medicare Payment Advisory Commission, 2009). A more definitive recent study found strong evidence that the effect works the other way—that is, as Medicare rates fall, commercial rates fall as well (though not by as much). Using data from 1995 to 2009, the author found that a Medicare price cut led to a private price reduction of between 30 percent and 80 percent as large (White, 2013). Another recent working paper reported an even larger effect in a similar direction, finding that most private payers follow Medicare's lead in pricing (Clemens and Gottlieb, 2013). Given the uncertainty and the prior literature, we chose to apply an estimate toward the lower end of the range—in particular, assuming that private rates fall by half of the change for Medicare.

A second aspect of the ACA expected to affect payment rates is the Independent Payment Advisory Board (IPAB). The board was established so as to be independent of the political pressure of Congress and possess ability to help further rein in Medicare spending. If the projected growth in Medicare costs per beneficiary for 2015 and thereafter exceeds a specified target level (computed as a five-year moving average), the board must produce a proposal to reduce or eliminate the difference. The board's proposal (or that of its secretary) may not include any recommendation to ration health care, increase Medicare premiums or cost-sharing, cut Medicare benefits, or restrict eligibility. Given those constraints, most analysts have assumed that such reductions would be achieved mainly via reductions in rates paid providers. The CMS Office of the Actuary has projected \$830 million in savings from the IPAB primarily via a reduction in rates, which translates to a 0.6-percent reduction in physician rates by 2016 and presumably the same from hospitals (Foster, 2010). In actuality, Medicare costs have grown relatively slowly in recent years, and the IPAB will not be required to make a recommendation for 2015. However, given that the future is uncertain, we will apply the actuary's estimate for 2016, the year in which our estimates are based.¹⁶

¹⁶ There is also a temporary small increase in Medicare rates paid certain primary care physicians under the ACA, but this ends after 2015.

Combining the rate reductions for Medicare as noted above and using White's 2013 estimate for the spillover effect on the commercial market, we arrive at the set of estimates of the ACA's impacts on payment rates shown in Table 3.4.

The Amount of Care Paid for on Behalf of the Relevant Liability Insurers, Broken Down into Inpatient and Outpatient Care (Which Are Differentially Affected by the ACA)

We estimate this quantity based on the IRC auto claim database, which suggests that roughly half of the dollar total of medical claims from auto accidents occur in a hospital setting that would be governed by Medicare (or commercial) hospital rates. We apply this factor to the case of WC as well.

Whether Insurers in a Given State Base Their Payments on Commercial or Medicare Rates

We obtained data on the basis of payment for WC insurers from a recent study that compiled payment rates sources (Coomer and Liu, 2010). By our accounting, 32 states appear to use Medicare rates as the basis for their payments to providers. We assume that, in those states, as Medicare rates change because of the ACA, the rates paid by WC insurers will adjust in tandem. With a few exceptions, in which PIP fee schedules exist (e.g., New Jersey, New York, Florida), first-party auto coverages, in contrast, are typically generous payers, paying something close to provider list charges. We thus assume that they pay rates that vary with typical commercial rates, as shown in Table 3.4.

For third-party auto BI payments, we make the simple assumption that 20 percent of accident-injured parties' health insurers pay at Medicare rates and that the remainder pay private rates.¹⁷ The 20 percent is calculated based on calculations from the IRC claim data indicating that roughly 10 percent of BI claimants are over the age of 65, combined with the fact that some claimants under age 65 will have access to Medicare or other forms of public insurance, such as Medicaid, which may key reimbursement rates off of Medicare formulas.

An Adjustment Based on the Portion of Care Paid for by These Insurers That Is at a Cap or Policy Limit, in Which Case a Small Percentage Reduction in Payment Rates May Not Affect Payouts

Policy limits can have a significant impact on the magnitude of the direct fee effect. For example, if a liability policy has a policy limit of \$10,000 and a claim is submitted for \$15,000, then a 5-percent reduction in the claim amount (to \$14,250) will not affect the total payout by the liability insurer. Although a minority of claims may be subject to such limits, the impact of such a cap will be larger than that percentage because claims at the limit are larger than those

Table 3.4
Change in Payment Rates in 2016
Resulting from the Patient Protection and
Affordable Care Act (%)

Insurer	Hospital	Physician
Medicare	-5.1	-0.6
Commercial	-2.6	-0.3

¹⁷ More-precise estimates could be made in this case by, for example, estimating percentages of drivers with Medicaid or without insurance, but we expect that the additional precision in this case would have minimal effects on the final estimate.

not at the limit and thus represent a disproportionate amount of total payments. To estimate this final component, we simulated a 5-percent fee reduction to our auto claim database, which contains claims and policy limits from each payer type: MedPay, PIP, and BI. We ultimately found that our simulated 5-percent fee reduction resulted in projected payment reductions of 3.75 percent, 3.3 percent, and 3 percent, respectively.

Final Assumptions and Estimates

The final impact is estimated as a combination of the above factors and quantified in Table 3.5. Although it is possible that providers could respond to these payment changes by changing the volume of care provided, there is mixed evidence on the extent and even direction in which those second-order effects may occur. Note that, because this mechanism essentially operates on all fee payments, it does not depend on the magnitude of the ACA coverage expansion as applied to individual states like the previous effects we have analyzed did. We do not estimate an effect in the case of medical malpractice. In this case, medical payments are not only a smaller fraction of total payments than in the bodily injury case; because of the time delay between treatment and award, the link between marginal adjustments of health insurance payments and final award is more tenuous. The effect in this case does not rise above our de minimis standard.

Medical Malpractice Volume Effect

Concept

To sue a medical provider for malpractice, one must have contacts and care episodes involving medical providers. We expect that expected lawsuit frequency for a particular patient would be related to the number and intensity of individual contacts with the medical system. Insured individuals are known to have more contacts with physicians, making more visits, receiving more procedures, and so on. Thus, we might expect individuals who gain insurance to have a higher likelihood of filing medical malpractice claims because they receive more treatment.

Table 3.5
Estimated Change in Liability Payments, by State and Market, Due to the Direct Fee Effect

State	Auto (first party)	Auto (third party)	WC (medical only)
Average predicted change across all states (%)	-0.8	-0.7	-1.5
States with smallest predicted change (%)	-0.7 (15 states)	Same in all states	-0.8 (19 states)
Median effect (among states with nonzero effect) (%)	-0.8	Same in all states	-1.7
States with largest predicted change (%)	-0.8 (32 states)	Same in all states	-1.7 (32 states)
Aggregate cost impact (millions of 2016 dollars)	-110	-210	-490

NOTE: Percentages are rounded to the nearest 0.1 percent, and dollar figures are rounded to the nearest \$10 million. Negative numbers indicate cost reductions. These figures are estimates with a wide degree of uncertainty that is impossible to quantify and do not necessarily imply the level of precision for which they are reported.

Markets Affected

This effect is relevant only to medical malpractice insurance.

Illustration of How the Effect Could Operate

A group of individuals without health insurance do not receive regular recommended diagnostic checkups because they are unable to pay. With health insurance, these individuals receive the needed checkups. However, diagnostic errors occur after a small number of such checkups, and these errors trigger malpractice claims.

Information Needed to Project the Effect's Sign and Magnitude

Other things being equal, we would expect more treatment to result in more malpractice claims. Coverage expansions may not only change the total amount of treatment received but also alter the context in which treatment occurs—for example, shifting some treatment from the emergency room to a clinic or outpatient facility. Yet these effects are likely to be relatively small and second order, compared with the main effect.¹⁸

Ultimately, the size of this effect is a result of the combination of two factors:

- the increase in insurance coverage among the patient population
- the increase or decrease in propensity to file a malpractice claim (that results in payment) associated with health insurance coverage.

For the first of these, we use the state-by-state estimates of the coverage change due to the ACA discussed previously.

The Increase or Decrease in Propensity to File a Malpractice Claim That Results in Payment Associated with Health Insurance Coverage

To develop a plausible estimate of this parameter, we combine theoretical and empirical approaches. Theoretically, we might expect the increase in paid claim frequency to be related to the increase in the volume of care among uninsured people who become insured. The best estimates of the increase in physician contacts resulting from insurance coverage are from studies, such as the RAND Health Insurance Experiment or the Oregon Health Insurance Experiment, and find that insured individuals obtain roughly 30 to 40 percent more care than uninsured individuals, all else equal.¹⁹ To estimate the total increase in use of care under the ACA, let us define the amount of care used by a typical insured person as 1.0 units of care. Studies have generally found that the uninsured currently use about half of the care that the insured do (Hadley and Holahan, 2003). Thus, a typical uninsured person, upon becoming insured, would increase his or her care use from roughly 0.5 units to 0.7 units (assuming a 40-percent increase). A population consisting of nine insured people and one uninsured person would use 9.5 units of care before the ACA. Once the one uninsured person becomes insured, the final amount of care used would therefore be 9.7 units—an increase of $0.2 \div 9.5$, or approximately

¹⁸ Two recent papers, in fact, have found increases in emergency department use associated with insurance coverage: M. Anderson, Dobkin, and Gross, 2012; and Taubman et al., 2014.

¹⁹ A review of past studies and a new analysis discussed in Congressional Budget Office (2008), written before the results of the Oregon Health Insurance Experiment, arrived at a similar figure.

2 percent for the specified 10-percentage-point increase in the coverage rate (from 90 percent to 100 percent).

The ultimate effect of insurance coverage could be larger or smaller than that estimate. For example, their additional familiarity with the formal medical system could lead insured individuals to be more willing to file a malpractice claim than the uninsured; this would lead to an increase in claim frequency that is more than simply proportional to the increase in the amount of medical care used. On the other hand, uninsured individuals may be more willing to make claims for a given amount of contact than the insured, given that they may have no other way to pay for needed medical care following an injury resulting from negligence.

A small number of empirical studies examine the relationship between insurance coverage and malpractice claiming. Burstin and colleagues find that the uninsured are less likely to file a malpractice claim than those with private health insurance who have similar injuries (Burstin et al., 1993). Studdert and colleagues, however, find no statistical difference in the likelihood that those who are negligently treated pursue a claim if they are uninsured or if they have private insurance (Studdert et al., 2000).

These studies suggest that expanding coverage could lead to more claims but do not provide clear evidence as to the magnitude of potential effects. Because of this uncertainty, we undertook an empirical investigation as part of this project that combined data on medical malpractice claims from the National Provider Data Bank for 2008 to 2010 with data on insurance coverage from the ACS for those same years. We estimated how paid claim frequency changed in a given state over time for defined demographic groups (by age and gender) as the rates of health insurance coverage for those groups changed over time. A detailed explanation of the approach and regression results is shown in Appendix B. Results and statistical significance differed depending on whether we weighted by state population, but they tended to be large—larger than the 30 to 40 percent noted in the theoretical approach above. Even in the specification that yielded the smallest results, the data suggest that having insurance coverage is associated with a roughly proportional increase the likelihood of a successful claim, so that a 1-percentage-point increase in coverage translates into a 1-percent increase in the number of paid claims.

Thus, if 10 percent of a state's population gains coverage, the two approaches noted above suggest that the increase in malpractice activity would be roughly between 1.5 percent and 10 percent. We employ an estimate of 5 percent at this time, falling in between the two approaches.

Final Assumptions and Estimates

Table 3.6 summarizes how the malpractice volume effect is expected to affect the malpractice insurance market.

The ACA's expected effect on medical malpractice claims through this channel is fairly large, although there is considerable uncertainty surrounding these estimates given that we have little reliable experience to draw on in terms of understanding how coverage changes of this magnitude affect patients' interactions with the liability system. Furthermore, the nature of the coverage changes under the ACA may be significantly different from those observed from 2008 to 2011, which were used to estimate the coverage/claiming relationship.

Table 3.6
Estimated Change in Liability Payments, by State, Due to the
Medical Malpractice Volume Effect

State	Medical Malpractice
Average predicted change across all states (%)	3.4
States with smallest predicted change (%)	0.4 (Wis.) 1.2 (Hawaii) 1.3 (D.C.)
Median effect (among states with nonzero effect) (%)	3.1 (Va.)
States with largest predicted change (%)	5.6 (Mont.) 5.9 (Nev.) 7.8 (N.M.)
Aggregate cost impact (millions of 2016 dollars)	160

NOTE: Percentages are rounded to the nearest 0.1 percent, and dollar figures are rounded to the nearest \$10 million. These figures are estimates with a wide degree of uncertainty that is impossible to quantify and do not necessarily imply the level of precision for which they are reported.

Additional Effects Not Estimated

Induced Retirement

The coverage expansions of the ACA are expected to be particularly beneficial for Americans just under the age of 65 and those contemplating early retirement. Currently, those contemplating retirement prior to 65 would face both a marked decline in income and a loss of employer-sponsored health insurance upon retirement, with no access to Medicare until age 65. Not only does Medicaid expand in participating states to all adults (who, unless they were parents of a child under 18, were generally not eligible prior to the ACA), but the exchange subsidies are targeted toward those with income less than 400 percent of the federal poverty level. Even for those with incomes too high to qualify for subsidies, the exchanges charge premiums that are not affected by health status and limit the extent to which older individuals may be charged more than younger individuals. Compared with existing options in the individual health insurance market, which is the market currently most relevant for potential early-retirees, the exchanges will likely represent a more attractive option for many consumers.

Past empirical studies have established that access to health insurance coverage is associated with a higher likelihood of retirement for those under age 65. Specifically, recent evidence from private firms and national surveys demonstrates that access to subsidized health insurance following retirement (through, for example, employer-provided retiree coverage) increases the probability of retirement among older workers under 65 by 30 to 40 percent (Nyce et al., 2013; Strumpf, 2010). Thus, the ACA may lead considerable numbers of older workers to leave the workforce. These workers may be particularly unhealthy or more prone than average to injuries under WC.

However, the loss of a large number of older workers from the workforce because of the ACA would also result in fewer premiums being paid into the WC system on their behalf by their employers. If these workers are requiring payments that offset their WC claims, then this effect would net out to zero. It is certainly possible that the effect would not net out—i.e., that these workers pay less into the system than they take out in claims, in essence being more prone to injuries and thus subsidized by younger workers. Existing evidence does not suggest that older workers are substantially more prone to injuries than younger workers, though they may incur more treatment costs or work time lost for a given injury (see Restrepo and Shuford, 2012).

Overall, the induced retirement effect for WC appears small, affecting a fraction of the workforce. If we adjusted it further to account for the loss of premiums, it would likely result in an effect that does not pass our *de minimis* standard.

The induced retirement effect could also affect disability coverages. Because many disability coverages are employer-based, many workers drop disability coverage when they leave their jobs. In the case of early retirement, this may serve to eliminate from the coverage pool some individuals who have reached a period of relatively high-likelihood disability, improving the overall risk characteristics of the insurance population. However, the extent of the impact of early retirements on disability coverages may be moderated by the fact that many carriers limit payments for workers who are near retirement age.

Induced Demand

The concept of induced demand has been widely discussed in the scholarly literature on the health care system, although it remains somewhat controversial. Unlike the provider treatment effect noted above—which involves a direct response of providers to differences in reimbursement rates across payers—there could be a second-order effect whereby the ACA reduces the generosity of payments to providers for their *other* patients, which then leads them to increase the volume of care they provide to patients with liability coverage.

To understand how induced demand (or the related concept, cost-shifting, in which providers increase the prices charged to other payers, rather than the volume of care provided) might operate in a liability context, consider how a hospital might respond to an anticipated reduction in the margin it receives from patients covered by Medicare. One possibility is that the hospital could try to make up for its lost revenue by providing more services to other patients that provide high margins. Because some types of liability insurance, such as first-party auto, tend to reimburse providers at higher rates than other payers and therefore provide higher margins, patients covered by liability insurance might be particularly attractive targets for such induced demand.

Some empirical evidence consistent with the induced-demand hypothesis exists in the liability context. In a 2010 study, Heaton and Helland found that patients received a greater volume of care in Colorado following a reform that appreciably reduced providers' reimbursement rates for auto injuries (Heaton and Helland, 2009). In an unpublished working paper, Anderson and Heaton also found evidence that liability insurers' costs for medical treatment rose in Massachusetts following the implementation of health care reform in that state (J. Anderson and Heaton, undated). We previously referenced recent evidence showing that cuts in Medicare rates lead to reductions in rates paid by private insurers, but there is no good direct evidence thus far as to whether providers increase volume of services to more-generous payers in response to Medicare cuts.

However, at a theoretical level, there are reasons to question whether proper conditions exist for a reform, such as the ACA, to affect induced demand or cost-shifting. First, even if these activities take place currently—so that patients covered by liability insurers are charged more or given more treatment than other patients because of the higher margins they generate—in order for the ACA to increase induced demand from current levels, it would need to be the case that providers currently have some unexploited market power. Such a situation would not be consistent with profit maximization by medical providers.

Second, induced demand or cost shifting arises in response to low margins from certain classes of patients. However, it is ambiguous whether the ACA would actually reduce the generosity of payments to providers. Despite the Medicare cuts to inpatient care noted above, and the emphasis on movement away from fee for service with new bundled and global payment mechanisms under the ACA, hospitals may very well, on net, be in a better financial position post-ACA than they were before. In Massachusetts, state payments to a fund to cover uncompensated care, mainly to hospitals, dropped from \$656 billion to \$410 billion in the several years following health reform (Weissman and Bigby, 2009). Whether an otherwise-uninsured individual moves to Medicaid or private insurance, it is likely that hospitals would be paid more generously, on average. In the case of physician services, a recent study found that physicians were paid, on average, slightly more from their uninsured patients than for their insured patients; however, the effect was small and widely varied (Gruber and Rodriguez, 2007). Thus, it is truly indeterminate whether providers will face more or less financial pressure as a result of the ACA.

The lack of clear evidence of an effect of financial pressure on volume of care provided to patients with generous payers, combined with an indeterminate effect of the ACA itself on financial pressure, leads us to conclude that we cannot reliably estimate this potential effect at this time. At this point, we believe that the evidence that the ACA will lead to greater induced demand is, at best, incomplete; interested stakeholders should closely monitor care volume among patients covered through first-party liability in the next several years, particularly in states, such as Florida, that have large Medicare populations, for better indications regarding shifts in induced demand.

Changes in Consumer Demand for First-Party Auto Coverage

For first-party auto coverages, such as MedPay and PIP, that essentially supplement or substitute for health insurance coverage, expansion of private health insurance might lessen consumers' perceived need for the insurance. In particular, in states where purchase of these products is optional, consumers may reason that first-party coverage through auto insurance for medical care is unnecessary if they already have health insurance. To our knowledge, there are not well-grounded empirical estimates of the relationship between health insurance availability and take-up of MedPay and PIP, so bounding the size of any such impacts seems difficult. Moreover, to the extent that potential cost savings from the ACA that we outline are actually realized and are passed on to consumers through lower premiums, this might serve to offset any direct declines in demand.

Aggregate Impacts Across States and Lines

Taken individually, the effects we analyzed in Chapter Three do not, for the most part, generate large predicted changes in insurers' liability costs. Here, we combine information across all five effects discussed previously to obtain aggregate predictions regarding the ACA's impact on insurers' costs as of 2016. We again caution that these estimates are subject to considerable uncertainty, and these quantitative estimates fail to account for some effects that may be present but for which insufficient data exist to make a reasoned judgment regarding impacts.

We find that the effects we identified are relatively small in magnitude in terms of overall impacts on the markets in question—generally because they apply to only a fraction of the U.S. population (those gaining insurance coverage) or because the effects themselves are relatively small (e.g., the ACA's impact on provider fees). The combined effects, by market and by state, are summarized in Table 4.1.

Although generally on the small side, the effects are moderate-sized in some cases. A few states (Montana, Oregon, and Georgia) face expected reductions in total auto payments by roughly 4 percent. The dominant effect in this case is the presence of limits to the CSR, whereby newly insured individuals will now have health insurers paying their health care costs following injury—payments that would be deducted from final liability awards. Medical malpractice costs are projected to increase by more than 5 percent in a few states (Texas, Montana, and New Mexico). WC costs are expected to be only marginally affected, generally no more than 2 percent in any given state. However, the overall change in liability spending is greatest in this market (a reduction of roughly \$900 million) because the market is quite large overall and projected reductions are in a fairly similar range across states.

For general liability, homeowner's, and other lines with a BI component, there is scope for ACA-induced cost reductions—as in third-party auto—arising from changes in the pattern of collateral source payments and anticipated reductions in fees paid to medical providers. Magnitudes could be of a similar order to those we have estimated for third-party auto. However, the magnitude of these changes for a particular insurer or state will depend on features of the particular policies in question. We do not see obvious reasons to anticipate a substantial near-term effect of the ACA on disability coverages except perhaps through induced retirement, but the magnitude of any such effect remains fairly uncertain.

Table 4.1
Estimated Changes in Liability Claim Costs, by State and Market, Due to the Patient Protection and Affordable Care Act (%)

State	Auto (first party)	Auto (third party)	Auto (overall)	WC	Medical Malpractice
Alabama	-1.3	-2.2	-2.1	-1.1	2.0
Alaska	-1.7	-3.8	-3.4	-0.9	2.0
Arizona	-1.9	-0.5	-0.6	-1.5	2.5
Arkansas	-1.8	0.1	-0.2	-1.3	4.6
California	-1.9	-0.5	-0.7	-2.0	2.7
Colorado	-1.6	-3.5	-3.2	-1.5	1.8
Connecticut	-1.2	-2.3	-2.2	-1.2	2.1
Delaware	-1.1	-0.3	-0.6	-1.1	1.1
District of Columbia	-0.9	-0.6	-0.6	-0.8	1.3
Florida	-1.6	-4.9	-3.4	-1.7	2.7
Georgia	-1.7	-3.8	-3.5	-2.0	4.1
Hawaii	-0.9	-1.6	-1.3	-0.7	1.2
Idaho	-1.4	-2.7	-2.5	-1.4	2.6
Illinois	-1.6	-3.5	-3.2	-0.9	1.8
Indiana	-1.3	-2.5	-2.3	-0.8	2.4
Iowa	-1.4	-2.7	-2.4	-1.0	2.6
Kansas	-1.0	-2.0	-1.7	-1.2	0.8
Kentucky	-1.4	-4.2	-3.3	-1.5	4.5
Louisiana	-1.6	-0.5	-0.6	-0.8	4.0
Maine	-1.4	-0.6	-0.7	-1.4	1.3
Maryland	-1.0	-0.4	-0.6	-1.4	0.7
Massachusetts	-1.1	-0.3	-0.5	-1.0	2.3
Michigan	-1.1	-2.7	-1.3	-1.1	2.6
Minnesota	-1.1	-2.5	-1.7	-1.3	2.4
Mississippi	-1.6	-0.6	-0.7	-1.1	3.6
Missouri	-1.3	-0.6	-0.7	-1.0	2.4
Montana	-2.0	-5.1	-4.5	-2.2	5.6
Nebraska	-1.2	-0.6	-0.7	-1.4	1.6
Nevada	-2.0	-0.5	-0.6	-1.8	3.0
New Hampshire	-1.1	-0.4	-0.6	-0.6	1.5
New Jersey	-1.3	-3.5	-2.1	-1.0	3.6

Table 4.1—Continued

State	Auto (first party)	Auto (third party)	Auto (overall)	WC	Medical Malpractice
New Mexico	-2.4	0.6	0.2	-1.0	7.8
New York	-1.2	-0.1	-0.7	-2.0	1.7
North Carolina	-1.5	-0.6	-0.7	-1.2	3.5
North Dakota	-1.2	-3.2	-2.3	-1.7	3.3
Ohio	-1.6	-3.4	-3.1	-1.5	1.8
Oklahoma	-1.4	-0.6	-0.7	-1.2	2.8
Oregon	-1.5	-4.5	-3.6	-1.4	2.4
Pennsylvania	-1.0	-0.6	-0.8	-1.0	1.9
Rhode Island	-1.4	-0.6	-0.6	-0.7	3.0
South Carolina	-1.6	-0.1	-0.1	-1.3	3.8
South Dakota	-1.2	-0.4	-0.5	-1.1	1.9
Tennessee	-1.3	-0.6	-0.7	-1.4	2.2
Texas	-1.5	0.1	-0.1	-1.5	5.0
Utah	-1.0	-0.3	-0.5	-1.4	1.0
Vermont	-1.2	-0.6	-0.7	-1.0	1.7
Virginia	-1.5	-0.2	-0.4	-0.9	3.1
Washington	-1.4	0.0	-0.3	-1.2	4.2
West Virginia	-1.7	-0.5	-0.7	-1.3	4.1
Wisconsin	-0.9	-0.6	-0.6	-0.7	0.4
Wyoming	-1.6	-0.6	-0.9	-1.7	3.7
U.S. total	-1.4	-1.7	-1.6	-1.4	2.8

NOTE: Negative numbers indicate reductions in spending. These figures are estimates with a wide degree of uncertainty that is impossible to quantify and do not necessarily imply the level of precision for which they are reported.

Potential Longer-Run Impacts

Our discussion thus far has focused primarily on the ACA's short- to medium-run impacts on liability markets and considered effects for which data exist that might provide a plausible means of approximating the size of the effect. Available data do not suggest that the ACA is likely to dramatically affect costs across most liability lines and states, at least in the near term. However, it seems at least possible that the ACA might engender more-substantial changes to the health care system that could, in turn, exert a more profound influence on liability markets. In this chapter, we discuss a few examples of such changes. This discussion is, of necessity, speculative at this point given that much about how the ACA will ultimately roll out remains unknown. Nevertheless, despite the difficulty in predicting whether some of the developments described will ultimately actually take place, it seems prudent for regulators, insurers, and others interested in the long-run health and functioning of liability insurance markets to monitor and be aware of the potential channels of impact we note. These developments could potentially have significant impacts on insurance system costs over a longer time horizon.

Changes in Tort Law

If health insurance ultimately becomes nearly universally available as a result of the ACA, as many proponents intend, the rationale for some features of current tort law may be undermined. For example, state-level WC systems were developed mostly during a period in which health insurance was uncommon among the American public, and a key purpose of WC was to afford injured workers the ability to obtain necessary medical treatment immediately following an injury without requiring them to first navigate a lengthy and uncertain tort process. One particular concern was that a worker's failure to obtain prompt medical treatment because of insufficient resources might delay treatment until after the point of maximum clinical benefit—which, in many cases, might be immediately following an injury—resulting in greater impairment and, ultimately, higher medical costs.

If most of the population has private health insurance that can provide treatment immediately following an injury, this rationale for the existence of WC is undermined. Although providing medical care is not the only function of WC—the system also, for example, helps to internalize the costs of worker safety for firms, providing them stronger incentives to improve worker health and safety than they might otherwise have—it seems at least possible that a substantial expansion of health insurance could lead policymakers to rethink some assumptions regarding WC. A more marginal change might involve better integrating treatment received through private health insurance with treatment received in WC by, for example, linking elec-

tronic records across the two systems. More radically, a state might consider making WC secondary to private health insurance as a way to constrain system costs or eliminating the medical care provisions of WC completely and focusing the system on wage replacement and other benefits. Vermont, for example, has begun instituting measures that would position the state to move to a single-payer health insurance model in which near-universal coverage is provided by the state. It remains to be seen what role, if any, the WC system would play in the Vermont single-payer system (Lunge, 2013).

Similarly, auto no-fault was enacted in many states to substitute a first-party payment process for a third-party process following auto crashes. The use of third-party insurance was thought to lead to delays and additional administrative costs in compensating injuries that could be avoided with a first-party system; in theory, growth in system costs arising from the introduction of a mandatory first-party insurance option could be constrained by limiting the right to sue. No-fault as actually implemented in most U.S. states has led to increased costs, however, leading some to call for reform or repeal of no-fault (J. Anderson, Heaton, and Carroll, 2010). Such calls may gain more resonance if the ACA coverage expansions limit some of the potential collateral consequences of repeal—namely, the inability of injury victims to receive prompt and affordable medical treatment and sufficient compensation to cover the costs of their medical care.

It remains an open question whether more-widespread availability of health coverage will engender a movement to shift some forms of injury that have been traditionally handled outside of the traditional tort system back into tort. Whether such a movement ultimately arises would probably also depend on other factors, such as improvements in accident-prevention technologies (e.g., autonomous vehicles) or changes in the organization and structure of the legal services industry. Clearly, such changes could have far-reaching implications for insurance availability and costs across multiple lines.

Less radical, but still potentially impactful, would be acceptance by the courts of new causes of action that have their origins in the ACA. Some commentators have argued, for example, that the ACA contains provisions that could be used to argue for the existence of new standards of care and that failure to comply with these standards could be used as a basis for a negligence claim in a medical malpractice suit (Chirba-Martin and Noble, 2013). If courts widely accepted such reasoning, ultimately this could expand liability of physicians, mitigating or even reversing any costs savings from other features of the ACA. However, it remains unclear whether such reasoning will carry weight with the courts, and some jurisdictions, such as Georgia, have already passed legislation designed to limit the possibility of such changes to tort law (Georgia General Assembly, 2013).

Growth in Accountable Care Organizations

ACOs are groups of providers who associate in order to provide the complete spectrum of care for a given patient population (CMS, 2013a). In contrast to the traditional fee-for-service model, in which providers are paid primarily based on the amount and types of care provided, ACO payment arrangements include financial incentives for providers who deliver higher-quality care or reduce costs. In theory, the ACO model is designed to facilitate better coordination of care and to encourage providers to adopt cost-saving treatments by allowing them to share financially in some of the savings generated by more cost-effective treatment. Although

ACOs are a relatively recent phenomenon, the number of ACOs is expanding rapidly, and the ACA includes various provisions designed to foster the further spread of ACOs.

Because the ACO model of care is relatively nascent, many questions regarding how ACOs will integrate with liability insurers remain. One unresolved issue concerns the extent to which ACOs will be open to treating those whose primary source of coverage is something other than Medicare or private health insurance. Should workplace injuries or other acute injuries be handled outside of the ACO model? If so, will non-ACO providers have access to the information and coordination technologies available within a patient's ACO? If not, will adjustments be made to the payments made to the ACO to account for the need for acute care, and, if so, how will the liability insurer coordinate with the health insurer? Thus far, such issues have remained largely in the background because many ACOs focus primarily on the Medicare population; however, as ACOs spread, collisions between the liability payers and providers operating under this new model seem increasingly likely.

If ACOs become widespread, it seems at least possible that the philosophy behind this payment model could be adapted for use in WC or even possibly first-party auto. In theory, some payment approaches found in ACOs—for example, payment on a per-patient versus a per-procedure basis or provider financial incentives for hitting certain quality or health targets on a population basis—could be adopted in WC managed care networks.

The rise in ACOs (and other ACA-related initiatives that seek to better coordinate care and move away from fee-for-service payment) (Calsyn and Lee, 2012) might also affect the MPL insurance landscape. If ACOs are successful at reducing medical errors through better coordination of care, or if they adopt evidence-based standards of care that might shield providers somewhat from professional liability, this might lower MPL claim costs. However, ACOs might also encourage provider consolidation and increased reliance on self-insurance with respect to MPL for large provider organizations, which might reduce demand for private MPL insurance. They could also provide new avenues for lawsuits if they are held to seek cost control over patient safety (Harvey and Cohen, 2013). Although much remains unresolved regarding how extensively ACOs will proliferate (Auerbach et al., 2013) and which types of providers and patients will ultimately choose to participate in these alternative payment arrangements, developments on the ACO front merit continued monitoring.

More generally, growth in ACOs and other global payment models may catalyze a shift away from volume and toward cost-effectiveness or parsimony in use of health care resources in technology. Several authors have recently attributed the recent slow-down in health care cost trends partially to the ACA (Ryu et al., 2013; Cutler and Sahni, 2013). If these effects are true and lasting, they could spill over to medical treatments applied to liability patients; studies have found that physicians tend to apply similar practice styles resulting from a dominant payer to other patients they treat (Glied and Zivin, 2002).

Medical Liability Demonstration Projects

The ACA included \$50 million to fund a series of medical liability demonstration projects that would allow states to implement and then evaluate alternatives to traditional tort remedies following medical injuries. Although Congress has not yet appropriated money for the projects, in a parallel process, the Agency for Healthcare Research and Quality (AHRQ) funded a series of 20 planning and demonstration grants focused on improving patient safety and advancing

alternative models for compensation and dispute resolution in medical liability cases. Included among these projects is work fostering the development of safe-harbor legislative proposals in Oregon; disclosure-and-early-offer initiatives in Massachusetts, Illinois, and Texas; and a judge-directed negotiation program in New York (AHRQ, undated). If ultimately appropriated, ACA funds could be used to expand upon and enlarge these initiatives.

Ultimately, in order for any of these initiatives to have far-reaching effects, they would need to be shown to be effective in reducing litigation or increasing satisfaction with the liability process for physicians or patients and would need to be replicable across other states and tort environments. These effectiveness and repeatability hurdles are significant; nevertheless, to the extent that the demonstration projects do identify promising alternatives to present approaches to tort liability, they could have important downstream effects on MPL insurers.

Changes in Population Health

Could wider availability of health insurance improve preventive care and ultimately lead to better population health? Improvements in population health could alter the disease profile of the U.S. population, increase longevity, and, as a consequence, directly affect the exposure and types of risks faced by liability insurers. Although it seems intuitively plausible to imagine that better access to health insurance would equate to better care and therefore better health, empirical evidence for this proposition remains surprisingly limited. The most prominent recent studies that convincingly demonstrate a relationship between health insurance and health generally consider impacts over relatively brief time windows and tend to exclude healthy individuals from the study population (Card, Dobkin, and Maestas, 2009). Moreover, recent experimental evidence on Medicaid expansions suggests that such expansions may not generate much clinical benefit in physical health status, at least in the short run (Baicker et al., 2013), although respondents did note improvement in self-reported health measures and depression (Baicker and Finkelstein, 2011). One of the strongest recent studies of a widespread health insurance expansion and its effects of population health considers the impacts of the introduction of Medicare and finds little impact on mortality in a ten-year time window (Finkelstein and McKnight, 2008). According to existing research, it thus remains fairly unclear whether the ACA would be expected to improve population health. However, if such changes were to take place, they might affect liability costs, with the direction of the effect depending in part on the nature of the population health improvement and the insurance line. For example, auto insurers could see a cost decrease if the ACA led to general improvement in health at younger ages, which reduced the amount of care required to recover from an injury. On the other hand, if the ACA increased longevity, increasing the average age of the driving population, this population health enhancement could augment auto insurers' costs.

Increased Subrogation by Medicaid

The 2007 Medicare, Medicaid, and SCHIP Extension Act (Pub. L. 110-173) established a mandatory reporting process whereby payments made by liability insurers to settle BI claims were reported to Medicare (see CMS, 2013b). The purpose for this process is to facilitate subrogation against liability awards by Medicare, thereby saving Medicare money. Prior to the pas-

sage of the law, subrogation was often complicated by the fact that liability payments routinely occurred well after Medicare had already made payments to medical providers (see Figure 3.1 in Chapter Three). With no system for advising Medicare that such payments had been made, it had limited ability to pursue subrogation.

Federal law also designates Medicaid as a secondary payer, but efforts to subrogate for Medicaid recipients face similar obstacles, and, because Medicaid is administered at the state level, subrogation rules and processes vary from state to state. The ACA Medicaid expansion—and the corresponding appreciable increase in costs of the program—may induce policymakers to search for ways to contain costs, particularly as the burden of paying for the Medicaid expansions shifts from the federal government to the states. One cost-containment option that could look attractive is more aggressive pursuit of subrogation. Changes in policies regarding subrogation could potentially affect all of the lines of insurance discussed in this report.

Increasing Medicaid subrogation could affect liability markets in more ways than simply the diversion of payments. Claim frequency is, in part, determined by the incentives that potential claimants and attorneys face in deciding whether to pursue claims, and norms regarding subrogation can alter the total amount of compensation available to an injured party. For example, in an environment in which subrogation generally does not occur, if Medicaid is expected to pay \$500 for medical care and then a liability insurer is expected to make a payment of \$1,000 to an injured party, a potential claimant should file a claim if the costs of doing so are less than \$1,500. However, if subrogation were widespread, then Medicaid would recover \$500 of the \$1,000 payment from the liability insurer, leaving only \$1,000 available in total compensation to the injured party and thus potentially reducing the incentive to file a claim in the first place. Thus, subrogation can lower the aggregate number of claims.

Subrogation can also affect the administrative costs of processing claims. Critics of the Medicare reporting process have cited numerous problems in rolling out the new system that have led to delays in settling claims.¹ Even with a well-functioning process, the need to accommodate numerous reporting standards and payment processes across different states should Medicaid become more active in subrogation could obligate insurers to devote more resources to processing claims, ultimately increasing their costs.

Ultimately, it is uncertain whether the ACA will actually induce more subrogation and, if it does, how this subrogation would affect claiming patterns. The subrogation issue thus remains one to monitor for the future.

Changes in the Supply of Physicians

The cost of treating injuries depends in part on the supply of physicians in different specialties. In theory, the ACA might over time shift the overall number or distribution of physicians across specialties in a manner that differentially affects liability insurers. If, for example, the ACA encourages more physicians to enter general practice, specialists may be able to increase their rates because of increased scarcity. If liability patients use the services primarily of specialists, we might expect the ACA to raise insurers' costs through this channel. However, at this point, there does not appear to be a strong theoretical argument as to why the ACA would

¹ The 2011 American Association for Justice report “Medicare Secondary Payer: How Streamlining a Broken Bureaucracy Will Protect Seniors and Taxpayers” provides an illustrative example.

encourage physicians to shift into particular specialties. Moreover, the prospect of rising future demand for health care services due to the ACA coverage expansions creates some incentives today for workers to enter the health care workforce.

Shorter-run analysis of the physician labor market following the Massachusetts health care reform suggests that reform there did increase the number of individuals in the health care workforce but that increases were concentrated among administrative personnel and patient care support positions as opposed to physicians and nurses (Staiger, Auerbach, and Buerhaus, 2011). Although Massachusetts differs from other states in important dimensions, this initial evidence suggests that the ACA may not have profound impacts on the type of physicians practicing, at least in the short run. However, it seems at least possible that, in the medium to longer term, changes to the health care system brought about by the ACA may affect returns to practicing in particular specialties or alter incentives to invest in medical school or retire from practice. At this point, there seems to be little basis for speculation regarding the magnitude or direction of such effects, but workforce trends likely merit further monitoring as implementation proceeds.

To summarize, there are several potential channels through which the ACA might more profoundly affect claim costs borne by liability insurers. However, there is considerable uncertainty regarding whether such impacts will ultimately be realized and how big the impacts would be. Most such changes would require a longer period of time to develop, so insurers and other stakeholders will be able to collect additional data as the law is implemented that can provide for more informed projections as to whether these impacts are likely to manifest.

Conclusions

Will the ACA affect liability insurers' costs in the near to medium term? Our answer is yes. In particular, this report suggests that the ACA provisions that expand coverage and change Medicare payment rates have the potential to affect liability insurance costs through a variety of plausible mechanisms. Chief among these are direct changes in reimbursement rates for providers, changes in the availability of payments from collateral sources, changes in the volume of care—with corresponding implications for MPL—and shifts in the likelihood that consumers will use liability coverages to cover unrelated medical conditions.

The bulk of the effects we estimate would serve to reduce liability costs—though for different reasons. Two generally stem from the fact that, when people do not have health insurance but need medical treatment, some of the costs they incur are shouldered by other payers, which can include liability payers in certain situations. Those costs would be reduced if more individuals had health insurance. Some of the cost-control mechanisms of the ACA, such as reductions in payment rates for providers, would have spillover benefits to liability payers. On the other hand, the increase in care provided that comes with coverage expansions would likely increase the number of successful medical malpractice lawsuits as well.

Will the ACA's impacts on costs be large? Here we must offer a more qualified answer. Currently available data coupled with reasonable assumptions suggest that the impacts of the law may not be large, at least on average. However, there is important variation across states in the legal environment, in anticipated changes in coverage due to the ACA, and in the structure of insurance markets that suggests that the ACA's impacts may not be evenly felt across all lines of insurance and all regions of the country. For example, states with large expected coverage expansions and limits to the CSR could experience substantial (on the order of 5 percent) reductions in expected claim costs in auto markets and similarly sized increases in MPL costs. Whether WC fees are tied to Medicare fees also drives variation in effects across states.

There are also contingencies and uncertainties that will affect our results. Some will be resolved, ultimately—for example, if all states took up the Medicaid coverage expansions under the ACA, projected claim costs for auto and WC would be reduced by an additional \$100 million, while expected medical malpractice claim costs would grow by an additional \$18 million. However, as discussed in Chapter Five, a number of the law's effects remain uncertain and, if one or more of the impacts we discuss in that chapter are eventually realized, such developments have the potential to alter the magnitude or possibly even the sign of the law's effect on liability costs. Thus, considerable uncertainty remains regarding the ACA's ultimate impacts on liability costs, even in the medium term.

Table 6.1 provides a summary of our findings by line of insurance. In addition to describing the expected impacts for each line, we identify the future developments that appear most

Table 6.1
Summary of Findings, by Market

Market	Expected Short-Run Impact, Holding Other Factors Constant	Trends to Monitor
WC	Modest cost reduction on average, with some variation across states	Do ACOs and other payment reforms effectively constrain treatment cost growth?
MPL	Cost increase, with appreciable variation across states	Does MPL claim frequency rise more quickly than would be expected based on coverage expansion? Are courts accepting of new causes of action based on ACA provisions?
First-party auto	Modest cost reduction, with moderate variation across states	Are states adopting legislated fee schedules? Is there movement away from no-fault coverage?
Third-party auto	Small to moderate cost reduction, with wide variation across states	Is there a change in subrogation intensity—e.g., Medicaid?
All, general	Small overall reduction	Do insurance coverage expansions play out as expected?

likely to offer inflection points that could qualitatively change how the ACA affects the liability markets in question.

Looking further into the future, the ACA carries with it at least the potential to foster broader changes in the U.S. health care system that could also have significant ramifications for the costs of providing liability insurance. To effectively understand the long-term health and trajectory of the U.S. liability insurance marketplace, stakeholders will need to continue to monitor ACA implementation and how it progresses.

How the RAND COMPARE Microsimulation Model Works

RAND Health researchers developed the COMPARE microsimulation model to use economic theory and existing evidence from smaller-scale changes (e.g., changes in Medicaid eligibility) to project how households and firms would respond to health care policy changes.¹ A microsimulation model uses computer software to develop a synthetic U.S. population made up of individuals, families, firms, and the federal and state governments.

Individuals, firms, and other agents (the general name given to entities that can take actions) in our model make decisions using a customized rule book, which takes into account such factors as individual and family characteristics, prices, and government regulations. For example, if an offer is available, an individual in our model would make the choice to enroll in employer-sponsored health insurance or not after considering the following:

- whether he or she was eligible for other options, such as Medicaid
- the cost of employer-sponsored insurance, overall and relative to other options
- individual characteristics, such as total family income and health
- whether the government offered an incentive to enroll in insurance, such as a tax credit, or a penalty for non-enrollment.

The individual's decision in the status quo might change after a policy intervention. For example, a person who declines employer-sponsored insurance in the status quo might opt to enroll in an insurance plan if the government introduced an individual mandate with a substantial non-enrollment penalty. Firms in our model also follow a rule book, opting to offer health insurance after considering the value of insurance as a recruitment and retention tool, the expected cost of offering a policy, and any government regulations that might provide an incentive or disincentive to offer insurance.

An advantage of the microsimulation approach is that it allows us to incorporate interactions among agents (firms, households, and the government) in the model. For example, a Medicaid expansion might cause some newly eligible workers to drop employer-sponsored health insurance in favor of public coverage. Employers in our model can respond to this behavior by reassessing the benefit of providing health insurance to workers. If a substantial share of workers becomes newly eligible for Medicaid, then the firm may decide to stop offering insurance. Similarly, an employer mandate that imposes a penalty on nonoffering firms

¹ See, for example, the recent paper, Eibner et al., 2013. More general information about the model is available at RAND Corporation, 2013a.

may lead some businesses to begin offering health insurance. In response, some workers in these firms might opt to take employer coverage.

The first step in using the microsimulation is to compute the status quo—the way things now stand. It is crucial that the status quo configuration provide a realistic picture of the U.S. population at a point in time. For example, insurance premiums predicted by the model must match observed premiums with reasonable accuracy.

The second step is using the model to simulate a policy option. We simulate policy options by altering the values of appropriate attributes (e.g., health insurance premiums, regulatory requirements, worker preferences) and allowing the agents to respond to these changes and settle into a new equilibrium. We can then compute the outcome of the policy option by comparing the new equilibrium with the status quo. The model not only predicts the effect of various health policy options on spending, coverage, and health outcomes but also predicts how specific design features influence the effects of a policy option. For example, depending on the magnitude of the noncompliance penalty and the degree to which small firms are excluded from the mandate, an employer mandate may have a very different effect on health insurance coverage.

Data for developing the model population and predicting household and firm behavior come from nationally representative surveys conducted by government agencies and private foundations. Key data sources used in the model include the Survey of Income and Program Participation (SIPP), the Medical Expenditure Panel Survey (MEPS), the Kaiser Family Foundation/Health Research and Educational Trust (Kaiser/HRET) Employer Survey, and the Statistics of U.S. Businesses (SUSB). We also draw from published literature, as well as from documentation published by other modelers—most especially by Jonathan Gruber of the Massachusetts Institute of Technology (MIT) and the Urban Institute.

Detailed Analysis of the Relationship Between Insurance Coverage and Paid Medical Malpractice Claims

In this appendix, we display results from three multiple regression analyses testing the association between insurance coverage and medical malpractice claims (see Table B.1). The analysis is motivated by the question of whether the ACA might affect malpractice claims by increasing insurance coverage rates.

The claims (dependent variable) derive from the NPDB, which documents paid malpractice claims on behalf of individual physicians. We computed the number of paid claims per year involving patients grouped into ten-year age/sex/state/year of injury groups. We looked

Table B.1
Estimated Relationship Between the Number of Paid Malpractice Claims and the Percentage of the Population with Health Insurance

Variable	Coefficient	Standard Error
I. Without ACS controls		
Medicare	0.015	0.011
Medicaid	0.027**	0.008
Private insurance	0.029**	0.010
II. With ACS controls ^a		
Medicare	0.015	0.017
Medicaid	0.026**	0.012
Private insurance	0.033**	0.015
III. With ACS controls and population weighting		
Medicare	0.009	0.012
Medicaid	0.012	0.009
Private insurance	0.009	0.011

^a Control variables include race, disability, unemployment status, citizenship, marital status, veteran status, household income, whether on public assistance, and part-time employment status.

NOTE: Reported coefficients are from a Poisson regression in which the outcome is the number of paid malpractice claims from a population/year cell and the primary explanatory variable is the fraction of the population who had various types of insurance, with the uninsured acting as a reference group. N = 2,142. Standard errors clustered on state are reported in the table. * = significance at $p < 0.1$. ** = significance at $p < 0.05$.

for a relationship with insurance coverage, creating the same groupings in the ACS and using the ACS health insurance coverage variables (and other demographics and covariates) for 2008 through 2010.

The data were limited to individuals up to age 70 because those 70 and over are almost universally covered by Medicare. During this period, most of the variation in health insurance coverage over time was related to the recession, which led to loss of private insurance and some take-up of Medicaid. The changes motivated by the ACA are of a somewhat different nature, resulting from insurance subsidies, Medicaid expansion, and individual and employer mandates. Thus, the results should be interpreted with some degree of caution but should provide some insight into relationships between insurance coverage and malpractice claiming behavior. The main mechanism we consider stems from the fact that insurance coverage tends to increase contact with, and services received from, medical providers—which should be related to the likelihood of adverse events and, therefore, lawsuits.

The regression strategy employs state-year dummies to control for NPDB reporting anomalies, features of tort law, and other changes occurring in states during those years, and age-sex-year controls to isolate the impact to changes in coverage within age-sex cells. The second and third specifications include other covariates from the ACS that may be related to insurance coverage status, such as income and employment status. We present three specifications: The first employs only the demographic dummies and the insurance variable indicator variables. The second employs the ACS covariates, such as race, income, and employment status, of the relevant cell. The third uses population weights for each cell in the regression. In all cases, the coefficients on the insurance variables are interpretable as percentage changes in the malpractice claim rate for a given percentage-point change in coverage of the type indicated. In other words, a coefficient of 0.01 implies that a 10-percent increase in insurance coverage of the type specified is associated with a 10-percent greater likelihood of a malpractice claim.

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