The RAND Corporation is a nonprofit institution that helps improve policy and decisionmaking through research and analysis.

This electronic document was made available from www.rand.org as a public service of the RAND Corporation.

Skip all front matter: Jump to Page 1 ▼

Support RAND

Browse Reports & Bookstore

Make a charitable contribution

For More Information

Visit RAND at www.rand.org

Explore the RAND Corporation

View document details

Effects of the Affordable Care Act on Consumer Health Care Spending and Risk of Catastrophic Health Costs

Sarah A. Nowak, Christine Eibner, David M. Adamson, Evan Saltzman

RAND
CORPORATION

The RAND Corporation is a nonprofit institution that helps improve policy and decisionmaking through research and analysis. RAND's publications do not necessarily reflect the opinions of its research clients and sponsors.

Preface

The Affordable Care Act (ACA) is intended to expand Americans' access to health care. Millions of Americans will become newly insured, and millions of others will change the source of their health insurance. Changes introduced by the law include new requirements for employers to offer coverage, tax credits and subsidies for individuals who lack affordable coverage, and a Medicaid expansion in participating states. These changes could have a significant impact on consumers' health care spending. In this report, we use RAND's Comprehensive Assessment of Reform Efforts (COMPARE) microsimulation model to analyze how consumers' out-of-pocket health care costs and total health spending, including premiums, may be affected by the law. We also consider how the law could affect consumer financial risk, measured using the probability that an individual experiences catastrophically high health spending (e.g., health spending in excess of 10 percent or 20 percent of income). We find that the law widely reduces out-of-pocket spending, as well as the risk of experiencing a catastrophic health expenditure. Effects on total health spending are varied, with some individuals experiencing a decrease and others experiencing an increase.

Abstract

This study examines the likely effects of the Affordable Care Act (ACA) on average annual consumer health care spending, the risk of catastrophic medical costs, and average annual consumer health spending and the risk of catastrophic medical costs for low-income individuals in two large states: one in which Medicaid will not be expanded (Texas) and one in which expansion appears unlikely but remains undecided as of August 2013 (Florida). The ACA will have varied impacts on individuals' and families' spending on health care, depending on income level and on estimated 2016 insurance status without the ACA. The authors find that average out-of-pocket spending is expected to decrease for all groups considered in the analysis, although decreases in out-of-pocket spending will be largest for those who would otherwise be uninsured. People who would otherwise be uninsured who transition to the individual market under the ACA will have higher total health care spending on average after implementation of the ACA because they will now incur the cost of health insurance premiums. The authors also find that risk of catastrophic health care spending will decrease for individuals of all income levels for the insurance transitions considered; decreases will be greatest for those at the lowest income levels. Case studies found that in Texas and Florida, Medicaid expansion would substantially reduce out-of-pocket and total health care spending for those with incomes below 100 percent of the federal poverty level, compared with a scenario in which the ACA is implemented without Medicaid expansion. Expansion would reduce the risk of high medical spending for those covered under Medicaid who would remain uninsured without expansion.

Table of Contents

Figures

Tables

Summary

Purpose and Approach

The purpose of the study is threefold:

1. to examine the likely effects of the Affordable Care Act (ACA) on average annual consumer health care spending
2. to examine the likely effects of the ACA on the risk of catastrophic medical costs[1]
3. to examine the likely effects of the Medicaid expansion under the ACA on average annual consumer health spending and the risk of catastrophic medical costs for low-income individuals in two large states: one in which Medicaid will not be expanded (Texas) and one in which expansion remains undecided (Florida).

For the first two parts of this study, we used RAND's Comprehensive Assessment of Reform Efforts (COMPARE) microsimulation model to estimate consumer health care spending (comprising out-of-pocket spending—which includes spending on co-payments, coinsurance, and deductibles—plus consumer spending on premiums[2]) for the newly insured and those who change their source of coverage. We then compared these estimates with similar estimates of what these consumers would spend for health care if the ACA were not in effect. We took a national perspective and focused on a single year—2016—when the ACA is expected to take full effect.

For the third part of this study, we used the COMPARE model to estimate consumer health care spending in Florida and Texas in 2016 under the ACA with and without Medicaid expansions for low-income residents.

---

[1] We define *catastrophic medical costs* as falling into one of two classes: 10 percent of annual income, which we label as *high medical cost burden*, and 20 percent of annual income, which we refer to as *very high medical cost burden*.

[2] For individuals with employer-sponsored insurance (ESI) plans, we consider only the employee contribution to be the premium paid by the consumer. For individuals who receive premium subsidies under the ACA, we consider the premium paid by the consumer to be the total premium minus the subsidy.

Key Findings and Conclusions

National-Level Results

We find that the ACA will have varied impacts on consumers' health care spending, depending on their income level and their insurance status compared with what it would otherwise be in 2016 in the absence of the ACA.

Out-of-pocket spending will decrease. Out-of-pocket health care spending will decrease for the newly insured, as well as for those changing their source of insurance. Decreases in out-of-pocket spending will be largest for those who would otherwise be uninsured. In some cases these reductions will be dramatic. For example, the largest reduction in out-of-pocket spending will be for the 11.5 million newly insured who join Medicaid after implementation of the ACA. Their reduction in out-of-pocket spending will be nearly fortyfold—from $1,463 to $34 per year.

Effects on total spending will vary, depending on income levels and the type of insurance transition. Some consumers, such as the 11.5 million who become newly insured by Medicaid and the 3.9 million with incomes below 400 percent of the federal poverty level (FPL) who are insured on the pre-ACA individual market without the ACA and who transition to the new ACA-regulated individual market, will see total spending, which includes both out-of-pocket and consumer spending on health insurance premiums, fall. Others, such as the 16.5 million consumers who are uninsured without the ACA and who become newly insured on the individual market, will see their total spending rise under the ACA. Of these 16.5 million consumers, the 3.3 million with incomes over 400 percent of the FPL will experience the greatest increase in costs. These consumers will spend $7,202 under the ACA, compared with $5,368 without the ACA. This increase is explained largely by the fact that newly insured consumers are paying premiums for the first time—and for those with incomes above 400 percent of the FPL, these premiums are not subsidized by the government—and thus their total spending on health care will increase even though their out-of-pocket spending will go down.

Consumers will have reduced risk of catastrophic medical costs. Consumers at all income levels and undergoing all insurance transitions considered in our analysis will be less likely to have catastrophic medical costs after implementation of the ACA. Those consumers with the lowest incomes will see the most dramatic reductions in risk of catastrophic medical costs. For example, the 11.5 million individuals who become newly insured by Medicaid will see their risk of spending at least 10 percent of income on medical costs decrease from 45 percent to 5 percent.

State-Level Results: Case Studies of Texas and Florida

To examine the effects of a state's decision to expand Medicaid, we conducted a more granular analysis focused on two states: Texas and Florida. We assumed that the ACA is in effect, but under two alternative scenarios: one with Medicaid expansion and one without expansion. Because a state's decision to expand Medicaid overwhelmingly affects lower-income

populations, we focused this analysis on people with incomes below 100 percent of the FPL and those between 100 and 138 percent of the FPL. We chose both of these groups because the Medicaid expansion's upper income bound is 138 percent of the FPL. In many states, the current income eligibility limit for Medicaid is well *below* 100 percent of the FPL for many potential participants, such as childless adults; furthermore, if a state chooses not to expand Medicaid, consumers with incomes *over* 100 percent of the FPL will become eligible for subsidies on the individual exchanges, while individuals with incomes below 100 percent of the FPL will not. This means that in such states, many people with incomes below 100 percent of the FPL will face either large amounts of out-of-pocket spending or a high risk of catastrophic health care costs, or both.

Our results show that if Medicaid is not expanded, out-of-pocket and total health care spending would be dramatically higher for individuals with incomes below 100 percent of the FPL in both states, compared with a scenario in which the ACA is implemented with Medicaid expansion.

- For individuals with incomes below 100 percent of the FPL in Texas, expanding Medicaid in Texas would cover 3.5 million people, compared with 2.2 million under non-expansion. Of the 1.3 million who would not gain Medicaid coverage in the absence of expansion, 1.2 million would be uninsured. Coverage for these individuals under the individual exchanges will be prohibitively expensive because they will not be eligible for subsidies. Out-of-pocket spending for people in this income group who remain uninsured under non-expansion would be dramatically larger: $1,831 per year, compared to $28 per year with Medicaid expansion.

- Results are similar for Florida. For individuals with incomes below 100 percent of the FPL, expanding Medicaid would cover 2.1 million people, compared with 1.3 million without an expansion. As in Texas, coverage for these individuals under the individual exchanges will be prohibitive because they will be ineligible for subsidies. Of the 1.3 million who would not gain Medicaid coverage in the absence of expansion, 740,000 would be uninsured. Out-of-pocket spending for those in this income group who remain uninsured under non-expansion would be dramatically larger: $1,994 per year, compared to $31 per year with Medicaid expansion.

- In both states, the decision to expand Medicaid will have more modest effects on individuals with incomes between 100 and 138 percent of the FPL because these individuals will be eligible for generous subsidies to offset out-of-pocket costs and premiums if Medicaid is not expanded.

Conclusions

The ACA will have varied impacts on individuals' and families' spending on health care, depending on their income level and on their estimated 2016 insurance status without the ACA. We find that average out-of-pocket spending is expected to decrease for all groups considered in

our analysis, although decreases in out-of-pocket spending will be largest for those who would otherwise be uninsured. People who would otherwise be uninsured who transition to the individual market under the ACA will have higher total health care spending on average after implementation of the ACA because they will now incur the cost of health insurance premiums. We find that risk of catastrophic health care spending will decrease for individuals of all income levels for the insurance transitions we consider; decreases will be greatest for those at the lowest income levels.

Our case studies found that in Texas and Florida, Medicaid expansion would substantially reduce out-of-pocket and total health care spending for those with incomes below 100 percent of the FPL, compared with a scenario in which the ACA is implemented without Medicaid expansion. Expansion would reduce the risk of high medical spending for those covered under Medicaid who would remain uninsured without expansion.

Acknowledgments

1. Introduction: Insurance Transitions and Consumer Health Care Spending Under the Affordable Care Act

Background

The Affordable Care Act (ACA) is intended to expand Americans' access to health care. Millions of Americans will become newly insured, and millions of others will change the source of their health insurance. These changes could have a significant impact on consumers' health care spending.

As the law's name suggests, it is also intended to make health care more affordable for Americans. Escalating health care costs pose a substantial burden for Americans. Between 2001 and 2010, the share of working-age adults with medical expenses totaling 10 percent or more of income increased from 21 percent to 32 percent. At the same time, the proportion of working-age adults below the poverty line with medical costs above 10 percent of income more than doubled (Collins et al., 2011). Simultaneously, the percentage of individuals in families reporting difficulty paying their medical costs increased from 15 percent to 21 percent (Sommers and Cunningham, 2011). Among those forgoing necessary care, the share of people citing cost as a reason for doing so has increased from 65 percent to 75 percent (Bokus and Cunningham, 2011). The uninsured and underinsured,[3] who may face particularly high out-of-pocket health care costs (which includes spending on co-payments, coinsurance, deductibles, and other consumer cost-sharing required by health insurance plans) appear to be most vulnerable to the risks of catastrophic medical expenses (Schoen et al., 2008) and delaying or foregoing necessary treatment (Chernew and Newhouse, 2008; Brixner, 2006). The size of both the uninsured and underinsured groups has been steadily increasing in recent years (Schoen et al., 2008); the combined size of these groups grew from 61 million in 2003 to 75 million in 2007. Individuals with employer-sponsored insurance (ESI) have been affected as well. Employee premium contributions in the private sector approximately tripled from 1996 to 2011, representing an average annual growth rate of about 8 percent (Branscome, 2012). Some researchers argue that wages would have risen much more over the past decade had employers not faced steeply rising premium costs (Auerbach and Kellerman, 2011).

The ACA attempts to address these spending increases through a number of mechanisms. The law's Medicaid expansion offers low-income individuals health insurance coverage with no premium and with effective coinsurance rates (the fraction of covered expenses paid by the insured individual) near zero. Simultaneously, the insurance exchanges will make coverage more

---

[3] Underinsured individuals are insured but have policies that do not adequately cover their medical expenses.

widely available to individuals and employees of small businesses. In addition, new incentives for employers to offer insurance may give many more people access to traditional ESI. Employers typically pay a large share of premiums for employees and their families, and plans tend to be relatively generous. The ACA will also require all plans, including those offered on the individual market, to offer a minimum set of benefits and to adhere to minimum levels of generosity with respect to cost-sharing. These rules could significantly reduce out-of-pocket spending among individual market enrollees, since plans currently offered on the individual market tend to have relatively high cost-sharing and cover a limited set of benefits (Hill, 2012). Finally, the ACA establishes health insurance exchanges in which qualifying individuals with incomes between 138 and 400 percent of the federal poverty level (FPL, which equals $23,550 for a family of four in 2013) will be able to purchase health insurance with subsidized premiums and out-of-pocket costs. These changes have the potential to reduce consumers' vulnerability to potentially catastrophic health care costs.

Examining the Effect of Health Care Transitions Under the ACA

In this analysis, we estimate how the ACA will affect consumers' out-of-pocket and total health care spending and their risk of catastrophically high health care costs. We define total health care spending as out-of-pocket spending (spending on co-payments, coinsurance, deductibles, and other consumer cost-sharing required by health insurance plans) plus premiums paid by consumers.[4] We focus on 2016, the first year in which penalties for noncompliance with the individual mandate will be fully phased in, and consider two scenarios: one in which the ACA is fully implemented, and another that predicts 2016 outcomes without the ACA. This comparison allows us to estimate the effect of the ACA on health care spending. In our analysis, we assume that Medicaid eligibility requirements do not change following implementation of the ACA in 14 states whose leadership has said that they will not expand their Medicaid programs (Kliff, 2013).[5] We assume that the additional 12 states that are leaning toward not expanding (but are currently undecided) do expand Medicaid. In our national model, we assume that Texas does not expand Medicaid, but Florida does. We factor this assumption into the impact on both individuals who would be uninsured in 2016 were the ACA not to go into effect and on those who we predict would be insured in 2016 without the ACA. Within each of these groups, we considered the impact on

---

[4] For individuals with ESI plans, we consider only the employee contribution to be the premium paid by the consumer. For individuals who receive premium subsidies under the ACA, we consider the premium paid by the consumer to be the total premium minus the subsidy.

[5] The number of states deciding not to expand Medicaid remains fluid as of August 2013; the estimate of 14 states deciding not to expand Medicaid is probably best considered a lower bound, but the number could change as the political landscape continues to evolve.

1. individuals with incomes below 138 percent of the FPL; most of these individuals will become Medicaid-eligible under the ACA
2. individuals with incomes between 138 percent and 400 percent of the FPL; most of these individuals who do not have an affordable health insurance offer from their employer will become eligible for premium subsidies for purchasing insurance on the new health insurance exchanges, and many will become eligible for cost-sharing subsidies that will offset their out-of-pocket medical costs
3. individuals with incomes above 400 percent of the FPL who will be able to purchase insurance on the new individual market but will not be eligible for subsidies or public insurance programs.

This study addresses the following questions:
- How will the ACA affect
  - out-of-pocket and total health care spending for newly insured consumers?
  - health care spending for consumers who change their source of insurance?
  - the fraction of individuals at risk of high health care cost burden (total annual spending that exceeds 10 percent of income)?
- How will these effects vary by source of insurance and income level?

Finally, because our analysis at the national level includes both people living in states that will expand Medicaid and in states that will not expand Medicaid, we conduct state-level analysis to address the following question:
- How will the decision of whether to expand Medicaid affect out-of-pocket and total health care spending, as well as the risk of high health care cost burden in particular states? To address this question, we conducted case studies of two large states: one in which Medicaid will not be expanded (Texas) and one in which expansion remains undecided (Florida).

Methods

To answer these questions, we used RAND's Comprehensive Assessment of Reform Efforts (COMPARE) microsimulation model. The COMPARE model uses synthetic populations of individuals, households, and firms, generated using data from the 2008 Survey of Income Participation, the 2002–2003 Medical Expenditure Panel Survey (MEPS), and the Kaiser Family Foundation/Health Research and Educational Trust Employer Survey (Kaiser/HRET). Additional data sources used in COMPARE are the Survey of U.S. Businesses (SUSB) and the Group Medical Insurance Large Claims Data Base (Society of Actuaries, 2002). Individuals and households in COMPARE make decisions about whether and what type of insurance to get by weighing the costs and benefits of available options. Firms decide whether to offer insurance to

employees by weighing workers' preferences against the cost of offering an insurance policy. Additional detail can be found in the technical appendix.

To estimate out-of-pocket medical expenses, we developed synthetic plans, defined by a deductible, a coinsurance level, and a maximum out-of-pocket spending amount. We designed different plans for Medicaid, the current individual market, ESI, and uninsured individuals. We grouped together adults and children covered under Medicaid and children covered under the Children's Health Insurance Plan (CHIP) because of the similarity of these programs. We designed an effective plan for the uninsured because, while they lack a formal insurance plan, the uninsured do not always pay the full cost of their medical care (Glied and Mahato, 2008), as providers are not always compensated for all care they provide. These plans were designed to have effective actuarial values (the percentage of covered care paid by insurance) of 99 percent,[6] 65 percent,[7] and 80 percent (Gabel et al., 2006; McDevitt et al., 2010) for Medicaid, nongroup, and ESI, respectively. While effective actuarial values may vary from state to state because of differences in cost-sharing and co-payments for Medicaid or differences in state regulations or other factors that may impact the private insurance market, because most actuarial values are estimated using national data, we were unable to resolve possible state-specific differences and assumed that actuarial values did not vary across states. We designed an effective plan for the uninsured based on observed total spending and out-of-pocket spending for this group in the MEPS. In addition, we designed plans for each of the four tiers of plans that will be available on the individual exchanges: the bronze, silver, gold, and platinum plans. These have actuarial values of 60 percent, 70 percent, 80 percent, and 90 percent, respectively. We designed these plans so that they satisfied the limits on maximum out-of-pocket costs that individuals and families can pay set by the ACA. Certain consumers will be eligible for cost-sharing subsidies, which will decrease their effective out-of-pocket expenses, if they purchase a silver policy through the exchanges. We designed additional plans for each level of cost-sharing subsidy. We then used these synthetic plans to estimate total and out-of-pocket health spending for consumers for each insurance option that could be available to them in 2016. Because consumers use more health care when they pay a lower share of the costs, we accounted for the effects of plan generosity on health expenditure by using elasticities of demand from the RAND Health Insurance Experiment (HIE; Newhouse et al., 1993) and the Oregon HIE (Finkelstein et al., 2011). Our estimates of out-of-pocket costs for individuals with public or private insurance include only the costs of covered care. For example, our estimated costs do not include services not covered, such as adult dental care, and do not include increased costs that individuals incur if

---

[6] Medicaid benefits for children have an actuarial value of 100 percent, but adult benefits are less comprehensive, although it is difficult to get an exact number. 100 percent actuarial value for children is described in Peterson (2009).

[7] This number comes from a combination of expert opinion and the Henry J. Kaiser Family Foundation (DiJulio and Claxton, 2010).

they obtain care from out-of-network providers. Additionally, our estimates do not include increased costs incurred if, due to hassle or delayed approval processes, individuals choose to pay entirely out of pocket for goods or services that would otherwise be covered by insurance.

We compared predicted health insurance outcomes with and without implementation of the ACA for 2016, the first year in which penalties for noncompliance with the individual mandate are fully phased in. We use the language "with and without" the ACA rather than "before and after" the ACA because estimates are standardized to reflect population characteristics and price levels in a fixed year, 2016. As noted, our ACA scenario assumes that 14 states do not expand their Medicaid programs. In addition, estimates without the ACA eliminate all ACA-related provisions, including some—like changes to the medical loss ratio (MLR)—that have already gone into effect. Results reflect 2016 outcomes even in scenarios in which the ACA is not implemented so that we maintain a consistent population base and price levels.

As noted, we grouped individuals covered under Medicaid with children covered under CHIP. Because eligibility requirements do not change for CHIP under the ACA, the large majority of individuals who we predict will become newly insured on Medicaid or CHIP under the ACA will be insured on Medicaid and not on CHIP.

We treated the pre-ACA individual market and the post-ACA individual markets as distinct because of the many regulations and changes that will be enacted in the post-ACA market, including guaranteed issue, rating restrictions, minimum actuarial value requirements, and subsidies that will help many individuals, particularly those with incomes between 138 and 400 percent of the FPL, to offset premium and out-of-pocket costs. In contrast, we did not treat the newly regulated small group market (including the Small Business Health Option Programs, also known as the small group exchanges, or SHOP) as distinct from the pre-ACA market. We did this because many regulations, including guaranteed issue and rating restrictions, are already in effect for firms with fewer than 50 employees, due both to the Health Insurance Portability and Accountability Act (HIPAA) and state-specific laws. Furthermore, the ACA and subsequent regulation require that states define the essential health benefit (EHB) to be offered in the small group and individual markets based on a "typical" employer plan. States were asked to choose a benchmark plan to define the EHB, with the default option being the largest small group plan by enrollment existing in the state. All but six states have either proactively chosen their largest small group plan as the benchmark or have defaulted to this option (Corlette et al, 2012).

Organization of the Report

The rest of this report is organized as follows: Chapter Two presents the results of our analysis of the ACA's likely effects on coverage, consumer health care spending, and risk of catastrophic medical costs nationwide. Chapter Three focuses on the effects of state decisions to expand Medicaid. It presents the results of case studies of the ACA's likely effects in Texas and Florida, focusing on lower-income populations and comparing their health care spending and

risk of high medical costs under two scenarios: one in which Medicaid is expanded and the other in which it is not.

2. Results: Individual Health Care Spending Under the ACA

In this chapter, we present our national-level results organized around consumer transitions into and between sources of coverage. These transitions consist of

1. **the previously uninsured newly acquiring insurance from one of three sources**
   - Medicaid
   - the new individual market under the ACA
   - employer coverage, including the new SHOP exchanges and traditional ESI, which some previously uninsured individuals will acquire (because some employers may offer coverage as a result of the ACA, and some employees may be motivated to take up an existing employer plan)
2. **the previously insured changing their source of coverage**
   - from traditional ESI to Medicaid
   - from traditional ESI to coverage through the newly regulated individual market
   - from pre-ACA individual market coverage to coverage under the newly regulated individual market
   - from pre-ACA individual market coverage to Medicaid
   - from pre-ACA individual market coverage to ESI, including SHOP
   - from Medicaid to ESI, including SHOP
3. **the previously insured losing coverage as a result of the law.**
   - We predict that a relatively small number of individuals will become uninsured as a result of the ACA; we briefly list results for this group here, as we do not discuss this group in further detail later in the report. We estimate that 2.3 million people previously insured on the individual market will become uninsured, and 1.5 million previously insured through ESI will become uninsured. This is because, depending on a consumer's age, income, and health status, he or she may face higher premiums on the individual market under the ACA than without the ACA and may choose to become uninsured as a result; the young and healthy with incomes over 400 percent of the FPL are most likely to see their premiums increase. Similarly, depending on a firm's risk composition, it may face higher ESI premiums under the ACA and may drop coverage as a result. It is important to note that, overall, we predict that many more individuals will become newly insured on ESI and the individual market than will become uninsured.
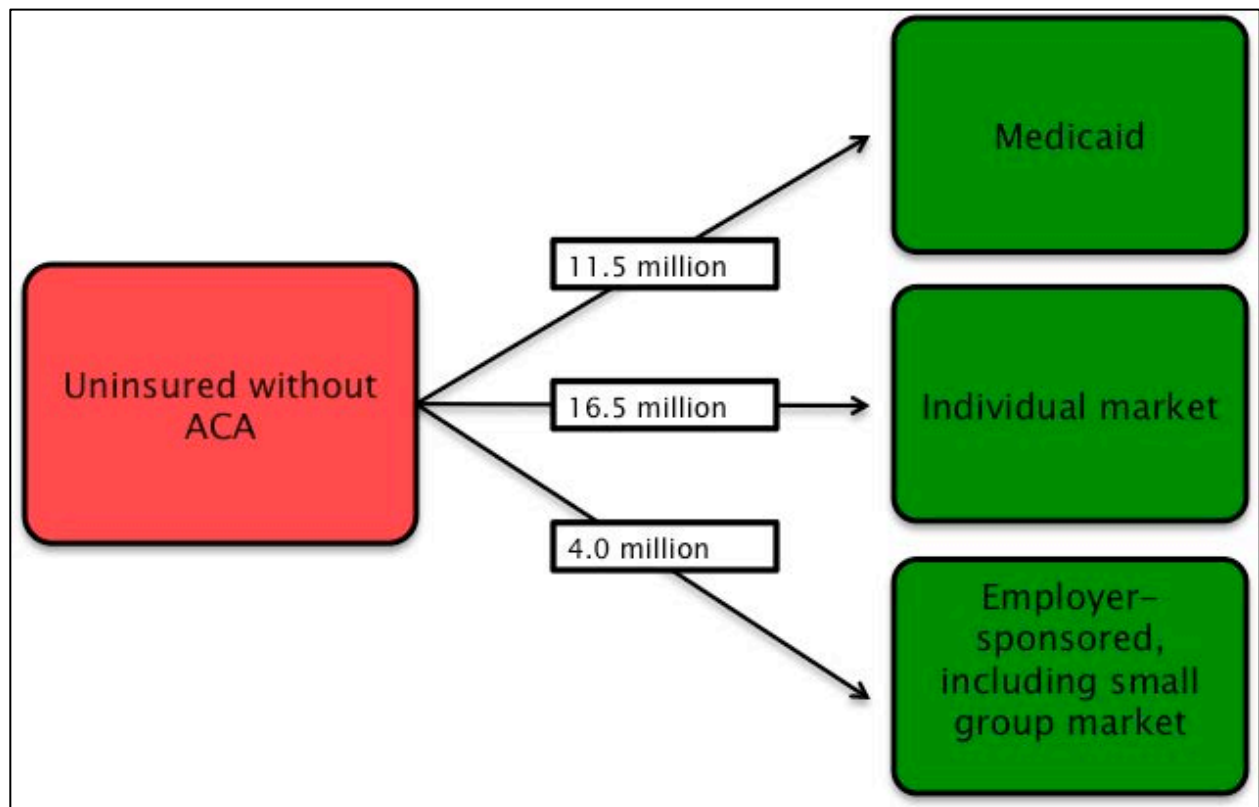
In many cases, we predict the number of individuals making a particular insurance transition to be small (less than 1 percent of the total population). Therefore, we will focus on the transitions with the greatest number of individuals. These are

- those who would be uninsured without the ACA but have coverage from Medicaid with the ACA
- those who would be uninsured without the ACA but have coverage from the newly regulated individual market with the ACA
- those who would have coverage on the pre-ACA individual market without the ACA and will have coverage from the newly regulated individual market with the ACA.

Figure 2.1. Coverage Transitions for Individuals Uninsured Without the ACA, 2016
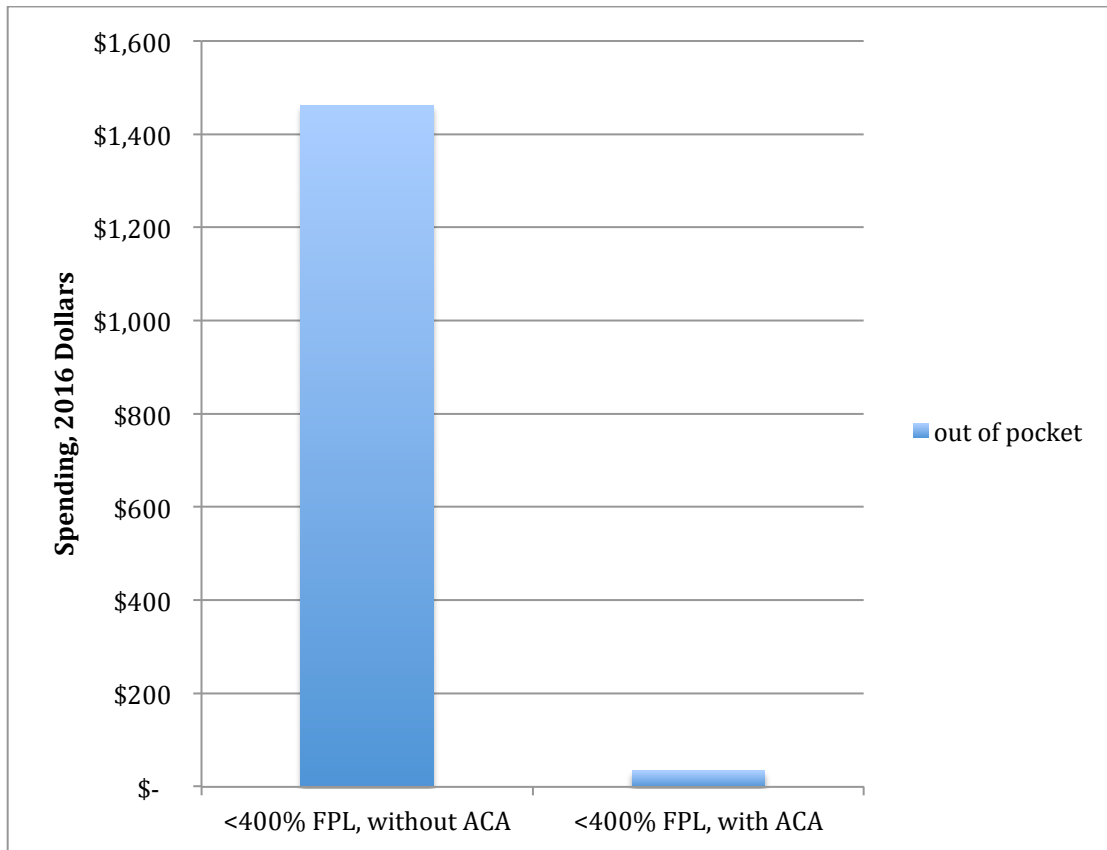
NOTE: We define a transitioning individual as one who would be expected to have a different insurance status in 2016 under the ACA than he or she would have in 2016 without the ACA.

Effects of the ACA on Health Care Spending by the Newly Insured

Under the ACA, uninsured people may obtain coverage from three different sources; these transitions are shown in Figure 2.1. The main sources of new coverage for the previously uninsured will involve transitioning to Medicaid or the newly regulated individual markets. We present our results for these in the subsection below.

Figure 2.2. Average Annual Spending for Those Transitioning from Uninsured to Medicaid

NOTE: Because uninsured individuals and those insured on Medicaid pay no premiums, out-of-pocket costs are equal to total consumer spending on health care for this group.

Uninsured to Medicaid

We estimate that in 2016, approximately 11.5 million previously uninsured people will obtain new coverage under Medicaid. About 10.6 million of these individuals will have incomes below 138 percent of the FPL. (As noted, this estimate takes into account that at least 14 states have declared their intention not to expand Medicaid eligibility to 138 percent of the FPL.) Some individuals with incomes above 138 percent of the FPL may also become newly insured in Medicaid if they were previously Medicaid-eligible and opt to enroll because of the individual mandate. Because we expect only a small number of individuals with incomes between 138 and 400 percent of the FPL to become newly insured on Medicaid (many of these will be children becoming enrolled in CHIP), we will aggregate results for those with incomes below 138 percent of the FPL and between 138 and 400 percent of the FPL. Spending changes for this group are described below and shown in Figure 2.2 and Table 2.1.

Effects on out-of-pocket spending. Total out-of-pocket spending for consumers in this group will fall dramatically. Without the ACA, uninsured individuals whose incomes are below 400 percent of the FPL will spend an estimated $1,463 in 2016 out of pocket for health care.
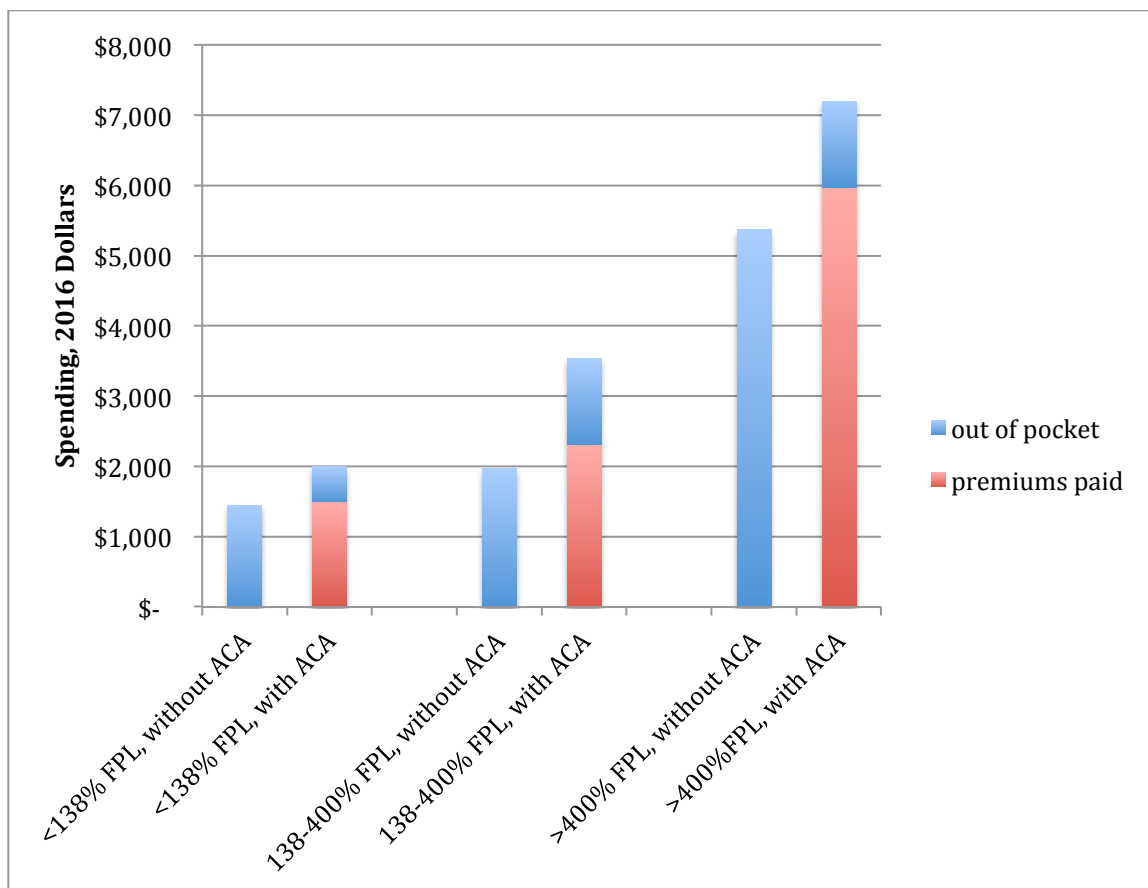
Under the ACA's expanded Medicaid provisions, this spending would decrease to approximately $34 per year.

Effects on total health care spending. Because the consumers in this group will pay no premiums, the decreases in out-of-pocket spending for those transitioning from uninsured status to Medicaid will be identical to the decreases in overall health care spending.

Table 2.1. Effects on Spending for Those Newly Insured with Medicaid (in 2016)

Income Level	Out-of-Pocket Spending Without ACA	Out-of-Pocket Spending With ACA (including difference)	Total Spending Without ACA	Total Spending With ACA (including difference)
Below 400% of the FPL (11.5 million people)	$1,463	$34 (decrease of $1,429)	$1,463	$34 (decrease of $1,429)

Figure 2.3. Average Annual Spending for Newly Insured in Individual Market

NOTE: Total consumer health care spending is the sum of out-of-pocket spending (shown in blue) and consumer spending on premiums (shown in red).

10

Uninsured to Individual Insurance

The largest single transition for the uninsured under the ACA will involve those obtaining coverage in the ACA-regulated individual market, which includes the individual exchanges. We estimate that in 2016, approximately 16.5 million previously uninsured people will be newly covered through this source of insurance. The bulk of this group (11.4 million) will consist of people with incomes between 138 percent and 400 percent of the FPL, largely because many are eligible for subsidies in the individual exchange but have incomes too high to qualify for Medicaid. Many individuals with incomes between 100 and 138 percent of the FPL who are ineligible for Medicaid, including those who live in states that have not elected to expand Medicaid eligibility, will also be eligible for exchange subsidies. We estimate that approximately 96 percent of all individuals with incomes below 138 percent of the FPL who take coverage on the regulated individual market following implementation of the ACA will be subsidy-eligible.[8] Spending changes in this group are described below and shown in Figure 2.3 and Table 2.2.

Changes in out-of-pocket spending. Out-of-pocket spending for consumers making the transition from uninsured status to individual market coverage will fall. For those in the lowest income group (below 138 percent of the FPL, comprising 1.8 million people), out-of-pocket spending will decrease by roughly $940, from about $1,446 in 2016 to $506. Those with incomes between 138 and 400 percent of the FPL (comprising, as noted, 11.4 million people) will see a decrease from about $1,969 in 2016 to $1,224. Finally, those with incomes above 400 percent of the FPL who obtain insurance through the individual market experience a decrease in out-of-pocket spending from about $5,368 to $1,227. We note that this group has particularly high out-of-pocket costs without the ACA because many of these individuals are denied coverage on the individual market without guaranteed issue due to their health status.

Changes in total health care spending. Our results show that despite decreases in out-of-pocket spending for those who transition from being uninsured to having coverage in the individual market, total consumer health care spending will increase for this group because these people, who previously opted not to or were ineligible to buy insurance, will be paying premiums for the first time. We found that consumers with incomes below 138 percent of the FPL will spend $2,005 in 2016, an increase of $559; those with incomes between 138 and 400 percent of the FPL will spend $3,536, an increase of $1,567; and those with incomes above 400 percent of the FPL will spend $7,202, an increase of $1,834. The increase in spending is greatest for those with incomes over 400 percent of the FPL because these consumers will be ineligible for government subsidies to offset the costs of their premiums. Furthermore, many of these people would be uninsured without the ACA because they were denied coverage on the pre-ACA

---

[8] We estimate that a small number of low-income individuals will enroll in the individual market. These individuals may be ineligible for subsidies because of their income (less than 100 percent of the FPL) but may also be ineligible for Medicaid because their state does not expand Medicaid. Furthermore, some low-income individuals will be ineligible for subsides because of their immigration status.

individual market. We expect those who were previously denied coverage to be disproportionately older or less healthy. While the ACA does not allow premiums to vary by health status, it does allow premiums to vary by age, so individuals in this group will likely face relatively high unsubsidized premiums. Finally, high-income individuals in poor health may be more likely to choose the most generous plans under the ACA, which will also translate to higher premiums.

Table 2.2. Effects on Spending for Those Newly Insured on the Individual Market (in 2016)

Income Level	Out-of-Pocket Spending Without ACA	Out-of-Pocket Spending With ACA	Total Spending Without ACA	Total Spending With ACA
Below 138% of the FPL (1.8 million people)	$1,446	$506 (decrease of $940)	$1,446	$2,005 (increase of $559)
138% to 400% of the FPL (11.4 million people)	$1,969	$1,224 (decrease of $745)	$1,969	$3,536 (increase of $1,567)
Above 400% of the FPL (3.3 million people)	$5,368	$1,227 (decrease of $4,141)	$5,368	$7,202 (increase of $1,834)

Other Transitions from Uninsured to Insured
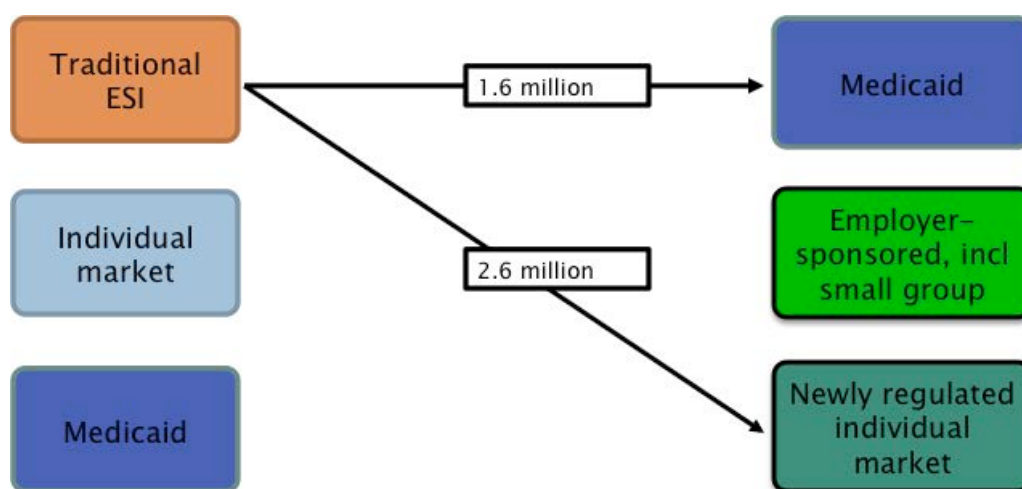
The other types of transitions for the uninsured under the ACA involve smaller numbers of people. We estimate that approximately 2.1 million previously uninsured people will have coverage through ESI under the ACA. On average, individuals making this transition will see a decrease in out-of-pocket spending from $1,099 to $428. Their total health care spending will increase from $1099 to $2,251.

Effects of the ACA on Health Spending of Those Changing their Source of Coverage

Under the ACA, millions of Americans will transition to a new source of insurance coverage. Individuals with traditional ESI may shift to one of two new sources: the new ACA-regulated individual market or Medicaid. Those on the individual market without the ACA can transition to one of three sources of coverage: the new regulated individual market, Medicaid, or ESI (including SHOP). Individuals with Medicaid may shift to one of two sources: the individual

market or ESI (including SHOP). While it is possible for individuals to transition from Medicaid without the ACA to the new regulated individual market under the ACA, we predict that no individuals will make this transition. This is likely due to the fact that our model assumes that all people who are Medicaid-eligible without the ACA remain Medicaid-eligible with the ACA, and those who are Medicaid-eligible are ineligible for exchange subsidies. Because these individuals would pay full premiums and out-of-pocket costs on the individual market, they would face much higher costs on the individual market than on Medicaid; we therefore predict that they will choose to remain on Medicaid under the ACA.[9] Finally, individuals with insurance could lose coverage as a result of the ACA—for example, if their employers drop coverage or if premiums become too expensive. Using the COMPARE model, we predict that the largest numbers of transitions will involve people moving from the pre-ACA individual market to the newly regulated individual market (8.5 million). For this reason, we focus on this transition in our results below. Figures 2.4 through 2.7 diagram the possible shifts between sources of coverage under the ACA, along with the numbers of people involved. The major shift, from the pre-ACA individual market to the ACA-regulated individual market, is highlighted in yellow in Figure 2.5.
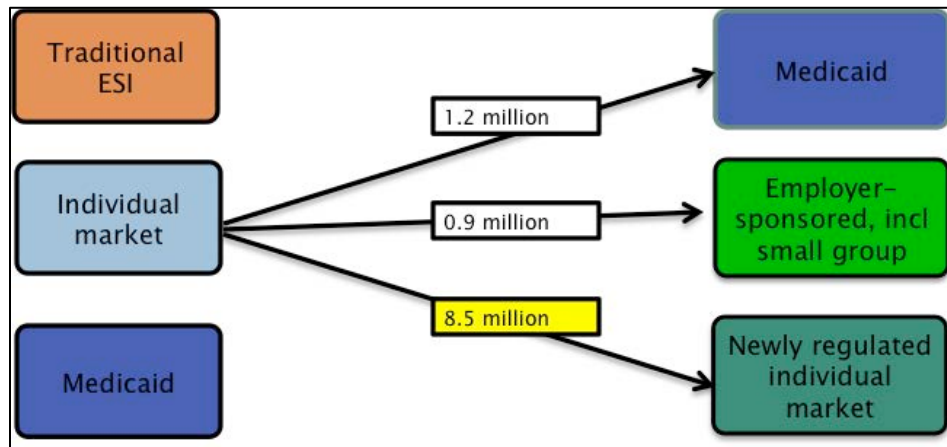
Figure 2.4. Transitions from Traditional ESI with the ACA

NOTE: We define a transitioning individual as one who would be expected to have a different source of insurance in 2016 than he or she would have in 2016 without the ACA.

---
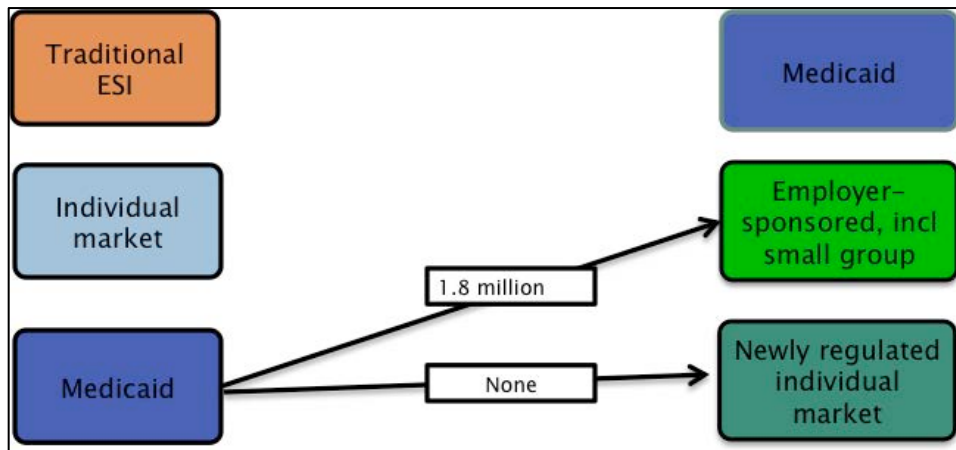
[9] If states take the option to offer public insurance to individuals with incomes from 138 to 200 percent of the FPL, they may choose to do so through a Basic Health Program (BHP). It is possible that some individuals currently on Medicaid in this income range would transition to the BHP under the ACA. We did not include the possibility that some states may choose to offer a BHP in our model because the details of the regulations governing these plans, and which states might implement these plans, are not yet known (Jost, 2013).

Figure 2.5. Transitions from Pre-ACA Individual Market
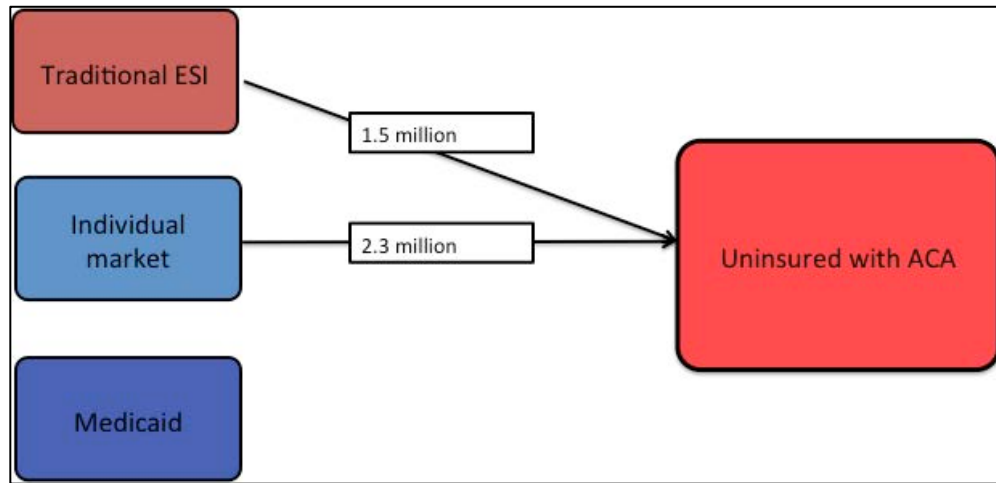
NOTE: We define a transitioning individual as one who would be expected to have a different source of insurance in 2016 than he or she would have in 2016 without the ACA.

Figure 2.6. Transitions from Medicaid
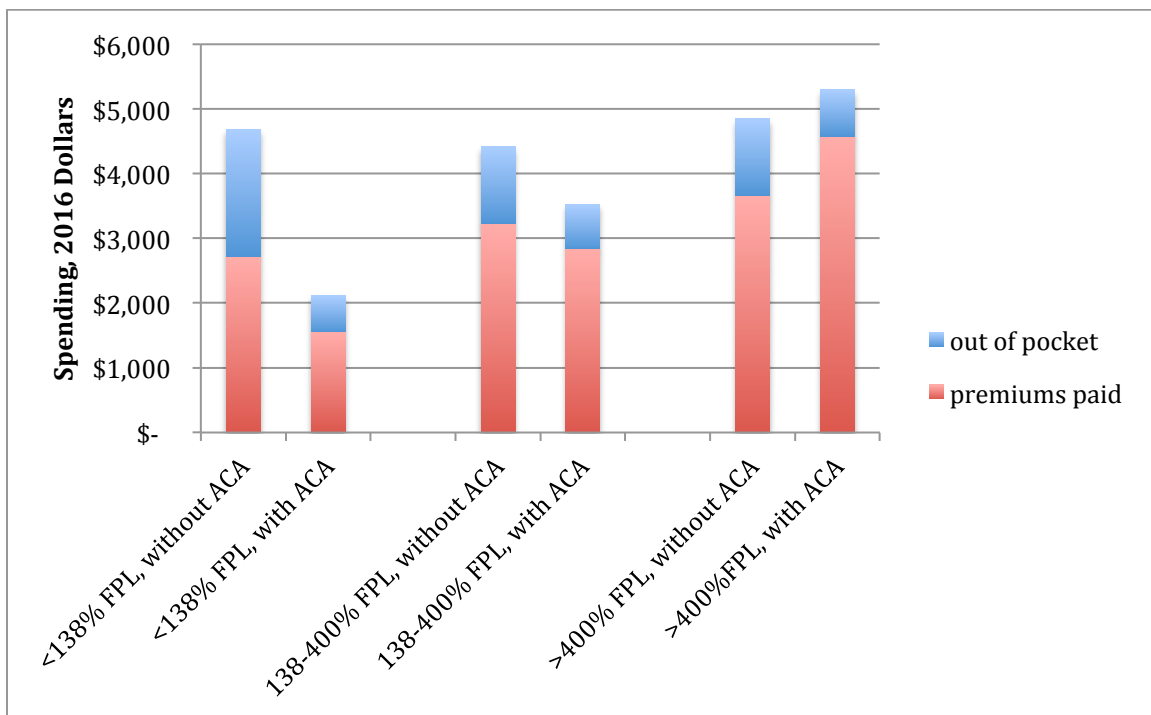
NOTE: We define a transitioning individual as one who would be expected to have a different source of insurance in 2016 than he or she would have in 2016 without the ACA.

Figure 2.7. Transitions to Uninsurance

NOTE: We define a transitioning individual as one who would be expected to have a different insurance status in 2016 than he or she would have in 2016 without the ACA.

Figure 2.8. Average Annual Spending for Those Transitioning from Pre-ACA Individual Market to New Regulated Individual Market

NOTE: Total health care spending is the sum of out-of-pocket spending (shown in blue) and consumer spending on premiums (shown in red).

Effects of the Transition from Pre-ACA Individual Market Coverage to the Newly Regulated Individual Market, including the Individual Exchanges

Under the ACA, an estimated 8.5 million people will transition from the pre-ACA individual health insurance market to the new regulated individual market, including the individual exchanges (Figure 2.5). Of these, 0.3 million have incomes below 138 percent of the FPL; 3.6 million have incomes between 138 and 400 percent of the FPL; and 4.6 million have incomes above 400 percent of the FPL. Spending changes for this group are described below and shown in Figure 2.8 and Table 2.3.

Out-of-pocket spending. Consumers making this transition will experience a decrease in out-of-pocket spending (Table 2.3). Consumers earning less than 138 percent of the FPL will experience a decrease in out-of-pocket spending from $1,958 to $559. Consumers earning between 138 and 400 percent of the FPL will experience a decrease in out-of-pocket spending from $1,191 to $686. Consumers earning more than 400 percent of the FPL will experience a decrease in out-of-pocket spending of about the same amount as the previous group—from $1,185 to $717. These declines in spending are driven by the ACA's minimum benefits requirements, which require that individuals have plans with an actuarial value of 60 percent or higher, as well as by cost-sharing subsidies that are most generous for enrollees with incomes just above the poverty level and become less generous with increasing income. Therefore, declines in out-of-pocket costs are greatest for those with incomes below 138 percent of the FPL; most individuals with incomes below 138 percent of the FPL who enroll on the individual exchanges will be subsidy-eligible.

Total health care spending. The effect of this transition on total consumer health care spending (out-of-pocket spending plus premiums) will vary by income level. Consumers with incomes under 138 percent of the FPL will see a decrease, with total health spending falling from $4,682 to $2,117. Consumers whose incomes fall between 138 and 400 percent of the FPL also see a decrease in their total spending: from $4,417 to $3,523, a reduction of $894. However, those with incomes 400 percent of the FPL or greater will increase their total spending from $4,849 to $5,295.[10] Many individuals with incomes below 138 percent of the FPL who remain in the individual market post-ACA do so because they live in states that do not expand Medicaid; most of these individuals with incomes between 100 and 138 percent of the FPL will be eligible for generous subsides on the individual exchanges. Similarly, the decrease in total health care spending for those with incomes between 138 and 400 percent of the FPL is due to the fact that most people in this income range will be eligible for generous premium subsidies for policies

---

[10] Because total spending increases for this group while out-of-pocket spending decreases, this implies that average premiums (which are unsubsidized for this group) for this group increase. Change in premium experienced by an individual will depend on the individual's age and the actuarial value of the plan he or she chooses without and with the ACA (Eibner, 2012).

offered on the individual exchanges. In contrast, those with incomes above 400 percent of the FPL will be ineligible to receive subsides on the individual exchanges.

Table 2.3. Effects on Spending for Those Transitioning from Pre-ACA Individual Market to New Regulated Individual Market (in 2016)

Income Level	Out-of-Pocket Spending Without ACA	Out-of-Pocket Spending With ACA	Total Spending Without ACA	Total Spending With ACA
Below 138% of the FPL (0.3 million people)	$1,958	$559 (decrease of $1,399)	$4,682	$2,117 (decrease of $2,565)
138% to 400% of the FPL (3.6 million people)	$1,191	$686 (decrease of $505)	$4,417	$3,523 (decrease of $894)
Above 400% of the FPL (4.6 million people)	$1,185	$717 (decrease of $468)	$4,849	$5,295 (increase of $446)

ACA Effects on Risk of Catastrophic Health Care Costs

Health insurance is intended to do more than cover the costs of care. It is also meant to guard consumers against the risk of catastrophically high medical costs. As we noted in the introductory chapter, the uninsured and underinsured, who tend to face the highest out-of-pocket health care costs, are also most vulnerable to the risks of high medical expenses (Schoen et al., 2008) and delaying or foregoing necessary treatment (Chernew and Newhouse, 2008; Brixner, 2006). The size of both the uninsured and underinsured groups has been steadily increasing in recent years (Schoen et al., 2008); the combined size of these groups grew from 61 million in 2003 to 75 million in 2007.

Will the ACA reduce the risk of catastrophic medical costs? Our analysis also addressed this question by looking at two levels of high costs. We defined a high medical cost burden as spending more than 10 percent of household income on health care,[11] including premiums and

---

[11] The threshold of 10 percent is consistent with the definition of "high medical cost burden" used in several studies (Collins et al., 2011; Cunningham, 2009). However, other definitions for "catastrophic spending" have been used in the literature, such as spending more than 40 percent of income after subsistence needs have been met (Xu et al., 2003).

out-of-pocket costs, and an extremely high medical cost burden as spending more than 20 percent of household income on health care.

Table 2.4. Effects on Risk for High Medical Spending, 2016

	Income Level	Percentage of People Spending >10% of Income on Health Care, No ACA	Percentage of People Spending >10% of Income on Health Care with ACA	Percentage of People Spending >20% of Income on Health Care, No ACA	Percentage of People Spending >20% of Income on Health Care with ACA
Uninsured without ACA, Medicaid with ACA	<400% of the FPL	45%	5% (40-point reduction)	34%	4% (30-point reduction)
Uninsured without ACA, ACA-regulated individual market	<138% of the FPL	36%	7% (29-point reduction)	21%	0% (21-point reduction)
	138–400% of the FPL	23%	19% (4-point reduction)	7%	3% (4-point reduction)
	>400% of the FPL	33%	29% (4-point reduction)	6%	4% (2-point reduction)
Pre-ACA individual market without the ACA, ACA-regulated individual market	<138% of the FPL	100%	11% (89-point reduction)	72%	0% (72-point reduction)
	138–400% of the FPL	63%	31% (32-point reduction)	17%	3% (14-point reduction)
	>400% of the FPL	36%	26% (10-point reduction)	2%	1% (1-point reduction)

We found that after implementation of the ACA, the risks of high medical costs will either decrease or remain the same for people undergoing all of the transitions we considered. In particular, we found that those who would otherwise be uninsured will face a lower risk of having a high or extremely high medical burden, driven by the fact that many of these people will have health coverage for the first time.

Recall that average total health care spending increases for previously uninsured individuals who become insured on the new regulated individual market. Table 2.4 shows that these newly insured individuals will buy a reduced risk of having a high medical cost burden with their

higher average total health care costs. In particular, we found that individuals with incomes less than 138 percent of the FPL making this transition will see a reduction in their risk of high medical burden from 36 to 7 percent. Those with incomes between 138 and 400 percent of the FPL who would otherwise be uninsured without the ACA and who will have coverage on the individual market with the ACA will see a modest reduction in their risk of high medical cost burden, from 23 to 19 percent. Furthermore, the risk that these individuals will experience an extremely high medical cost burden will be reduced by more than half, from 7 to 3 percent following implementation of the ACA.

Even for those who would be insured without the ACA, the risk of high medical burden will decrease following ACA implementation for both transitions we considered. We find dramatic decreases in the risk of high medical cost burden for those who transition from the pre-ACA individual market to the ACA-regulated individual market. For example, for those with incomes between 138 and 400 percent of the FPL, the probability of experiencing spending in excess of 10 percent of income falls from 63 to 31 percent. In the pre-ACA individual markets, some of these people had high exposure to large out-of-pocket costs because their insurance plans had high levels of cost-sharing; the ACA puts in place minimum cost-sharing requirements and restricts the maximum out-of-pocket amount for plans offered to individuals of all income levels on the individual market, further limiting risk of having very high expenditures.

3. Two Case Studies: Texas and Florida

In our national-level analyses, we characterized the ACA's effects on coverage and spending for people in three different income groups: those below 138 percent of the FPL, those between 138 and 400 percent, and those above 400 percent. To examine the effects of a state's decision to expand Medicaid, we conducted a more granular analysis focused on two states: Texas and Florida. For this analysis, we assumed that the ACA is in effect, but under two alternative scenarios: with Medicaid expansion and without expansion. Because a state's decision to expand Medicaid overwhelmingly affects lower-income populations, we focused this phase of the analysis on people with incomes below 100 percent of the FPL and those between 100 and 138 percent of the FPL. We chose both of these groups because the Medicaid expansion's upper income bound is 138 percent of the FPL. However, despite the fact that in many states the current income eligibility limit for Medicaid is well *below* 100 percent of the FPL for nonpregnant adults, if a state chooses not to expand Medicaid, only those individuals with incomes *over* 100 percent FPL will become eligible for subsidies in the individual exchanges. Therefore, members of these income groups are likely to be differently affected by a state's decision about whether or not to expand Medicaid.

Results for Texas

Transitions for the Uninsured With and Without Medicaid Expansion

The government of Texas has declared its intention not to implement Medicaid expansion. How will this decision affect coverage, spending, and the risk of high medical spending among state residents with incomes below 100 percent of the FPL and between 100 and 138 percent of the FPL?

If Texas expands Medicaid, we estimate that about 3.5 million people with incomes below 100 percent of the FPL will be covered under Medicaid in 2016. Without the Medicaid expansion, about 2.2 million will be covered by Medicaid. Among those who will not gain Medicaid eligibility if the state fails to expand Medicaid, relatively few will find alternative sources of coverage. About 4,000 will obtain coverage through the individual market, and about 56,000 will obtain coverage through their employers, either via the small group or the large group markets. The remaining 1.2 million will be uninsured (see Table 3.1).

With Medicaid expansion, about 1 million people with incomes that are 100–138 percent of the FPL in Texas would be covered under Medicaid. Without the expansion, about 510,000 people in this range would still be covered by Medicaid. This includes children currently covered under the state's CHIP program or Medicaid, as well as pregnant women. We estimate that about

370,000 will obtain coverage through the individual market if the state fails to expand Medicaid, and about 34,000 will obtain coverage through traditional employer-based sources. Individuals in this income category are more likely than those with incomes under 100 percent of the FPL to obtain coverage on the individual exchanges because, unlike those lower-income individuals, most consumers with incomes between 100 and 138 percent of the FPL will become eligible for subsides on the individual exchanges. Nevertheless, about 71,000 individuals in this income range are estimated to remain uninsured if the state does not expand its Medicaid program.

Table 3.1. How the Decision Not to Expand Medicaid Would Affect Coverage in Texas (in millions)

Individuals With Medicaid Coverage Under Medicaid Expansion, by Income Level	Covered Under Medicaid Without Expansion	Covered Under Individual Market Without Expansion	Covered Under Employer-Based Coverage Without Expansion	Uninsured Without Expansion
<100% of the FPL (3.5 million total)	2.2	0.004	0.016	1.2
100–138% of the FPL (0.99 million total)	0.51	0.37	0.034	0.071

Effects on Spending

People with incomes below 100 percent of the FPL who would have Medicaid coverage with Medicaid expansion will spend more on medical care without expansion.

- Without Medicaid expansion, people in this group who remain uninsured will spend $1,831 out of pocket annually, as opposed to $28 out of pocket if they were covered by Medicaid (note that premiums in both cases would be $0: Medicaid charges no premium, and the uninsured pay no premiums). These changes are shown in Figure 3.1.

- Without expansion, those in this income range who have alternative sources of coverage will also spend more:
    o Those covered through the individual market will spend $5,179 annually ($509 out of pocket and $4,670 in premiums) instead of a total of $20 if they were insured through Medicaid. (These changes are shown in Figure 3.2.) Note that because most individuals in this income category will be ineligible for exchange subsidies, the individual market will be prohibitively expensive. Therefore, we predict that very few individuals (only 4,000) will be in this group. Due to the small sample size, our results may not be robust for this group.
    o Those covered through ESI (including SHOP) will spend $3,374 annually ($809 out of pocket and $2,565 on premiums[12]) instead of a total of $51 if they were insured through Medicaid.
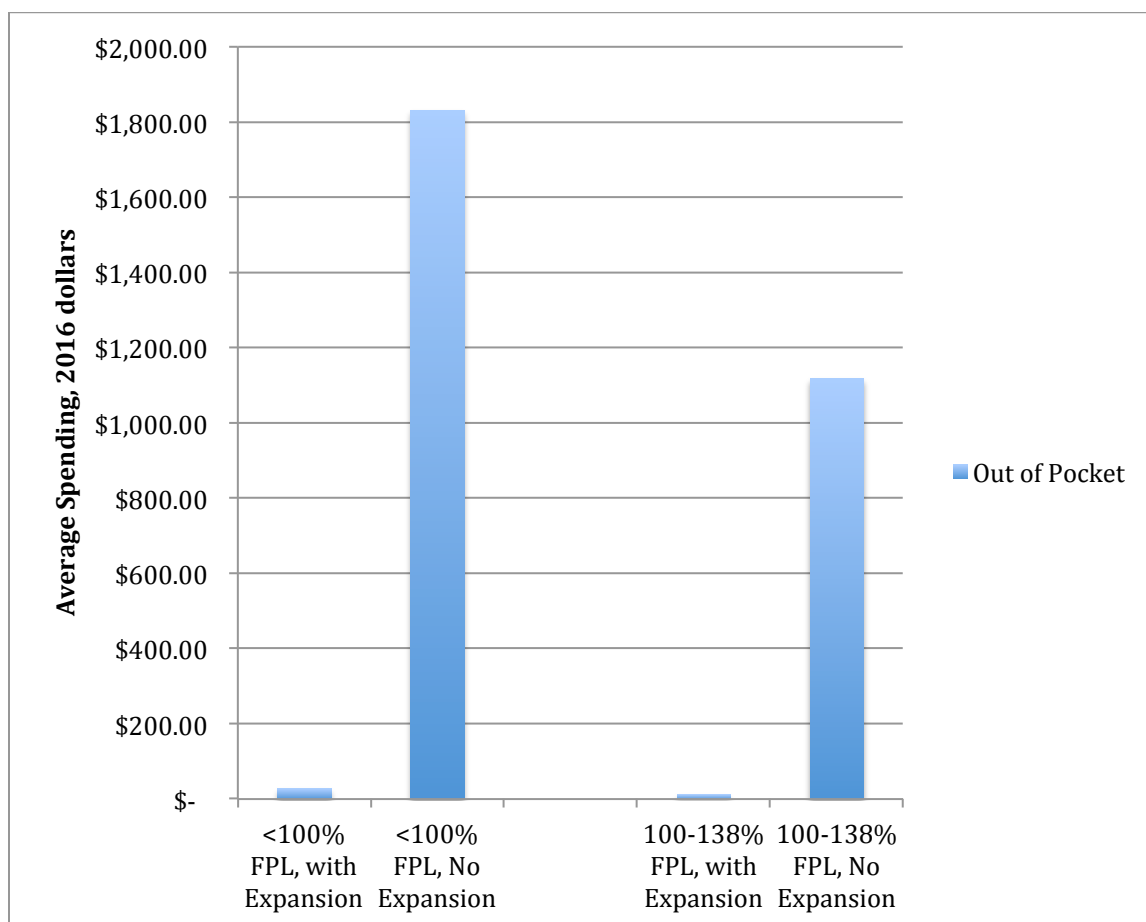
People with incomes between 100 and 138 percent of the FPL will also spend more on medical care without Medicaid expansion. Without expansion, people in this income range who remain uninsured will spend $1,117 out of pocket annually, compared to $13 if they were covered by Medicaid. These changes are shown in Figure 3.1.
- Without expansion, those in this income range who have alternative sources of coverage will also spend more:
    o Those covered through the individual market will spend $1,929 annually ($439 out of pocket and $1,490 in premiums) instead of a total of $37 if they were insured through Medicaid. These changes are shown in Figure 3.2.
    o Those covered under ESI (including SHOP) will spend $3,433 annually ($1,091 out of pocket and $2,342 on premiums[13]) instead of a total of $48 if they were insured through Medicaid.

---

[12] This is the employee premium contribution. However, most economists believe that the employer contribution is ultimately paid by the worker through decreased wages.
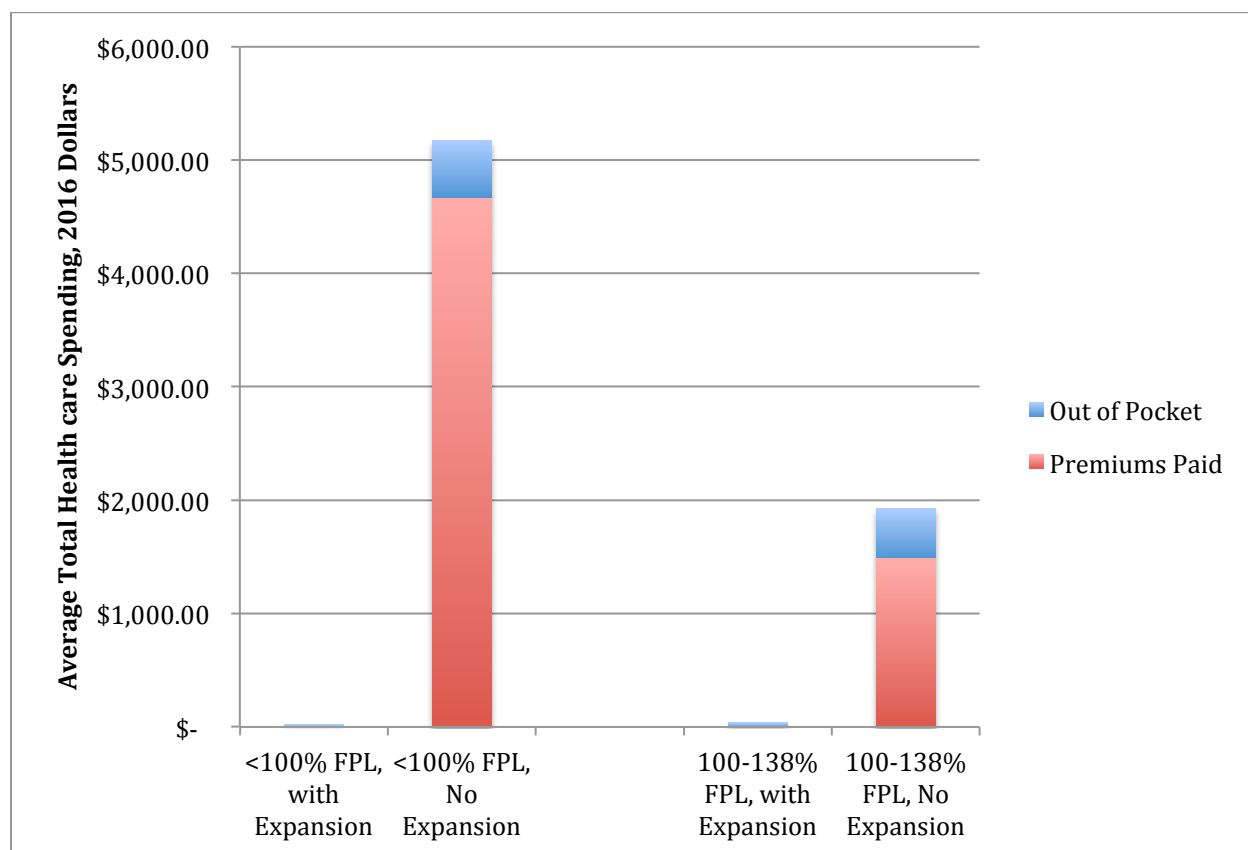
[13] See footnote 13.

Figure 3.1. Average Annual Spending for Texas Residents Insured Under Medicaid with Expansion and Uninsured Without Expansion

NOTE: For the uninsured and those insured on Medicaid, total health care spending is equal to out-of-pocket spending (shown in blue), as neither the uninsured nor those on Medicaid pay premiums.

Figure 3.2. Average Annual Spending for Texas Residents Insured Under Medicaid with Expansion and in Individual Market Without Expansion

NOTE: Total health care spending is the sum of out-of-pocket spending (shown in blue) and consumer spending on premiums (shown in red).

Effects on Risk of High Spending Burden

The risk of catastrophically high medical spending increases for all individuals with incomes below 138 percent of the FPL if Medicaid is not expanded, compared to the risk in a scenario in which Medicaid is expanded. Those with incomes below 100 percent of the FPL will see a higher risk of spending at least 10 percent of income on health care, including premiums and out-of-pocket costs (55 percent without expansion, compared to 17 percent with expansion, on average). The risk of high medical cost burden will not differ quite so dramatically for those with incomes between 100 and 138 percent of the FPL (1 percent with expansion versus 9 percent without expansion). The latter result is driven by the fact that many individuals with incomes between 100 and 138 percent of the FPL will move to the individual market, where they will receive generous subsidies to offset the costs of their premiums and out-of-pocket costs.

Results for Florida

Transitions for the Uninsured in Florida

Florida's government appears opposed to expanding Medicaid. Originally, the governor expressed opposition to the expansion; he has since reversed himself and indicated that he is receptive to the idea. However, a majority in the legislature remain opposed, and the legislature did not reach an accord to expand Medicaid. As of August 2013, it appears that Florida will not expand Medicaid.

Table 3.2. How the Decision Not to Expand Medicaid Would Affect Coverage in Florida (in millions)

Individuals with Medicaid Coverage Under Medicaid Expansion, by Income Level	Covered Under Medicaid Without Expansion	Covered Under Individual Market Without Expansion	Covered Under Employer-Based Coverage Without Expansion	Total Remaining Uninsured
<100% of the FPL (2.1 million total)	1.3	0.003	0.049	0.74
100–138% of the FPL (0.59 million total)	0.26	0.25	0.040	0.046

As Table 3.2 indicates, if Florida expands Medicaid, about 2.1 million people with incomes below 100 percent of the FPL will be covered by Medicaid in 2016. Without the expansion, about 1.3 million will be covered by Medicaid. As in Texas, this group includes children covered under Medicaid or CHIP, as well as pregnant women. Relatively few of those who would be Medicaid ineligible under non-expansion will find alternative sources of coverage. About 3,000 would obtain coverage through the individual market, and about 49,000 through employer-based sources, including the small group market. About 740,000 will be uninsured.

When we consider individuals in Florida with incomes between 100 percent and 138 percent of the FPL, we find only a small difference in the number of insured individuals when the ACA is implemented, with or without Medicaid expansion. Under expansion, about 590,000 people will be covered by Medicaid. Without expansion, 260,000 people in this range will still be covered by Medicaid; 250,000 will obtain coverage through the individual exchange; and about 40,000 will obtain coverage through the employer-based sources, including the small group market. A relatively small number—46,000—of those who will be covered by Medicaid under expansion will be uninsured without expansion. This is because consumers in this income range

will be eligible for generous subsidies to offset premiums and out-of-pocket costs if Medicaid is not expanded. Therefore, most who would be insured through Medicaid under expansion, but who will be ineligible under non-expansion, will choose to be covered on the ACA-regulated individual market.

Effects on Spending

People with incomes below 100 percent of the FPL in Florida will spend more on medical care without Medicaid expansion.

- As shown in Figure 3.3, without expansion, people in this income group who remain uninsured will spend $1,994 annually, compared to $31 annually under Medicaid.
- Without expansion, those in this income range who have alternative sources of coverage will also spend more.
  - As shown in Figure 3.4, those covered through the individual market rather than through Medicaid will spend a total of $4,641 annually ($254 out of pocket and $4,387 in premiums), compared to $14 under Medicaid. (Note that the sample size for this group is very small: only 3,000 individuals.)
  - Those covered by ESI (including SHOP) will spend a total of $3,879 annually ($991 out of pocket and $2,888 on premiums[14]), compared with $46 under Medicaid.
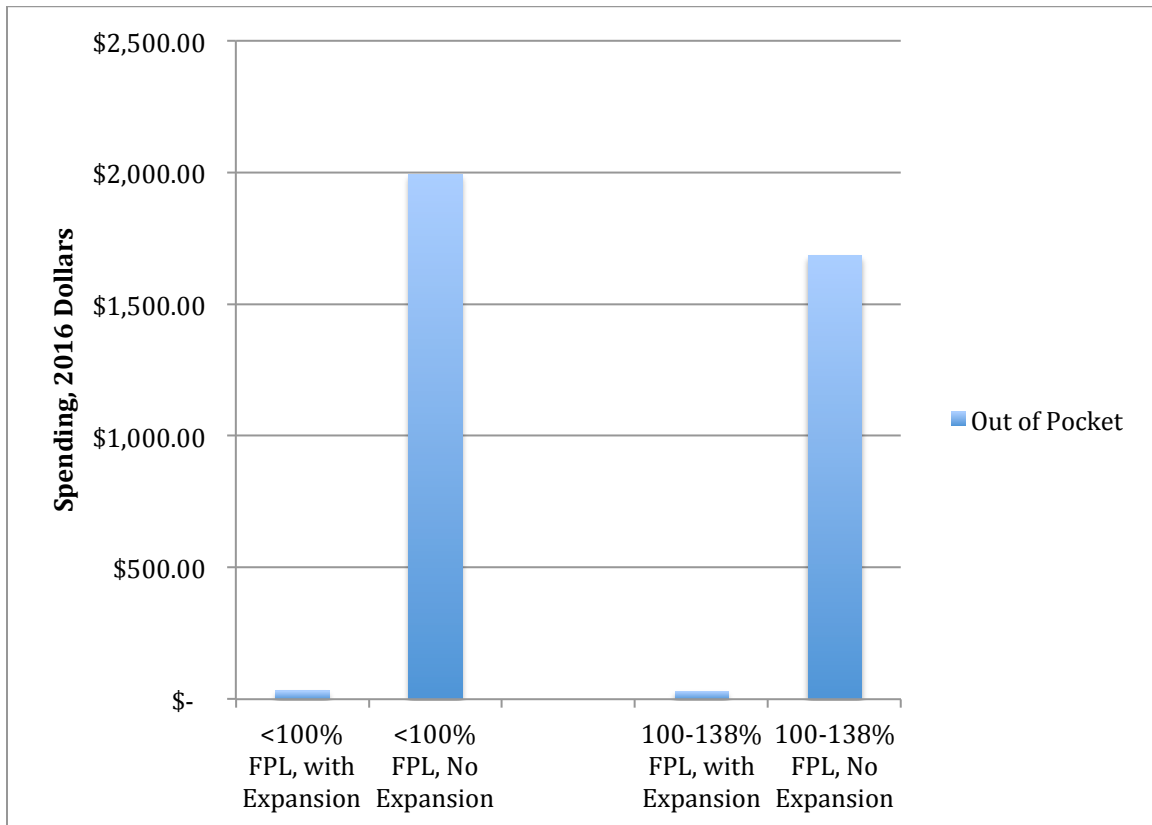
People with incomes between 100 and 138 percent of the FPL in Florida will also spend more on medical care without Medicaid expansion. Without expansion, people in this income group who remain uninsured will spend $1,684 annually, compared with $31 annually under Medicaid.

- As shown in Figure 3.3, without expansion, people in this income group who have alternative sources of coverage will also spend more.
  - As shown in Figure 3.4, those covered through the individual exchanges rather than through Medicaid will spend a total of $2,029 annually ($505 out of pocket and $1,524 in premiums), compared to $42 under Medicaid.
  - Those covered through ESI (including SHOP) rather than through Medicaid will spend a total of $3,661 annually ($1,071 out of pocket and $2,590 on premiums[15]), compared to $60 under Medicaid.

---

[14] This is the employee premium contribution. However, most economists believe that the employer contribution is ultimately paid by the worker through decreased wages.
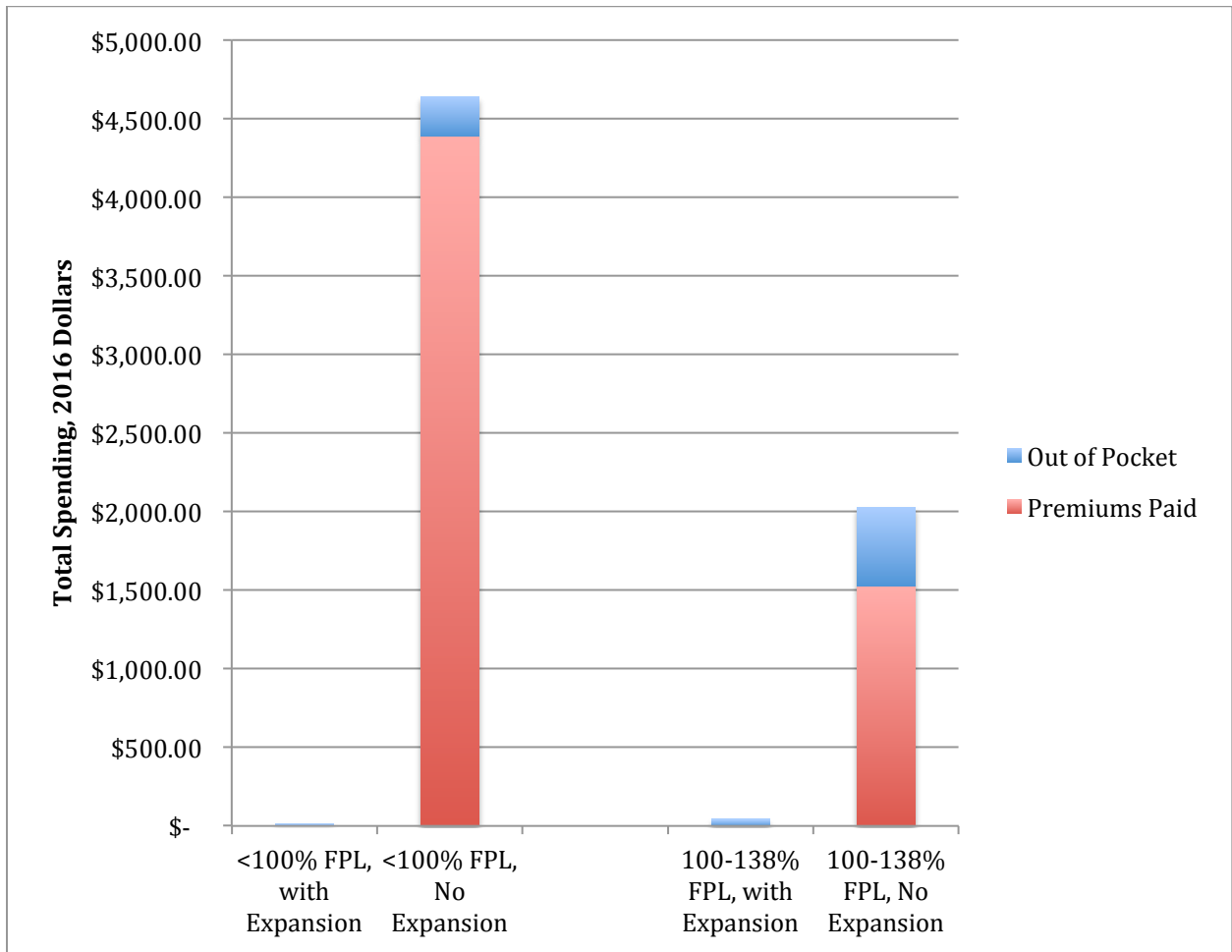
[15] This is the employee premium contribution. However, most economists believe that the employer contribution is ultimately paid by the worker through decreased wages.

Figure 3.3. Average Annual Health Care Spending for Florida Residents Insured Under Medicaid with Expansion and Uninsured Without Expansion

NOTE: For the uninsured and those insured on Medicaid, total health care spending is equal to out-of-pocket spending (shown in blue), as neither the uninsured nor those on Medicaid pay premiums.

Figure 3.4. Average Annual Health Care Spending for Florida Residents Insured Under Medicaid with Expansion and in Individual Market Without Expansion

NOTE: Total health care spending is the sum of out-of-pocket spending (shown in blue) and consumer spending on premiums (shown in red).

Effects on Risk of High Spending Burden

Deciding whether to expand Medicaid will affect the risk of catastrophically high medical spending for all individuals with incomes below 138 percent of the FPL. Without expansion, those with incomes below 100 percent of the FPL will have a higher risk of spending at least 10 percent of income on health care (58 percent, compared to 15 percent on average). The risk of high medical cost burden will not differ quite so dramatically for those with incomes between 100 and 138 percent of the FPL (1 percent with expansion versus 12 percent without expansion). This result is driven by the fact that many individuals with incomes between 100 and 138 percent of the FPL will move to the individual market, where they will receive subsidies to offset the costs of their premiums and out-of-pocket costs.

4. Assumptions and Limitations

The COMPARE model, like other simulations of health care reform, has a number of limitations. First, the analysis presented here relies on the construction of "synthetic plans" in order to estimate consumer spending and the risk of catastrophic spending. For each type of insurance, metal tier, and level of affordable cost-sharing, we designed a single plan representative of a "typical" plan. Each of these synthetic plans represents what is actually a family of plans, with different mixes of deductibles, coinsurance, and maximum out-of-pocket levels. Therefore, our model may be unable to capture the full spectrum of variation in consumer spending and risk of catastrophic spending we would expect without and with the ACA. In addition, the model contains a number of simplifying assumptions about individuals' and firms' decisionmaking processes. We assume that individual mandate penalties are perfectly enforced, and, unlike the Congressional Budget Office (CBO), we assume that individuals are motivated to comply with the law only to the extent that it allows them to avoid penalties. We do not assume that individuals experience any additional utility for being in compliance with the law. Additionally, we have found that utilities based on health care consumption, costs, and risk avoidance alone do not reproduce health insurance enrollment patterns observed in the status quo. Therefore, we estimate "calibration factors" that capture factors such as stigma, imperfect information, and inertia, which may impact individuals' health insurance choices. We estimate these factors based on pre-ACA enrollment and assume that these factors do not change under the ACA. We do not account for the fact that the ACA may impact health insurance markets beyond direct effects on health insurance consumption, premiums, and out-of-pocket costs. For example, we do not account for the fact that with Medicaid expansion, Medicaid may become less stigmatized, or that the ACA could increase transparency related to benefits offered in individual or small group plans. In terms of firms' decisionmaking, we model only firm decisions about whether and what type of insurance to offer. We do not model such responses as changing the firm size, moving employees from full time to part time, or changing employee contribution rates.

In addition, there are a few insurance options that we do not model. Most importantly, we do not model catastrophic plans that will be available to young adults under the ACA or the grandfathered individual market. We also do not model the possibility that states will opt to implement a BHP to provide an alternative source of coverage for individuals with incomes between 138 and 200 percent of the FPL.

The COMPARE model also considers only changes in "demand" as a result of the ACA. We assume that providers are able to respond to this change in demand and that changes in prices for health care services will continue to follow historical trends. We do not consider effects on prices or access due to provider supply issues.

Finally, the model does not consider dynamics, so while it can estimate changes in health care coverage due to reforms, it does not estimate how long it will take for individuals and firms to respond to these changes. We estimate an "equilibrium state" and implicitly assume that by 2016 people and firms will have acquired complete information and will have fully adapted their behavioral responses to the policies introduced by the ACA. In reality, it is possible that people and firms will not have fully understood and responded to ACA policies by 2016.

The limitations and challenges described above are not easy to address, given the scope of the policy changes introduced by the ACA. Nevertheless, given the relative lack of experience we have implementing similar health insurance reforms—particularly at the national level—models such as COMPARE can be useful tools for assessing the potential effects of reforms like the ACA.

5. Conclusions

The ACA will have varied impacts on individuals' and families' spending on health care, depending on their income levels and on their estimated 2016 insurance status without the ACA. For individuals newly gaining health insurance as a result of the law, we predict that average out-of-pocket expenditure and risk of catastrophic medical expenditure will decline. This is because the ACA requires all individuals to obtain health insurance coverage and sets minimum benefit generosity limits on plans to ensure that enrollees are protected from health-related financial risk. Out-of-pocket spending represents spending on co-payments, coinsurance, deductibles, and other consumer cost-sharing required by health insurance plans; total health spending includes both out-of-pocket spending and premium spending. For low-income individuals who become newly insured through Medicaid, total spending falls, in addition to out-of-pocket spending. However, total spending may increase for individuals who become newly insured through the individual market, since they now must pay health insurance premiums. Whether or not this additional spending is worthwhile requires a value judgment. However, those who are newly insured receive not only the benefits associated with insurance, such as access to free preventive care and regular wellness visits, but also will be better protected against catastrophic medical costs, a factor that contributes to over half of all bankruptcies in the United States (Himmelstein et al., 2009).

Some individuals will move from one source of coverage to another as a result of the ACA. Among those making insurance transitions, the biggest group will move from the pre-ACA individual insurance market to ACA-regulated individual plans, including the exchanges. These plans will differ from their pre-ACA counterparts because they are subject to ACA's rating regulations, can be subsidized with advance premium tax credits, and have minimum benefit requirements. We predict that average out-of-pocket spending will fall for all individuals moving from pre-ACA to ACA-regulated individual plans because of the minimum benefit requirements. Total spending will fall for those with incomes in the subsidy-eligible range (138 to 400 percent of the FPL for those in Medicaid expansion states and 100 to 400 percent of the FPL for those in non-expansion states) and increases on average for individuals outside of this range. Because people with incomes below the poverty line rarely enroll in individual plans, the largest number of those experiencing premium increases will have incomes over 400 percent of the FPL. However, all individuals who transition from the pre-ACA to the post-ACA regulated individual market will have a reduced risk of catastrophic health expenditures, due to limits on maximum out-of-pocket costs, minimum cost-sharing requirements, and out-of-pocket and premium subsidies for low- and middle-income individuals.

While in general the ACA reduces out-of-pocket spending and risk of catastrophic expenditure, these benefits will not reach lower-income individuals if states do not expand their Medicaid programs. Our case studies of Texas and Florida focused on the likely effects of Medicaid expansion in those states for individuals with incomes below 100 percent of the FPL and between 100 and 138 percent of the FPL. Our results show that Medicaid expansion will decrease total health-related spending for both groups. We estimate that individuals with incomes below 100 percent of the FPL who would remain uninsured if states fail to expand Medicaid will incur approximately $2,000 in out-of-pocket spending each year; this amount would fall to less than $100 annually if Medicaid were expanded. Unlike those with incomes below 100 percent of the FPL, individuals with incomes between 100 and 138 percent of the FPL become eligible for exchange tax credits if states fail to expand Medicaid. However, even with these credits, individuals with incomes between 100 and 138 percent of the FPL will spend less out of pocket if they are Medicaid-eligible because Medicaid charges no premiums and has limited or no co-payments and coinsurance. We estimate that total spending for individuals with incomes between 100 and 138 percent of the FPL would be approximately $2,000 annually if insured through the individual market, compared with less than $100 if insured with Medicaid.

The risk of catastrophic medical spending would be higher for all individuals with incomes below 138 percent of the FPL if the ACA is implemented without Medicaid expansion, compared to the risk of catastrophic spending if Medicaid is expanded. This is because individuals on Medicaid will pay no premiums and have limited or no co-payments. This increase will be highest for those with incomes below 100 percent of the FPL and will be more moderate for those with incomes between 100 and 138 percent of the FPL.

The ACA requires individuals to obtain health insurance and simultaneously aims to strengthen the value of insurance products by setting minimum limits on benefit generosity and caps on consumer out-of-pocket spending. Using RAND's COMPARE model, we estimate that, although the mandate to obtain health insurance coverage may increase premium spending for some, out-of-pocket spending will fall for all individuals newly gaining insurance, and the risk of catastrophic expenditure will decline. Moreover, many of the lowest-income individuals will experience declines in total health care spending because Medicaid expansion and access to advance premium tax credits on the exchanges will provide access to the benefits of health insurance with little additional cost on the part of the enrollee. These benefits do not come without cost. While the CBO estimates that the net effect of the ACA is a reduction in national health spending, the coverage expansion increases federal spending, with offsetting reductions stemming largely from changes to Medicare payment policies (CBO, 2012). Moreover, states that expand their Medicaid programs will be required to contribute a percentage of spending for individuals made newly eligible due to the ACA, with state contributions rising from 0 to 10 percent between 2016 and 2020, although increased Medicaid spending in states that choose to expand will partly or wholly offset by decreased state spending on uncompensated care (Price, 2013). In considering the choice to expand Medicaid, as well as the benefits of the ACA

generally, it is critical to fully understand the consequences for consumers, including the effects on out-of-pocket and total health spending and the risk of experiencing debilitating medical costs.

Appendix: Overview of the COMPARE Model

The RAND Comprehensive Assessment of Reform Efforts (COMPARE) microsimulation model is an agent-based model designed to simulate health insurance choices in the status quo and the effects of health reforms aimed to increase health insurance coverage, such as individual and employer mandates, expansions of public programs, creation of insurance exchanges, and tax incentives. The model considers several types of agents: firms, individuals, and health insurance eligibility units (HIEUs).[16] Each agent is described by a number of defining characteristics, which we call attributes. Agents exhibit behaviors, which means that they have the capability to receive information from other agents, update some of their attributes accordingly, and notify other agents of the actions taken. The action taken depends on their available choices and associated utilities. The microsimulation is based on a discrete choice model, in which agents evaluate utilities of the different options available to them and act on only one option by choosing the one that offers them the maximum utility.

Data Used

In order to populate the microsimulation with a nationally representative synthetic population of individuals, families, and firms with realistic behaviors and health expenditures, we need different types of information. There is no single database with all the information needed, and therefore we merge information from different data sources. The model relies on data from the 2008 Survey of Income and Program Participation (SIPP), the Kaiser Family Foundation/Health Research and Educational Trust Employer Survey (Kaiser/HRET), the Statistics of U.S. Businesses (SUSB), the 2002–2003 Medical Expenditures Panel Survey Household Component (MEPS-HC), and the Society of Actuaries (SOA) 1997–1999 Group Medical Large Claims dataset. The SIPP is used to populate all individual characteristics, except health care expenditures and utilization, which are taken from the MEPS-HC.[17] We use the 2002–2003 MEPS-HC because it allows us to use methodology from Sing et al. (2006) to adjust expenditures and account for the fact that the MEPS-HC underrepresents individuals with very high expenditures.

---

[16] An HIEU is a group of individuals that is eligible to be covered under the same insurance plan. A typical example is a married couple and their children.

[17] However, because the MEPS-HC data do not capture the extreme upper tail of the health care spending distribution, we recalibrated the top 1 percent of expenditures to reflect high expenditures found in the SOA Group Medical Insurance Large Claims dataset. We shall refer to this modified data simply as the MEPS.

Information from the MEPS is merged into the SIPP by a statistical matching algorithm, which assigns to every SIPP record one MEPS record. Workers in the SIPP are matched to firms provided by the Kaiser/HRET 2009 Employer Benefits Survey. We used Census Bureau estimates to inflate population demographics in the model to reflect the projected population in 2016, which we used as our base year because it is the first year in which the exchanges will be fully operational. Furthermore, we use inflation factors derived from the Center for Medicare & Medicaid Services' (CMS's) National Health Expenditure Accounts (NHEA) to obtain the trend for medical cost growth.

State-Level Data

The data described above lead to a model that is representative at the national level. In order to model reforms in Texas and Florida, we use an iterative proportional fitting (IPF; Deming and Stephan, 1940, and Ruschendorf, 1995) procedure to reweigh the data in COMPARE to match target state-level demographic distributions. We match the joint distribution of poverty level and insurance status; the joint distribution of age, gender, and race; and the distributions of insurance status of children, employment status, and firm size. These target distributions come from the 2008 Integrated Public Use Microdata Series (IPUMS) published by the U.S. Census Bureau, combined files from the 2009 to 2011 Current Population Survey Annual Social and Economic Component, and the 2007 SUSB. In addition, we adjust pre–Affordable Care Act (pre-ACA) Medicaid eligibility to reflect the state-specific Medicaid eligibility requirements. Therefore, a record in the national SIPP that represents an individual who lives in a state with generous Medicaid eligibility thresholds may represent an individual who loses Medicaid eligibility when we model a state with less generous Medicaid eligibility; alternatively, a record that represents an individual who lives in a state that does not have generous Medicaid eligibility thresholds may represent the record of an individual who gains Medicaid eligibility when we model a state with generous Medicaid eligibility thresholds.

Health Insurance Eligibility Unit Behavior

The COMPARE microsimulation makes use of a utility maximization approach to simulate individuals and families or, more specifically, the HIEU's decisionmaking on health insurance. On the assumption that individuals will change their insurance status based on deductive rational thinking, an HIEU selects the set of insurance policies that maximize the sum of the utilities of its members. The utility function is defined as

$$U_{ij} = u(H_{ij}) - \mathrm{E}[OOP_{ij}] - p_{ij}^{(H)} - \frac{1}{2} r \mathrm{VAR}[OOP_{ij}],$$

where $u(H_{ij})$ is the utility associated with consuming health care services for individual i under insurance option j, OOP_{ij} is the out-of-pocket spending expected, $p^{(H)}$ is the premium, and r is the coefficient of risk aversion, which we set to 0.00048, which is obtained in our model by averaging inflation-adjusted values reported in Pauly and Herring (2000) and Manning and Marquis (1996). The insurance status j will depend on the options available to each individual but include employer-sponsored coverage, nongroup coverage, Medicaid, or uninsurance. We estimate the variance in out-of-pocket spending by first grouping individuals into cells with other individuals of similar age and health status. We calculate the variance of out-of-pocket expenditures within each cell and assign that calculated variance to all individuals within the cell. In the post-ACA environment, insurance options can also include bronze, silver, gold, or platinum plans offered on the exchanges. HIEUs weigh the benefits of an option (e.g., reduced out-of-pocket expenditure, lower risk) against the costs (e.g., higher premiums). In making health insurance decisions, HIEUs consider an array of factors, including eligibility for Medicaid, eligibility for subsidies on the health insurance exchange, the generosity of the plan they are considering, health insurance premiums, penalties for not obtaining coverage, and expected health expenditures. Subject to a few constraints (e.g., a child cannot be enrolled in an employer-sponsored insurance [ESI] plan if a parent is not also enrolled), the HIEU can select different options for each member. In some cases, the definition of the family unit used to determine Medicaid eligibility may differ slightly from the definition of the HIEU. For simplicity, we assume that the same family unit, the HIEU, is used to determine eligibility for all forms of insurance.

When the ACA takes effect, penalties associated with not having health insurance coverage enter into the utility function. Specifically, these penalties are subtracted from the utility associated with the option of being uninsured.

Income of many families in the SIPP varies over the course of the year, and this variability will likely have important implications under the ACA, as families may be eligible for certain programs (Medicaid) or subsides for only part of the year. This "churn" was outside of the scope of our current analysis; we assumed that family income was stable over the course of the year.

Firm Behavior

Firms in the model decide whether and what type of plan to offer based on the aggregate utility of their workers, the total cost of offering health insurance coverage, and any penalties the firm might face for failing to offer a plan. We assume that a firm's utility for offering option α takes the form

$$U_\alpha \equiv V_\alpha - C_\alpha,$$

36

where V denotes the aggregate utility of workers and their dependents and C denotes the cost of the offer to the firm. The cost includes the firms' premiums, firm managerial costs associated with offering insurance (which are separate from administrative load factors included in the premium calculation), and penalties the firm would face if it did not offer coverage. In the status quo scenario, firms have the option of offering traditional employer-sponsored coverage or not offering insurance. After the ACA takes full effect, firms with 100 or fewer workers have the additional option to offer any of the exchange plans (α= Ex). However, small firms can only offer traditional ESI plans (that is, plans that do not comply with ACA's rating regulations) if they offered coverage on or before March 23, 2010. We assume that this grandfathered market erodes over time, based on an analysis published by the U.S. Department of the Treasury, U.S. Department of Labor, and U.S. Department of Health and Human Services (2010).

Using the set of calculated firm utilities (U_α), we compute the relative utilities ΔU_α that give the difference in utility associated with an offer of plan type α relative to the utility associated with having no insurance offer (α = no). The model takes into account the favorable tax treatment of ESI, as well as the possibility that some workers would prefer no offer so that they can receive coverage on the exchanges. We also account for the likelihood that, if they dropped their health insurance offers, firms would have to increase worker wages to attract and retain workers. A full description of the firm offer approach can be found in Eibner et al. (2010).

An important simplification is that, in our model, a firm can offer at most one plan. While this is an abstraction from reality, we believe it is reasonably accurate for small firms, which are the firms most substantially affected by the ACA. In particular, most of the changes to rating regulations set forth in the ACA apply only to firms with 100 or fewer workers, and states are only required to open the exchanges to firms with 100 or fewer workers.[18] According to the 2011 Kaiser data, 85 percent of firms with 3 to 199 workers offered only one plan.

Estimation of Consumer Spending Variables (Out-of-Pocket Costs, Premiums, and Risk of High Cost Burden)

This paper focuses on the impacts of the ACA on consumer spending, including consumers' total health care spending (out-of-pocket costs plus premiums paid by the consumer), as well as consumers' risk of out-of-pocket costs. In this section of the appendix, we will describe in more detail how each of these variables is created.

---

[18] Beginning in 2017, states will have the option of opening the exchanges to firms with more than 100 employees.

Synthetic Plans

To model an individual's spending under various scenarios, we need to estimate the individual's total spending, out-of-pocket spending, and premiums for all possible insurance statuses available to that individual. We do not specifically model any benefit category that may or may not be covered under the essential health benefit (EHB) but, rather, model aggregate health care costs.

As an intermediate step in estimating these expenditures, we developed synthetic plans, defined by a deductible, a coinsurance level, and a maximum out-of-pocket spending amount for each insurance type. We designed different plans for Medicaid, the current individual market, ESI, and uninsured individuals. We design an effective plan for the uninsured because, while they lack a formal insurance plan, the uninsured do not always pay the full cost of their medical care. The Medicaid, individual, and ESI plans were designed to have effective actuarial values (AVs; the percentage of covered care paid by insurance) of 99 percent, 65 percent, and 80 percent, respectively.

While it is difficult to exactly estimate the average AV of Medicaid for all enrollees, the AV for children's Medicaid plans is required to be 100 percent (Peterson, 2009). Adults in Medicaid also have very low levels of cost-sharing; we therefore designed our Medicaid plans to have an effective AV of 99 percent. We designed an effective plan for the uninsured based on observed total spending and out-of-pocket spending for this group in the MEPS.[19] We assume that low-income individuals are most likely to receive charity care and therefore designed synthetic plans for the uninsured with increasing maximum out-of-pocket costs. The first plan covers individuals with incomes up to 138 percent of the federal poverty level (FPL), the second covers individuals with incomes of 138–400 percent of the FPL, and the final plan covers individuals with incomes above 400 percent of the FPL. We choose these plans so that, on average, the uninsured pay approximately one-third of their health care costs. We used a combination of expert opinion and reported out-of-pocket spending for individual enrollees to estimate the AV of individual plans. Experts we spoke with estimated the AV of these plans to be 65 percent, and this figure aligned well with a survey of out-of-pocket and total expenditures of individuals enrolled in nongroup plans, which found that nongroup enrollees typically pay 35 percent of their medical costs out of pocket (Henry J. Kaiser Family Foundation, 2010). We estimated an 80-percent AV for ESI plans based on figures reported in a literature review (Gabel et al., 2006; McDevitt et al., 2010). This literature suggests that the AVs for ESI

---

[19] While the synthetic plan we used for the uninsured is less generous than any plan for the insured (it had a higher deductible, coinsurance, and maximum out-of-pocket cost), the percentage of total health care expenditures paid out of pocket by the uninsured was close to 35 percent, which was the percentage of total expenditures that the uninsured typically pay out of pocket according to the Congressional Budget Office (2005).

plans do not vary by firm size; we therefore assumed a uniform AV for ESI plans in our status quo.

We additionally designed plans for each of the four metal tier plans that will be available on the health insurance exchanges. The bronze, silver, gold, and platinum plans have actuarial values of 60 percent, 70 percent, 80 percent, and 90 percent, respectively. Certain individuals and families will be eligible for cost-sharing subsidies, which will decrease their effective out-of-pocket expenses, if they purchase a silver policy through the exchanges. We also designed these plans so that they satisfied the limits on the maximum out-of-pocket costs that individuals and families can pay set by the ACA for both the metal tier plans and for the levels of cost-sharing subsidies. We designed additional plans for each level of cost-sharing subsidy. In total, in the status quo, we model six benefit packages: three for the uninsured, determined by income level; a Medicaid package; an individual market package; and an ESI package. Under the ACA, we model 12 benefit packages: three for the uninsured, a Medicaid package, and four packages for the regulated individual and small group markets (one for each metal tier), plus an additional four plans representing four levels of cost-sharing subsidies for qualifying individuals who purchase silver individual plans on the exchanges. Because we assume that grandfathered ESI plans have an AV of 0.8, we assume that this plan looks like the gold individual and small market plan.

Total Health Care Spending

Total health care spending by an individual may change when he or she changes insurance status (and moves to a more or less generous plan) because those on more generous health insurance plans are likely to consume more health care. We estimate changes in total spending as follows: For those individuals who are uninsured in the MEPS *and have zero total health care spending*, we use a logistic regression model to estimate whether the individual would have nonzero health care spending if he or she were on ESI (the choice of insurance type is unimportant; once we have estimated total spending under ESI, we can estimate the individual's spending on other types of insurance). If we estimate that the individual's spending would be nonzero under ESI, we use a linear regression model to estimate the level of expenditure the individual would have under ESI. Next, we use estimates from the RAND Health Insurance Experiment (HIE; Brook et al., 2006) to predict how individuals' total spending would change as they switch between plans with different coinsurance levels, defined by our synthetic plans. We found that when we predicted increases in total health care spending for individuals switching from being uninsured to Medicaid, we predicted increases in total spending that were significantly greater than those found by the Oregon HIE (Finkelstein et al., 2012). We therefore define a "lack of access factor" based on the Oregon HIE that lowers health care utilization and total health care spending for individuals on Medicaid. Based

on results from the RAND and Oregon HIEs, we estimate that individuals on Medicaid consume approximately 38 percent less health care than they would on a similarly generous private plan. Total health care spending is used both to estimate out-of-pocket costs and to estimate premiums for ESI and individual insurance plans. In addition, we account for lower Medicaid reimbursement rates by assuming that Medicaid reimbursement rates are 48 percent of private reimbursement rates. This number is estimated by first estimating the ratio of Medicare to private reimbursement rates from estimates of this ratio for physician (Medicare Payment Advisory Commission, 2011; American Hospital Association, 2011) and hospital (American Hospital Association, 2011) services, and the relative proportions of these services in overall Medicare costs (Henry J. Kaiser Family Foundation, 2007). Once we estimated the ratio of Medicare to private reimbursement rates, we used reported ratio of Medicaid to Medicare reimbursement rates (Henry J. Kaiser Family Foundation, 2012) to estimate the ratio of Medicaid to private reimbursement rates. We used historical and projected health expenditure data from CMS (2012) to inflate expenditures in the MEPS to 2016. Medicaid fees are state-specific; therefore, the ratio of Medicaid to private reimbursement rates may vary from state to state. Because most data on the ratio of Medicare to private reimbursement rates (which are needed as an intermediate step in our calculation of Medicaid to private reimbursement rates) are available at only the national level, we used our estimated national-level ratio of Medicaid to private reimbursement rates for our state analysis.

Out-of-Pocket Costs

Once we have estimated total health care spending for each individual under different insurance plans, we use the synthetic plans to estimate the out-of-pocket spending for each individual in the MEPS, both for the individual's insurance status defined in the MEPS and for all other insurance statuses that the individual could transition to after implementation of the ACA.

Premiums

Premiums in COMPARE are computed endogenously, based on the total health care spending by individuals in different insurance pools. To model the nongroup market without the ACA, we consider a single risk pool that allows for underwriting and price variation by age, health status, and tobacco use. Premiums are then set to ensure that

$$\textbf{total premiums paid} = \boldsymbol{T \times AV \times 1/(MLR)},$$

where T is the sum of all the total expenditures for the individuals in the pool, AV is the actuarial value (0.65 for the nongroup market), and MLR is the medical loss ratio, which

we set at 0.70 in the status quo. After the ACA takes full effect, we model the four exchange metal tiers—bronze, silver, gold, and platinum—which have AVs of 0.6, 0.7, 0.8, and 0.9, respectively. Premiums on the exchange vary by age (with a 3:1 rate band), tobacco use, and metal tier. We also assume that the MLR on the nongroup market increases to 0.8, the minimum required by the ACA.

To model the employer-sponsored market, we use the claims experience of enrolled workers to estimate premiums for each type of plan available in the model. Without the ACA, premiums are firm-specific and represent a weighted average of the firm's experience-rated premium and a community-rated premium. Expected claims for the experience-rated premiums are estimated by predicting the level of health spending that workers and dependents would experience if they were on an ESI plan. The prediction is made using a set of regressions that account for individuals' age, insurance status, health status, income, census region, gender, and firm size. We train the regression model on individuals' estimated total health care expenditures on ESI, rather than on total health care expenditures reported in the MEPS. If individuals are not on ESI in the MEPS, we first use elasticities from the RAND HIE to estimate their total spending on ESI before estimating our regression model. Expected claims for the community-rated premiums reflect the average expenditure for all firms in a given size category (25 or fewer workers, 26–99 workers, 100+ workers) and census region. To calculate premiums, both the experience-based and community-based claims estimates are adjusted to reflect administrative loading factors and AVs. We assume that all employer plans have an actuarial value of 0.80, while we assume that the pre-ACA MLR ranges from 0.80 for firms with 25 or fewer workers to 0.92 for firms with more than 100 workers.

After estimating the community- and experience-rated premium for each firm, we calculate the final premium, using the following function:

$$P_{full}=[\omega\times(P_{experience})]+[(1-\omega)\times(P_{community})],$$

where ω is a term that ranges from 0 to 1 and reflects the relative weight insurers place on the firms' claims experience relative to the expected expenditure among all similarly sized firms.[20] On the basis of advice from actuaries, we assume that ω is 0.25 for firms with 25 or fewer workers, rising (on a sliding scale) to 1 for firms with more than 500 workers. The weighting reflects the possibility that small firms' past claims might be inaccurate predictors of future costs, so insurers hedge by relying on market experience to set prices.

---

[20] The Urban Institute uses a similar strategy to estimate premiums; see Equation 9.1.2 on p. 128 of *The Health Insurance Reform Simulation Model (HIRSM): Methodological Detail and Prototypical Simulation Results* (Urban Institute, 2003).

After ACA implementation, we continue to calculate premiums for large group and grandfathered plans using the methodology described above. However, for the non-grandfathered small group market, including the exchanges, we estimate premiums based on the experience of all small group enrollees (where *small group* is defined as firms with 100 or fewer workers). On an individual basis, we allow the premiums to vary by a factor of 3 to 1, depending on the enrollee's age, and by 1.5 to 1 depending on tobacco use status. We further assume that MLR increases to 0.88 for small firms that are affected by ACA's rating regulations (that is, for non-grandfathered small firms). Under the ACA, firms can use either an average, aggregate premium to set employee contributions, or they can allow employee contributions to vary based on age and tobacco use. Under current law, most employers chose to use an aggregate premium to set employee contributions (Patient Protection and Affordable Care Act, 2012). Therefore, in our model, we assume that all employers use aggregate premiums to set employee contributions both without and with the ACA. Because all workers within a firm pay the same premium, we set the premium for each firm equal to the average exchange premiums for the firm's enrolled workers. We calculate employees' contributions to their ESI plans using reported figures from the Kaiser/HRET survey for the fraction of premiums employees pay for individual and family plans.

Level of High Cost Burden

In order to estimate the risk that a family will experience a high or very high medical cost burden (medical expenses exceeding 10 percent or 20 percent of total family income in a given year), we calculate the percentage of income that each HIEU spends on health care. We then calculate the weighted fraction of individuals in a particular category (for example, those who are uninsured without the ACA who have individual insurance under the ACA) who live in HIEUs with medical expenses exceeding 10 or 20 percent of income. This is our reported "risk of high or very high medical cost burden."

References

American Hospital Association, *Trends Affecting Hospitals and Health Systems*, 2011.

Auerbach, D. I., and A. L. Kellermann, "A Decade of Health Care Cost Growth Has Wiped Out Real Income Gains for an Average U.S. Family," *Health Affairs*, Vol. 30, No. 9, 2011, pp.1630–1636.

Bokus, E. R., and P. J. Cunningham, *Mixed Signals: Trends in Americans' Access to Medical Care, 2007–2010*, Center for Studying Health System Change, 2011.

Branscome, J. M., "Trends in Premiums and Employee Contributions for Employer-Sponsored Health Insurance: Private Sector, 1996–2011," MEPS Statistical Brief No. 388, November 2012.

Brixner, D. I., "The Case Against Excessive Cost Sharing," *American Journal of Managed Care*, Vol. 12, No. 6, 2006, pp. s162–s164.

Brook, R.H., E. B. Keeler, K. N. Lohr, J. P. Newhouse, J. E. Ware, W. H. Rogers, A. R. Davies, C. D. Sherbourne, G. A. Goldberg, P. Camp, C. Kamberg, A. Leibowitz, J. Keesey, and D. Reboussin, "The Health Insurance Experiment: A Classic RAND Study Speaks to the Current Health Care Reform Debate," Santa Monica, Calif.: RAND Corporation, RB-9174-HHS, 2006. As of August 30, 2013:
http://www.rand.org/pubs/research_briefs/RB9174.html

CBO—*see* Congressional Budget Office.

Centers for Medicare & Medicaid Services, "National Health Expenditure Data," last modified April 11, 2012. As of September 4, 2013:
http://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/

Chernew, M. E., and J. P. Newhouse, "What Does the RAND Health Insurance Experiment Tell Us About the Impact of Patient Cost Sharing on Health Outcomes?" *American Journal of Managed Care*, Vol. 14, No. 7, 2008, pp. 412–414.

CMS—*see* Centers for Medicare & Medicaid Services.

Collins, S. R., M. M. Doty, R. Robertson, and T. Garber, *Help on the Horizon: How the Recession Has Left Millions of Workers Without Health Insurance, and How Health Reform Will Bring Relief; Findings from the Commonwealth Fund Biennial Health Insurance Survey of 2010*, the Commonwealth Fund, March 2011. As of September 4, 2013:
http://www.commonwealthfund.org/~/media/Files/Surveys/2011/1486_Collins_help_on_the_horizon_2010_biennial_survey_report_FINAL_31611.pdf

Congressional Budget Office, *The Price Sensitivity of Demand for Nongroup Health Insurance*, 2005.

Congressional Budget Office, "Letter to the Honorable John Boehner Providing an Estimate for H.R. 6079, the Repeal of 'Obamacare,'" July 24, 2012. As of May 23, 2013: http://www.cbo.gov/sites/default/files/cbofiles/attachments/43471-hr6079.pdf

Corlette, S., K.W. Lucia, and M. Levin, "Implementing the Affordable Care Act: Choosing an Essential Health Benefits Plan," Commonwealth Fund Pub. #1677, Vol. 15, March 2013.

Cunningham, P. J., "High Medical Cost Burdens, Patient Trust, and Perceived Quality of Care," *Journal of General Internal Medicine*, Vol. 24, 2009, pp. 415–420.

Deming, W. E., and F. F. Stephan, "On a Least Squares Adjustment of a Sampled Frequency Table When the Expected Marginal Totals Are Known," *Annals of Mathematical Statistics*, Vol. 11, No. 4, 1940, pp. 427–444.

DiJulio, B., and G. Claxton, "Snapshots: Comparison of Expenditures in Nongroup and Employer-Sponsored Insurance: 2004–2007," Henry J. Kaiser Family Foundation, March 3, 2010. As of August 28, 2013: http://www.kff.org/insurance/snapshot/chcm111006oth.cfm

Eibner, C., F. Girosi, C. C. Price, and E. A. McGlynn, *Grandfathering in the Small Group Market Under the Patient Protection and Affordable Care Act: Effects on Offer Rates, Premiums, and Coverage*, Santa Monica, Calif.: RAND Corporation, OP-313-DOL, 2010. As of September 4, 2013: http://www.rand.org/pubs/occasional_papers/OP313.html

Eibner, C., and C. C. Price, "How Would Eliminating the Individual Mandate Affect Health Coverage and Premium Costs?" Santa Monica, Calif.: RAND Corporation, RB-9646-CMF, 2012. As of August 28, 2013: http://www.rand.org/pubs/research_briefs/RB9646.html

Finkelstein, A., S. Taubman, B. Wright, M. Bernstein, J. Gruber, J. P. Newhouse, H. Allen, and K. Baicker, "The Oregon Health Insurance Experiment: Evidence from the First Year," NBER (National Bureau of Economic Research) Working Paper No. w17190, 2011. As of September 4, 2013: http://ssrn.com/abstract=1881018

Finkelstein, A., S. Taubman, B. Wright, M. Bernstein, J. Gruber, J. P. Newhouse, H. Allen, and K. Baicker, "The Oregon Health Insurance Experiment: Evidence from the First Year," *Quarterly Journal of Economics*, Vol. 127, No. 3, 2012, pp. 1057–1106.

Gabel J., R. McDevitt, L. Gandolfo, J. Pickreign, S. Hawkins, and C. Fahlman, "Generosity and Adjusted Premiums in Job-Based Insurance: Hawaii Is Up, Wyoming Is Down," *Health Affairs*, Vol. 25, No. 3, May 2006, pp. 832–843.

Glied, S., and B. Mahato, "Who Pays for Health Care When Workers Are Uninsured?" the Commonwealth Fund, Issue Brief, Vol. 37, May 2, 2008. As of September 4, 2013 http://www.commonwealthfund.org/Publications/Issue-Briefs/2008/May/Who-Pays-for-Health-Care-When-Workers-Are-Uninsured.aspx

Henry J. Kaiser Family Foundation, *Medicare Spending and Financing*, 2007.

Henry J. Kaiser Family Foundation, *Snapshots: Comparison of Expenditures in Nongroup and Employer-Sponsored Insurance: 2004–2007*, 2010.

Henry J. Kaiser Family Foundation, "Medicaid-to-Medicare Fee Index," 2012. As of September 4, 2013:
http://kff.org/medicaid/state-indicator/medicaid-to-medicare-fee-index/

Hill, S. C., "Individual Insurance Benefits to Be Available Under Health Reform Would Have Cut Out-of-Pocket Spending in 2001–08," *Health Affairs*, May 18, 2012.

Himmelstein, D. U., D. Thorne, E. Warren, and S. Woolhandler, "Medical Bankruptcy in the United States, 2007: Results of a National Study," *American Journal of Medicine*, Vol. 122, No. 8, 2009, pp. 741–746.

Jost, T., "Implementing Health Reform: The Basic Health Program and Federal Medicaid Matching Rates," *Health Affairs Blog*, February 7, 2013. As of June 17, 2013:
http://healthaffairs.org/blog/2013/02/07/implementing-health-reform-the-basic-health-program-and-federal-medicaid-matching-rates/

Kliff, S., "Florida Rejects Medicaid Expansion, Leaves 1 Million Uninsured," *Washington Post*, Wonkblog, May 5, 2013. As of August 28, 2013:
http://www.washingtonpost.com/blogs/wonkblog/wp/2013/05/05/florida-rejects-medicaid-expansion-leaves-1-3-million-uninsured/

Manning, W. G., and M. S. Marquis, "Health Insurance: The Tradeoff Between Risk Pooling and Moral Hazard," *Journal of Health Economics*, Vol. 15, No. 5, 1996, pp. 609–639.

McDevitt R., J. Gabel, R. Lore, J. Pickreign, H. Whitmore, and T. Brust, "Group Insurance: A Better Deal for Most People Than Individual Plans," *Health Affairs*, Vol. 29, No. 1, 2010, pp. 156–164.

Medicare Payment Advisory Commission, *Medicare and the Health Care Delivery System*, 2011.

Newhouse, J. P., and the Insurance Experiment Group, *Free for All? Lessons from the RAND Health Insurance Experiment*, Cambridge, Mass.: Harvard University Press, 1993.

Patient Protection and Affordable Care Act; Health Insurance Market Rules; Rate Review; Proposed Rule, in *Federal Register*, 2012.

Pauly, M. V., and B. J. Herring, "An Efficient Employer Strategy for Dealing with Adverse Selection in Multiple-Plan Offerings: An MSA Example," *Journal of Health Economics*, Vol. 19, No. 4, 2000, pp. 513–528.

Peterson, C. L., *Setting and Valuing Health Insurance Benefits*, Congressional Research Service Report 7-5700, 2009.

Price, C. C., and C. Eibner, "For States That Opt Out of Medicaid Expansion: 3.6 Million Fewer Insured and $8.4 Billion Less in Federal Payments," *Health Affairs*, Vol. 32, No. 6, 2013, pp. 1030–1036.

Ruschendorf, L., "Convergence of the Iterative Proportional Fitting Procedure," *Annals of Statistics*, Vol. 23, No. 4, 1995, pp. 1160–1174.

Schoen, C., S. R. Collins, J. L. Kriss, and M. M. Doty, "How Many Are Underinsured? Trends Among US Adults, 2003 and 2007," *Health Affairs*, Web Exclusive, 2008, pp. w298–w309.

Schoen, C., A.-K. Fryer, S. R. Collins, and D. C. Radley, "Realizing Health Reform's Potential: State Trends in Premiums and Deductibles, 2003–2010: The Need for Action to Address Rising Costs," the Commonwealth Fund, November 2011. As of August 28, 2013: http://www.commonwealthfund.org/~/media/Files/Publications/Issue%20Brief/2011/Nov/State%20Trends/1561_Schoen_state_trends_premiums_deductibles_2003_2010.pdf

Sing, M., J. S. Banthin, T. M. Selden, C. A. Cownan, and S. P. Keehan, "Reconciling Medical Expenditure Estimates from the MEPS and NHEA, 2002," *Health Care Financing Review*, Vol. 28, No. 1, 2006, p. 25.

Sommers, A., and P. J. Cunningham, "Medical Bill Problems Steady for U.S. Families, 2007–2010," Center for Studying Health System Change, Tracking Report No. 28, December 2011. As of August 28, 2013: http://www.hschange.com/CONTENT/1268/

U.S. Department of the Treasury, U.S. Department of Labor, and U.S. Department of Health and Human Services, *Federal Register: Rules and Regulations, Part II, Department of the Treasury, Internal Revenue Service, 26 CFR Parts 54 and 602; Department of Labor, Employee Benefits Security Administration, 29 CFR Part 2590; Department of Health and Human Services, 45 CFR Part 147; Group Health Plans and Health Insurance Coverage Relating to Status as a Grandfathered Health Plan Under the Patient Protection and Affordable Care Act; Interim Final Rule and Proposed Rule*, Vol. 75, No. 116, Washington, D.C., June 17, 2010, pp. 34537–34570.

Urban Institute, *The Health Insurance Reform Simulation Model (HIRSM): Methodological Detail and Prototypical Simulation Results*, July 2003, p. 128.

Xu, K., D. B. Evans, K. Kawabata, R. Zeramdini, J. Klavus, and C. J. Murray, "Household Catastrophic Health Expenditure: A Multicountry Analysis," *The Lancet*, Vol. 362, No. 9378, 2003, pp. 111–117.