Assessing Alternative Modifications to the Affordable Care Act

Impact on Individual Market Premiums and Insurance Coverage

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SUMMARY ■ The Affordable Care Act (ACA) reformed the individual insurance market, requiring issuers to offer coverage to all willing buyers (guaranteed issue and renewal) and limiting premium variation across enrollees. The goals of these reforms are to enable all Americans to have access to affordable health insurance and to prevent sicker individuals (such as those with preexisting conditions) from being priced out of the market.

The ACA also instituted several policies to stabilize premiums and to encourage enrollment among healthy individuals of all ages in light of these market reforms. The law's tax credits and cost-sharing subsidies offer a "carrot" that may encourage enrollment among young and healthy individuals who would otherwise remain uninsured. The specific design of the law's premium tax credits makes recipients relatively insensitive to premium increases, reducing the impact of premiums on enrollment. Simultaneously, the individual mandate acts as a "stick" by imposing penalties on individuals who choose not to enroll. These penalties phase in over time and, in 2016, will be the greater of $695 per adult and $347 per child (up to a maximum of $2,085 per family) or 2.5 percent of income, not to exceed the cost of an average bronze plan available on the new online markets for obtaining health insurance known as "Marketplaces."

In addition, unlike some state health insurance rating reforms that were implemented in the past, the ACA stops short of full community rating, in which all enrollees are charged the same premium regardless of age. Older adults can still be charged up to three times as much as younger adults, and the youngest adults (ages 18–20) are grouped with children rather than adults for the purposes of setting premiums. While these rating provisions have the effect of shifting some costs from older to younger enrollees, full community rating would have placed a much greater financial burden on younger adults.

Risk adjustment, reinsurance, and risk corridors provisions included in the law may further stabilize the market by protecting insurers from potential losses that could occur due to uncertainties about the health status of individuals that may enroll. Specifically, the permanent risk adjustment program transfers funds from plans with low-risk enrollees to plans with high-risk enrollees, which helps to ensure that plans are viable even if they attract a relatively sick population, and reduces insurers' incentives to "cherry-pick" low-cost enrollees. Reinsurance is a temporary program (set to end in 2017) that provides payments to plans in the event that they have an enrollee with an unusually high expenditure (e.g., more than $45,000). Risk corridors limit excessive gains or losses that might occur if plans set premiums inaccurately, and the risk corridors program is also set to end in 2017. These provisions may be particularly

important in the early years of the ACA's implementation, since it may take some time before insurers have enough data to accurately predict enrollees' utilization and spending patterns.

In this report, we use the COMPARE microsimulation model to estimate how several potential changes to the ACA, including eliminating the individual mandate, eliminating the tax credits, and combined scenarios that change these and other provisions of the act, might affect 2015 individual market premiums and overall insurance coverage. Underlying these estimates is our COMPARE-based analysis of how premiums and insurance coverage outcomes depend on young adults' propensity to enroll in insurance coverage.

We find that eliminating the ACA's tax credits and eliminating the individual mandate both increase premiums and reduce enrollment on the individual market, as do the combined policies we examine. In fact, in scenarios in which the tax credits are eliminated, our model predicts a near "death spiral," with very sharp premium increases and drastic declines in individual market enrollment. The increases in premiums affect both enrollees in Marketplace plans and enrollees in off-Marketplace plans that comply with the ACA reforms.

In addition, we find that these key features of the ACA help to protect against adverse selection and stabilize the market by encouraging healthy people to enroll and, in the case of the tax credit, shielding subsidized enrollees from premium increases. Notably, alternative subsidy arrangements that shift more risk to enrollees, such as flat vouchers that do not rise and fall with premiums in the market, increase the vulnerability of the market to adverse selection and reduce the market's stability.

Further, we find that under the ACA as currently in effect, individual market premiums are only modestly sensitive to young adults' propensity to enroll in insurance coverage, and ensuring market stability does not require that young adults make up a particular share of enrollees. Eliminating the mandate, eliminating the tax credits, or restructuring the tax credit as a flat voucher makes premiums considerably more sensitive to young adults' enrollment decisions.

Key Findings

- **Eliminating the ACA's tax credits would cause substantial increases in premiums, as well as large declines in enrollment.** Without the ACA's premium tax credits, we find significant disruptions to the risk pool, with unsubsidized premiums rising 43.3 percent, enrollment falling by 68 percent, and 11.3 million Americans becoming uninsured. By subsidizing coverage, the federal government helps to lower premiums in the ACA-compliant market. Individuals with large medical expenses are likely to sign up for health insurance coverage, regardless of whether they can obtain a tax credit. In contrast, low-risk individuals of any age may need a tax credit to incentivize them to sign up. As a result, premium tax credits encourage the enrollment of low-risk individuals, who improve the risk pool and bring down premiums. An ACA-compliant market without premium tax credits would consist of a relatively small number of high-risk individuals, preventing the majority of potential enrollees from purchasing affordable coverage.

- **Eliminating the individual mandate would cause relatively small increases in premiums, but large declines in the number of people insured.** We analyzed the role of the individual mandate in incentivizing enrollment. Without the mandate, premiums rise by about 7 percent, the number of people enrolled in the individual market falls by more than 20 percent, and 8.2 million Americans become uninsured. While the effect on premiums is relatively modest, the sharp decline in enrollment if the individual mandate is eliminated suggests that the mandate is important to achieving the ACA's goal of nearly universal coverage.

- **Reduced young adult enrollment is associated with slight premium increases.** In our baseline 2015 scenario, we estimate that 27.2 percent of ACA-compliant individual market enrollees are young adults between the ages of 18 and 34; this figure includes enrollees in Marketplace plans and off-Marketplace plans that adhere to the act's rating rules. We estimate that reduced enrollment among 18-to-34-year-olds is associated with higher individual market premiums, but the increases are relatively small. In our most realistic scenario, a 1 percentage point reduction in the share of young adult enrollees in the individual market is associated with a 0.44 percent increase in premiums. Part of the limited effect is driven by the ACA's tax credits, which incentivize young people who are tax-credit-eligible to remain enrolled, even if other young adults drop out of the market. We find, moreover, that a majority of enrollees at all ages have spending low enough to benefit the risk pool (that is, for most enrollees, premium payments are more than sufficient to cover claims expenditure), an effect that is helped by the ACA's age rating.

- **Alternative subsidy structures, such as vouchers, could cause premiums to be more sensitive to the age composition of enrollees.** Our analysis also considers the importance of the ACA's premium tax credit structure, which caps individuals' spending as a percentage of income, up to the price of the second-lowest-priced silver plan. The design of the tax credit protects enrollees against premium escalation because, once they have met the required income contribution, the cost of additional premium increases in the benchmark plan are fully offset by the tax credit. We find that premiums are more sensitive to changes in the share of young adult enrollees under alternative subsidy arrangements, including a fixed-dollar voucher and a fixed-percentage contribution. For example, with a fixed-dollar voucher, a 1 percentage point reduction in the share of young adults enrolled in the market would be associated with a 0.73 percent increase in premiums, nearly twice the effect under the ACA.

BACKGROUND

Affordable health insurance depends on risk-pooling—spreading the cost of infrequent and expensive health care encounters across a wide range of individuals. For risk-pooling to work well, a sufficient number of healthy, low-cost individuals must enroll in the market to offset the costs of sicker and more expensive enrollees. Younger people tend to be healthier and use fewer health services than older people, potentially making them valuable to the risk pool. Yet, some of the provisions introduced by the Affordable Care Act (ACA), including requirements that insurers offer plans to all potential buyers regardless of their health status and limits on insurers' ability to charge higher prices to older individuals, could increase premiums for young adults and cause them to exit the market.

The most recent statistics from the U.S. Department of Health and Human Services (HHS) show that 28 percent of enrollees in the ACA's "Marketplaces"—the new online markets for obtaining health insurance—were ages 18 to 34; in contrast, 48 percent of enrollees were age 45 or older.[1] The proportion of young adult enrollees has gradually increased over time; for example, the share of young adults was 24 percent at the end of December 2013, 25 percent by March 1, 2014, and 28 percent at the end of the open enrollment period.[2]

We do not know what assumptions insurance companies made about enrollment among young adults when setting premiums for 2014. If actual 2014 enrollment levels among young adults fell below insurers' expectations, insurers may need to adjust 2015 prices to account for differences in expected and realized age composition. While early in 2014 there was significant concern about insurers raising premiums due to lower-than-expected young adult enrollment, the March 2014 surge in young adult enrollment on the Marketplaces has caused some insurers to back away from pessimistic predictions about premium increases in 2015.[3] However, even if young adult enrollment falls below insurer expectations, the ACA contains safeguards that may protect against upward premium pressure, regardless of the age composition of enrollees.

First, the ACA allows insurers to charge older adults more than they charge younger adults. This factor reduces potential losses as the age composition of enrollees rises.

Second, the structure of the ACA's premium tax credits insulates enrollees from premium growth because eligible enrollees' spending is capped at a percentage of income, up to the price of the second-lowest-cost silver plan. The structure of the credit may encourage healthy people to enroll, regardless of

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age, since a subsidized enrollee's share of the premium is relatively insensitive to the spending patterns of other enrollees.

Third, the ACA includes risk adjustment, reinsurance, and risk corridors, policies designed to stabilize premiums and to reduce any incentive insurers may have to avoid enrolling more expensive patients (a practice known as "cherry-picking"[4]). Levitt, Claxton, and Damico (2013) describe these policies as "shock absorbers" that protect against premium escalation in the event that sicker-than-average individuals are among the first to enroll in the ACA-compliant market.[5] Prior literature has found that well-designed risk adjustment models can improve the financial solvency of plans that enroll sicker individuals[6] and that reinsurance can further increase the profitability of plans with high-risk enrollees.[7] Researchers and policymakers have also argued that reinsurance and risk corridors can encourage new insurers to enter the market[8] and reduce premium rate increases that may be driven by market uncertainties.[9]

Finally, the ACA includes an individual mandate requiring most people to obtain health insurance or pay a penalty. Evidence from Massachusetts, the only state with such a requirement before the ACA, suggests that such a mandate brings younger and healthier people into the market.[10]

In this report, we first analyze how individual Marketplace premiums for 2015 might change as the share of young adult enrollees in the Marketplaces changes. We then analyze the degree to which premium changes are sensitive to (1) assumptions about which young adults are most likely to remain enrolled as the share of young adult enrollees falls, (2) the structure of the tax credits, and (3) the presence of the individual mandate. In our analysis of the structure of the ACA's tax credits, we consider one alternative in which the federal govern-

ment provides eligible enrollees with fixed-dollar vouchers, and a second alternative in which the federal government pays a fixed proportion of the premium for eligible enrollees. We also consider a case in which the tax credits are eliminated entirely.

We estimate premiums using the COMPARE microsimulation model, an analytic tool that uses economic theory and data to predict the effects of health policy reforms. Premiums in COMPARE are derived from the expenditures of modeled enrollees, which are imputed using the Medical Expenditure Panel Survey (MEPS) augmented with data from the Society of Actuaries. We account for most of the policy changes introduced by the ACA, including the individual mandate, the expansion of Medicaid (in participating states), new rating regulations in the small group and individual markets, Marketplace tax credits and cost-sharing subsidies, and risk adjustment and reinsurance. We also account for the November 2013 policy allowing some people previously enrolled in nongrandfathered individual market plans to extend their policies, even if those plans do not comply with the ACA's requirements. We do not account for risk corridors, a temporary policy that partially protects insurers from losses if they set premiums too low to cover realized claims. Risk corridors could reduce premiums because they reduce the risk to the insurer associated with inadvertently setting premiums too low.

In the remainder of this report, we first provide a conceptual discussion of the ACA's policies that guard against premium escalation in the individual health insurance market. We then describe the methods we used to test the sensitivity of premiums to the share of young adult enrollees in the market, to the presence of the ACA's tax credit structure, and to the individual mandate. We next present our results, including sensitivity analyses that consider alternative subsidy design strategies. We conclude by discussing our findings in detail.

The Affordable Care Act's Rating Regulations

Prior to the ACA, individual market premiums were regulated primarily by state, rather than federal, law. In most states, insurers could charge different premiums according to characteristics such as enrollees' age, health status, occupation, and gender. In addition, insurers could opt not to cover individuals who were likely to be expensive—for example, individuals with preexisting conditions. Blumberg and Buettgens (2013) argue that older people may have been charged at least 5 times what younger people were charged in many states.[11] A 2007 survey by America's Health Insurance Plans found that, under pre-ACA rules, 11.3 percent of individual market applicants were denied coverage and that the likelihood of denial increased sharply with age.[12]

The ACA instituted rating reforms in the individual market that require insurers to offer plans to all willing buyers, regardless of health status or other risk factors. In addition, the law limits the extent to which premiums may vary across individuals. Under the ACA, individual premiums may vary only according to five characteristics: age, tobacco use status, family size, plan actuarial value, and geographic area. Age variation in premiums is limited within a 3-to-1 rate band, meaning that a 64-year-old can be charged no more than 3 times as much as a 21-year-old. Children and young adults between the ages of 0 and 20 are not included in the 3:1 rate banding, and, as a result, a 64-year-old can be charged up to 4.7 times as much as a 20-year-old.[13] Tobacco users can be charged no more than 1.5 times as much as non-users. In many states, the ACA's age bands have the effect of compressing the age differences in premiums that existed prior to the law.

The age compression in rates required by the ACA implies that individual market premiums in most states will be higher than they were before the ACA was implemented for younger people and lower for older people. This could cause some younger people to drop out of the health insurance market, or to remain uninsured. However, because some degree of age rating is still permitted, younger individuals will not bear the full burden of older individuals' higher health spending.

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Except for grandfathered and transitional plans, the ACA's regulations apply to all plans sold on the individual market, regardless of whether these plans are sold inside or outside of the Marketplaces.[14] This fact implies that, as grandfathered and transitional plans expire, it will not be possible to avoid the ACA's regulations by buying a plan outside of the Marketplace. Both grandfathered and transitional plans are currently available only to individuals who were enrolled in the individual market before the ACA's rating reforms took effect on January 1, 2014. Grandfathered plans must have existed on or before March 23, 2010, and are available indefinitely, as long as the plan does not make substantial changes to cost-sharing, covered benefits, or other design features. Transitional plans must have existed on or before October 1, 2013, and can continue through October 1, 2016, if state health insurance commissioners permit them and insurers opt to continue them.[15] According to a recent analysis, 38 states have opted to allow transitional plans, while 12 states and the District of Columbia have prohibited these plans from continuing.[16]

The Affordable Care Act's Tax Credit Structure

The ACA provides tax credits to people who enroll in the health insurance Marketplaces if they have modified adjusted gross income between 100 and 400 percent of the federal poverty level (FPL) and if they lack an offer of coverage through Medicaid, the Children's Health Insurance Program (CHIP), Medicare, an employer, or other sources. The ACA's tax credits cap health insurance spending as a percentage of income, up to the price of the second-lowest-cost silver plan available in an individual's rating area. Individuals' required contributions for the second-lowest-cost silver plan increase on a sliding scale, ranging from 2 percent of income for those with incomes between 100 and 133 percent of the FPL and rising to 9.5 percent of income for those with incomes between 300 and 400 percent of the FPL.[17] Those with incomes above 400 percent of FPL are ineligible for tax credits. If an individual enrolls in a plan that is more expensive than the second-lowest-cost silver plan, he or she must pay the incremental difference.[18] If an individual enrolls in a plan that is less expensive than the second-lowest-cost silver plan, the tax credit amount is still equal to the difference between the individual's required contribution and the price of the second-lowest-cost silver plan. As a result, enrollees who choose a less expensive plan may pay less

than their required income contribution for the second-lowest-cost silver plan.[19]

An important feature of the subsidy structure is that it insulates subsidized enrollees from premium increases due to adverse selection. Adverse selection occurs when the healthiest people exit the insurance market, causing premiums to rise. In some cases, this behavior can lead to a self-reinforcing effect in which, each time premiums rise, more people exit and the risk pool becomes increasingly expensive. A "death spiral" occurs if premiums rise to the point where only the sickest, most expensive people opt to enroll and the market collapses.

Because of the structure of the ACA's tax credits, many subsidized individuals who enroll in the second-lowest-cost silver plan will not experience a change in after-tax premium costs, even if premiums increase due to adverse selection. This feature could have a strong, stabilizing effect on the market. To cause death spiraling or significant premium growth, the lower-than-expected enrollment of young adults would have to set off a chain reaction, causing other healthy people to exit the market due to incremental premium increases. However, because subsidized enrollees will be insulated from such premium increases, their enrollment decisions are unlikely to be strongly affected by others' choices.

Risk Adjustment, Reinsurance, and Risk Corridors

The ACA instituted three policies that are designed to protect insurers and health plans against the possibility that enrollees are unusually expensive, to reduce insurers' incentives to cherry-pick, and to stabilize premiums. Some of these policies, collectively known as the "three R's," apply to all nongrandfathered, nontransitional plans, including plans sold outside of the health insurance Marketplaces.

1. Risk Adjustment Payments. The ACA provides risk adjustment payments to all ACA-compliant individual market plans with enrollees who have higher-than-average actuarial risk (that is, enrollees who tend to spend more than similarly aged people in a similar plan), and requires payments from plans with lower-than-average risk.[20] The federal risk adjustment payment model calculates risk scores for all plan enrollees using a formula that considers age, sex, patient diagnosis codes, and other factors.[21] Risk scores are then used as a basis for transferring funds across plans. States operating their own Marketplaces can implement a state-specific risk adjustment methodology or default to the federal approach. Because the
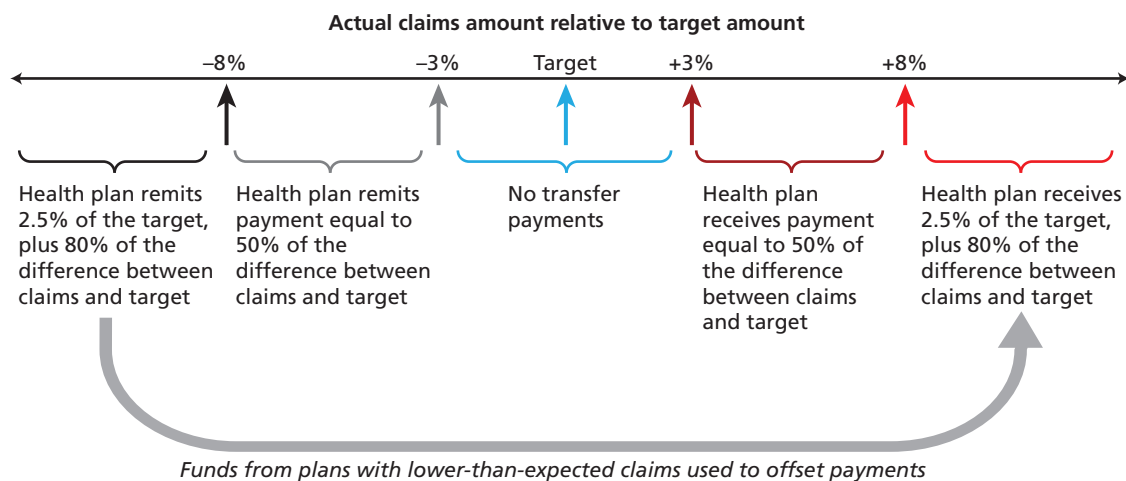
risk adjustment payments transfer funding from plans with relatively healthy and low-risk enrollees to plans with less-healthy, higher-risk enrollees, they protect plans that enroll an unusually sick population from experiencing losses. The risk adjustment payments are funded using only revenues collected from within the ACA-compliant individual market, and as a result they cannot protect insurers against the possibility that the entire individual market risk pool is less healthy than expected.

2. Reinsurance. The ACA allots $10 billion in 2014, $6 billion in 2015, and $4 billion in 2016 to provide reinsurance to ACA-compliant individual market plans with enrollees who experience catastrophic spending. Reinsurance is a type of insurance for health plans that provides compensation in the event that an enrollee has an excessively large claim. For 2015, plans are eligible to receive reinsurance payments covering 50 percent of claims costs in excess of $45,000 and up to $250,000. Risk for expenditures above $250,000 revert fully to the insurer. The terms of the reinsurance program may change over time to account for the reduced funding amounts in later years.[22] Because the reinsurance funding is fixed, plans may receive less than the maximum allowed amount if collected resources fall short of reinsurance claims filed. Funding for the reinsurance program is collected through an assessment levied on all group health plans, including both fully and self-insured group plans. Because reinsurance transfers funds into the individual market, it will have the effect of reducing premiums below what would be expected in the absence of reinsurance. However, because the total amount of reinsurance funding is fixed each year, the premium reduction will be inversely related to the size of the ACA-compliant individual market. One of the goals of reinsurance funding was to protect insurers against the possibility that high-cost individuals would be among the first to enroll in 2014, with lower-cost individuals following in later years. As a result, the reinsurance funding is temporary and phases out by 2017.

3. Risk Corridors. Risk corridors protect insurers against the possibility that actual claims costs exceed projected targets, which are based on published premiums reduced to account for allowed administrative costs. If insurers set premiums too low, they are then eligible to receive partial compensation for losses. The risk corridors program applies to plans in the individual and small group markets that are sold through the Marketplaces, and to off-Marketplace plans that are the same as or substantially similar to plans offered through the Marketplaces.[23] Figure 1 illustrates the transfer payment structure underlying the risk corridors. Issuers do not receive compensation for unexpected losses less than or equal to 103 percent of the target amount, and 50 percent compensation is granted for losses between 103 and 108 percent of the target. For losses in excess of 108 percent of the target, insurers receive 80 percent reimbursement plus 2.5 percent of the target amount. Conversely, plans experiencing unexpected gains must pay a risk corridors charge amount. Gains of 3 percent or less may be kept, whereas 50 percent of gains between 97 and 92 percent of the target must be paid out in risk corridors charges. Issuers of qualified health plans whose allowable claims costs are

Figure 1. Risk Corridor Transfer Payments

Actual claims amount relative to target amount

−8%   −3%   Target   +3%   +8%

| Health plan remits 2.5% of the target, plus 80% of the difference between claims and target | Health plan remits payment equal to 50% of the difference between claims and target | No transfer payments | Health plan receives payment equal to 50% of the difference between claims and target | Health plan receives 2.5% of the target, plus 80% of the difference between claims and target |

Funds from plans with lower-than-expected claims used to offset payments

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below 92 percent of the target must pay out a risk corridors charge amount equal to 80 percent of gains above 92 percent of the target amount plus 2.5 percent of the target amount. The protections offered by the risk corridors reduce the insurer's risk of "underpricing" health insurance products, and may therefore encourage issuers to set lower premiums.[24] However, it is unclear how large these effects might be, since insurers can still face losses even with the risk corridors. Some actuaries have argued that the risk corridors will have the biggest effects for new entrants, who have little previous individual market claims history to draw from in setting prices.[25] Like reinsurance, the risk corridors program will end in 2017.

Among the three policies described above, experts believe that reinsurance is likely to have the largest effect on premiums, possibly reducing 2014 premiums by as much as 10 to 15 percent.[26] The effects for 2015 will be smaller, however, since the reinsurance funding is reduced over time.[27] Risk corridors may also contribute to lower premiums, particularly if the presence of the risk corridors guards against overly conservative pricing on the part of insurers. In the HHS Notice of Benefit and Payment Parameters for 2015 and the "Risk Corridors and Budget Neutrality Bulletin" issued April 11, 2014, HHS described its intent to administer risk corridors in a budget-neutral manner over the three-year life of the program.[28] As stated in the bulletin, HHS anticipates that risk corridors collections will be sufficient to pay for all risk corridors payments.[29] The ACA's risk adjustment will help plans with unusually expensive enrollees remain solvent and may prevent insurers from attempting to cherry-pick healthy enrollees. However, risk adjustment is not expected to have a big effect on average premiums in the individual market, since it reallocates money within the ACA-compliant risk pool rather than infusing new funding into the pool.

Individual Mandate

Under the ACA, individuals who can afford coverage are required to purchase insurance or face penalties. Exemptions are permitted for several groups of individuals, including those with incomes below the tax filing threshold, those ineligible for Medicaid or subsidized coverage on the exchange because their states did not pursue Medicaid expansion, and those for whom the lowest-cost insurance option exceeds 8 percent of their income. Penalties are phased in until 2016, after which they will be indexed by a cost-of-living adjustment. In 2014, a nonexempt individual without insurance will pay the greater of $95 or 1 percent of income above the tax-filing threshold,[30] but no more than the lowest-priced bronze option on the Marketplaces. Since the majority of American households have annual earnings above $19,650, most will pay 1 percent of their income above the tax-filing threshold if they fail to purchase insurance. By 2016, individuals lacking insurance will be penalized the greater of $695 or 2.5 percent of income above the tax-filing threshold, not to exceed the cost of the lowest-priced bronze option on the Marketplaces.[31]

The individual mandate may keep younger and healthier people enrolled in the risk pool and therefore prevent against adverse selection. Chandra et al. analyzed enrollment and claims data from the rollout of the Commonwealth Care Program in Massachusetts, which also provides generous subsidies along with a mandate to obtain coverage.[32] They found that enrollment of those with chronic conditions was mostly flat during the open enrollment period, while enrollment of those without chronic illnesses surged as the deadline approached for signing up without facing a penalty. Average monthly health spending among enrollees was $518 before the mandate was effective, compared with $356 after the mandate was fully phased in.[33] Such a pattern suggests that the individual mandate could play an important role in encouraging enrollment among healthier individuals.

METHODS

The COMPARE Model

We used the COMPARE microsimulation model to estimate how changes in the size of the young adult enrolled population might affect individual market premiums. Methods underlying the COMPARE model have been described in detail elsewhere.[34] Briefly, we create a synthetic population of individuals, families, health expenditures, and firms using data from the 2008 Survey of Income and Program Participation (SIPP), the Medical Expenditure Panel Survey (MEPS), and the Kaiser Family Foundation/Health Research & Educational Trust Employer Health Benefits Survey. We assign each individual in the SIPP a spending amount using the spending of a similar individual from the MEPS; we then augment spending imputations with data on high-cost claims from the Society of Actuaries (SOA). The SOA adjustments account for the fact that the MEPS underrepresents individuals with high spending.

Individuals in our model make health insurance enrollment decisions by weighing the costs and benefits of available options, an approach that is referred to by economists as "utility maximization." The utility-maximization framework accounts for premium costs, anticipated out-of-pocket health care spending, the value of health care consumption, the risk of incurring a financially devastating health care bill, and the tax penalty the individual would face if uninsured. Premium costs are adjusted to account for tax credits, if such credits are available to the enrollee. All else equal, higher premiums reduce an individual's probability of enrolling in health insurance, while lower risk of catastrophic spending, reduced out-of-pocket spending, the avoidance of penalties, and increases in health care utilization encourage enrollment. Possible health insurance enrollment choices in the model include uninsurance; Medicaid or CHIP; a small employer plan (including bronze, silver, gold, and platinum plans on the small group health options Marketplace); a large employer plan; a bronze, silver, gold, or platinum plan in the ACA-compliant market (including plans available on and off the Marketplaces); or—among those who are eligible—a noncompliant individual market plan. However, not all of these options will be available to all individuals in the model. For example, Medicaid is available only to people who are eligible, and access to employer coverage varies across individuals depending on employment, firm offering decisions, and family circumstances (such as the presence of a spouse's employer plan). We do not model catastrophic plans, which are available only to those who are under 30 or who qualify for a hardship exemption from the individual mandate. According to the HHS Assistant Secretary for Planning and Evaluation's 2014 summary enrollment report, only 2 percent of all Marketplace enrollees have selected catastrophic coverage.[35]

To forecast enrollment and premiums under the ACA, we calibrate COMPARE to accurately represent the pre-ACA health insurance market as a basis for estimating the impact of reforms under the ACA. Calibration is a process by which we adjust predictions of the model so that estimates without the ACA match health insurance enrollment data collected before the major provisions of the law took effect in 2014. We calibrate the model to reflect enrollment data by insurance type, age group, income group, and self-reported health status from the SIPP, with additional adjustment to account for pre-ACA individual market enrollment targets reported to healthcare.gov. We simulate coverage denial rates based on market survey data from America's Health Insurance Plans. In addition, we calibrate the model to match average premiums observed in the pre-ACA individual market, according to data from the Kaiser Family Foundation. Premium schedules are developed using age rate bands based on pre-ACA premium data from eHealthInsurance.com. Based on these data, we estimate that—under pre-ACA rating regimes averaged across all states—64-year-olds in good health were charged approximately 3.75 times what 21-year-olds were charged. We also incorporate a health status factor of 2.25 into the model, which allows insurers in pre-ACA scenarios to charge people in poor or fair health up to 2.25 times as much as people in excellent or very good health. Hence, under pre-ACA rules, an older, unhealthy individual in our model could have been charged up to 8.4 times what a young healthy individual was charged.

The model cannot separately distinguish ACA-compliant individual market plans obtained through the Marketplaces from ACA-compliant individual market plans purchased outside of the Marketplaces. We assume that tax-credit-eligible individuals who purchase ACA-compliant plans will always use the credits, which are only available on the Marketplaces. By law, compliant plans are part of a single risk pool, whether offered on or off the Marketplaces, and are subject to the same rating rules, risk adjustment, and reinsurance policies. However, we account for noncompliant plans that may be available to individuals who were enrolled in the individual market immediately before the initial open enrollment period began on October 1, 2013.

A key feature of the model is that premiums are calculated dynamically, using the imputed expenditure of mod-

eled enrollees. Individuals sort into health insurance plans by choosing the option that yields the best value for the money. Next, premiums are calculated based on enrollee expenditures, plan actuarial values, and the ACA's rating rules (e.g., 3-to-1 rate banding on age, 1.5-to-1 rate banding on tobacco use). Individuals then have the option to respond to realized premiums. If premiums are too high, some enrollees will opt to drop an insurance option, while if premiums are low, additional individuals may enroll. Premiums are then recalculated. This process continues until we reach an equilibrium in which premiums and enrollment decisions do not change even if we allow modeled enrollees to reconsider their health insurance choices.

COMPARE's approach to calculating premiums enables us to estimate adverse selection. People who are most likely to drop out of the market due to high premiums are those who have lower health spending and therefore benefit less from insurance. If these people drop coverage, average expenditure in the risk pool will increase and premiums will rise. Because the model iterates until an equilibrium is reached, possible outcomes include adverse selection and death spiraling.

The COMPARE model also accounts for risk adjustment and reinsurance, although our approach to modeling these policies is limited by the fact that COMPARE contains only insurance risk pools, not unique health plans. We model the aggregate effects of reinsurance by reducing premiums in the single risk pool in proportion with the fixed reinsurance transfers that are available each year. These reductions will have a larger per capita effect when the size of the risk pool is smaller, since the funding amount is fixed. To incorporate risk adjustment, we model the entire ACA-compliant market as a single risk pool and set bronze, silver, gold, and platinum premiums so that they vary only by the ratio of actuarial values (e.g., the silver premium is seven-sixths as expensive as the bronze premium). This approach fulfills the spirit of the ACA's risk adjustment guidelines, which require that funds be transferred from plans with lower-than-average actuarial risk to plans with higher-than-average actuarial risk. Because we do not model unique health plans, we have only one possible premium for each metal tier (bronze, silver, gold, and platinum) in our model.

In addition, because we do not model health plans, we cannot model the ACA's risk corridors. To the extent that the risk corridors program causes insurance companies to set lower premiums (e.g., because the risk corridors reduce the risk associated with underpricing plans), our inability to capture risk corridors could cause the COMPARE model to overstate indi-

COMPARE's approach to calculating premiums enables us to estimate adverse selection.

vidual market premiums in 2014, 2015, and 2016. However, some actuarial experts argue that insurers who have offered individual market plans in the past may have sufficient claims experience to set prices effectively despite the newness of the Marketplaces.[36] Recent evidence suggests that some enrollees in Marketplace plans were previously insured through another source,[37] which further substantiates the argument that incumbent insurers may be in a position to set 2015 individual market premiums with minimal risk of underpricing.

Sensitivity to Young Adult Enrollment

Base Case

In the first part of our analysis, we estimate how premiums might change as the share of young adults (ages 18–34) enrolled in the ACA-compliant individual market risk pool increases or decreases. To change the proportion of young adult enrollees, we incrementally increase and decrease the "utility" associated with individual market enrollment for young adults. In other words, we move young adults on and off the market by increasing or decreasing the value of individual market coverage relative to the baseline prediction of the model. People in our model value individual market coverage more if they have high health spending (and thus place a high value on insurance), or if they are eligible for significant tax credits and subsidies (and thus face relatively low costs on the individual market). As a result, the young adults most likely to drop out as we incrementally decrease the value of individual market insurance will be those who have lower spending and/or are unsubsidized. Conversely, those most likely to enroll as we increase the value of individual market coverage will be individuals who have relatively high spending and/or who are eligible for tax credits and subsidies. Older adults and children (or rather their parents) continue to make enrollment decisions based on the utility-maximization procedure mentioned above. However, as we increase or decrease young adult enrollment, the model

allows for secondary effects on the enrollment of older adults and children, whose decisions can change in response to changing premiums.

Alternative Scaling Approaches

In addition to considering the base case in which young adults move onto and off the individual market based on the relative value, or utility, of the individual market plan, we consider two extreme cases:

- **Risk-Based Young Adult Enrollment:** Young adults move onto and off the market based solely on their actual health expenditures relative to the age-rated expenditure curve. In this scenario, young adults who have low expenditures relative to what insurers are permitted to charge, and consequently face the largest potential increases in spending due to ACA's rating regulations, are the most likely to drop out of the market.
- **Random Young Adult Enrollment:** In this scenario, we alter the share of young adult enrollees in the individual market by randomly adding and subtracting individuals between ages 18 and 34, without considering either subsidy eligibility or expenditure.

We think that the base case, which considers both tax credit eligibility and spending, most closely approximates the decisionmaking process that young adults would use when deciding whether to enroll in the individual market. The risk-based and random scenarios bound the potential effects changes in the age composition of the risk pool. The risk-based enrollment scenario represents the "worst case" in terms of the potential effects of low young adult enrollment on individual market premiums, because we do not consider tax credit eligibility when we adjust the fraction of young adult enrollees. In reality, some relatively low-cost young adults may be likely to enroll if they are eligible for significant subsidies. In contrast, the random enrollment scenario may be thought of as a "best case" in terms of the premium impact of young adult enrollment, because it assumes that high- and low-cost young adults will be equally likely to disenroll if we reduce young adult enrollment relative to the baseline.

Alternative Tax Credit Structures

In estimating the effects of adverse selection due to changes in young adult enrollment, the nature of the ACA's tax credit structure may play a critical role. Because individual spending is capped as a percentage of income (up to the price of the second-lowest-cost silver plan), some enrollees will be largely insulated from any premium escalation caused by a reduction in the proportion of young adult enrollees in the risk pool. Alternative tax credit structures in which out-of-pocket premium spending is not capped might lead to different results. To test this possibility, we consider two alternative tax credit designs, as well as a policy with no tax credits:

- **Percentage Contributions:** In this scenario, we assume that tax-credit-eligible individuals pay a fixed percentage of the premium, with the federal government paying the remaining costs. To determine the fixed percentage, we start with the base case COMPARE estimate and calculate—for each individual—the value of the ACA's tax credit as a percentage of the silver plan premium. These percentages, which vary based on both income and age, become the federal government's premium contribution under the alternative tax credit approach. With percentage-based contributions, both the federal government and enrollee spending increase as premiums increase; hence enrollees and the federal government share the cost of any adverse selection.
- **Voucher:** Here, we assume that tax-credit-eligible individuals receive a fixed voucher amount from the federal government that they can use to purchase individual market health coverage. We calculate the fixed voucher amount using the dollar value of the ACA's tax credit for each enrollee, as estimated in the COMPARE baseline scenario. The voucher amounts remain fixed as premiums increase, which implies that the enrollee bears the full cost of any adverse selection.
- **No Tax Credits:** All enrollees pay the full premiums for their coverage.

When testing the sensitivity of results to alternative tax credit structures, we assume that young adults enter and exit the market based on the utility-maximization approach (that is, they consider both expenditure and subsidy eligibility). However, we adjust young adults' utilities to artificially increase and decrease enrollment beyond what is predicted by the model alone. Older adults and children also enter and exit the market based on the utility-maximization approach, without additional adjustments. As described above, older adults and children may

change their enrollment decisions as the share of young adults enrolled shifts, due to changing premiums.

Individual Mandate

Finally, we test the sensitivity of our results to the presence or absence of the individual mandate, which requires most U.S. residents to obtain health insurance or pay a fine. We estimate how the COMPARE base case results change when we remove the individual mandate, and we also test whether premiums are more sensitive to the share of young adults enrolled in the individual market when the mandate is not included in the model.

We used the COMPARE model to test the importance of the individual mandate in 2012, prior to the Supreme Court decision allowing states to opt out of the Medicaid expansion.[38] The analysis presented here differs from the previous work for several reasons:

- We now model Medicaid opt-out in 25 states.[39]
- The current version of the model incorporates the employer mandate delay and the Administration's policy allowing individuals in participating states to keep transitional health plans.
- We now capture several details that have been clarified in regulations, such as the slope of the allowed age-rating curve in the individual market.
- We have updated COMPARE to use data from the 2008 SIPP and the 2010/2011 MEPS.
- We have made several technical improvements to the model, including adding more detail to our calibration process.[40]

While we have not independently assessed how each of these changes to the model contributes to changes in results, we have previously found that ACA-compliant individual market premiums may be higher if states do not expand their Medicaid programs, due to adverse selection into the individual market among low-income individuals in relatively poor health.[41]

Combined Policy Scenarios

In most of our analysis, we assume that the majority of policies enacted by the ACA remain in place, and we alter only one component of the law—for example, eliminating the mandate in isolation, or eliminating the subsidies in isolation. In a final set of analyses, we assess the implications for premiums and enrollment under several scenarios that combine the following policy changes:

- elimination of the individual mandate
- elimination of tax credits and cost-sharing reductions
- elimination of reinsurance
- implementation of 5-to-1 as opposed to 3-to-1 rate banding on age.

When we compare scenarios with 3-to-1 age rating to scenarios with 5-to-1 age rating, it can be challenging to assess premium changes, because the magnitude of the change will differ for younger and older people. To address this issue, we calculate the average premium change for a standardized group of enrollees. The standardized group of enrollees is defined using the population of individuals who are predicted to enroll in the ACA-compliant individual market in the baseline ACA scenario, with no policy modifications.

RESULTS

Base Case

Figure 2 shows the age distribution of 2015 individual market enrollees, as estimated in COMPARE. We estimate that 27.2 percent of enrollees will be ages 18–34 in 2015. Actual Marketplace enrollment reports indicate that, at the end of the 2013–2014 open enrollment period, 28 percent of individual Marketplace enrollees were ages 18–34, very close to our estimates.[42] There is limited information on the age distribu-

Figure 2. Estimated Age Distribution of ACA-Compliant Individual Market Enrollees, 2015
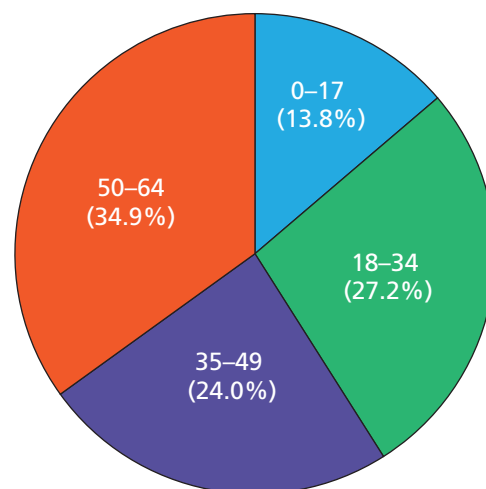
NOTES: Figure 2 shows estimated 2015 enrollment shares in the ACA-compliant individual market, by age group. Estimates come from the COMPARE microsimulation model.
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tion of enrollees in off-Marketplace, ACA-compliant plans. The web-based insurance shopping portal eHealth reported that enrollees in off-Marketplace plans were more likely to be between the ages of 18 and 34 than Marketplace enrollees,[43] but a subsequent Kaiser Family Foundation Survey found that off-Marketplace enrollees in ACA-compliant plans were older than Marketplace enrollees.[44]

Table 1 reports estimated enrollment in each age category, along with information on premium spending overall, and by enrollees and the federal government. We estimate that 19.8 million people will enroll in the ACA-compliant individual market in 2015. The average total premium estimated in our model is $4,210, although premiums for younger individuals are substantially lower than premiums for older individuals due to the age rating.[45] On average, enrollees pay for 58.4 percent (= $2,460/$4,210) of premiums, and the federal government subsidizes the remaining 41.6 percent through tax credits.[46] Federal premium contributions for younger individuals are smaller than for older individuals, since younger people face lower premiums. In aggregate, we estimate that the federal government will spend approximately $34.7 billion on tax credits in 2015. The last column of the table shows the share of the population in each age group that is eligible for federal tax credits. Children are less likely to be eligible for tax credits than adults because they are more likely to be eligible for Medicaid or CHIP (which precludes tax credit receipt).

Figure 3 shows how premiums in the COMPARE model change as we increase or decrease the share of young adult enrollees from the baseline estimate of 27.2 percent. Starting from the share of young adults predicted by COMPARE (27.2 percent), we estimate that premiums would increase by 0.44 percent for every 1 percentage point decrease in the share of young adults participating in the market. As result, even a relatively large change in the share of enrollees age 18 to 34 would have a relatively small impact on premiums. For example, if the share increased from 28 percent (the current level based on HHS enrollment tallies) to 40 percent,[47] premiums would fall by only 5.3 percent.

These estimates reflect the marginal effect of shifts in enrollee age composition on premiums, holding all other factors constant. They are not a prediction of the potential change in premiums from 2014 to 2015, which will be influenced not only by insurer expectations about age composition, but also by other factors, such as the statutory reduction in reinsurance payments, annual inflation, and state insurance commissioner rate review.

In Figure 4, we report the change in enrollment that we estimate as the share of young adults is reduced. The dashed line shows overall enrollment changes across all age groups. Here we see relatively large shifts—for example, if the share of young adults fell by 1 percentage point, overall enrollment would decline by 2.5 percent. However, much of this relation-
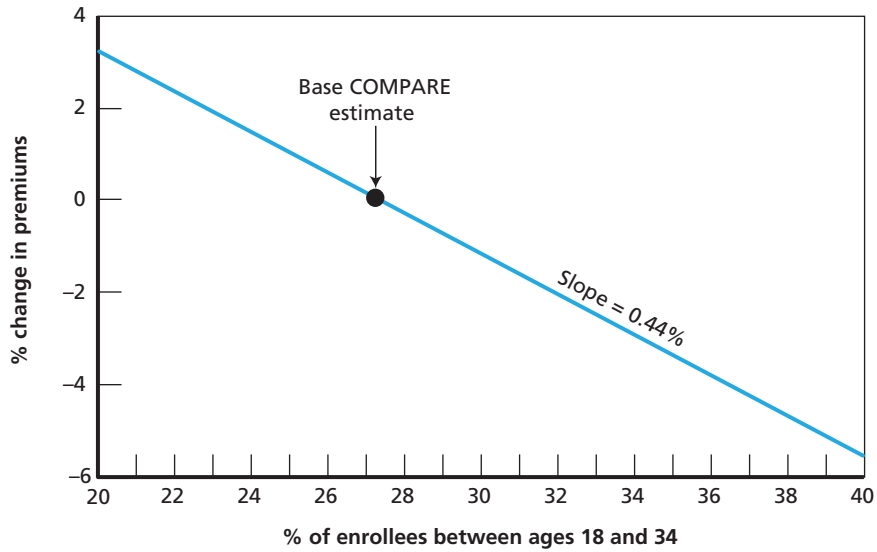
Table 1. Estimated ACA-Compliant Individual Market Enrollment, Premiums, Tax Credits, and Federal Tax Credit Spending, 2015

Age Group	Enrollment	Average Total Premium	Average Individual Premium Contribution	Average Federal Premium Contribution	Total Gov. Tax Credit Spending (billions)	% Tax-Credit-Eligible Among Enrollees in Each Age Group[a]
0–17	2,723,796	$1,810	$1,640	$170	$0.5	27.3%
18–34	5,394,982	$2,690	$1,670	$1,020	$5.5	66.4%
35–49	4,761,715	$3,910	$2,460	$1,450	$6.9	69.4%
50–64	6,919,581	$6,560	$3,410	$3,150	$21.8	72.6%
Total	19,800,075	$4,210	$2,460	$1,750	$34.7	64.6%

NOTES: Table 1 reports estimated enrollment and premiums in the ACA-compliant nongroup market for 2015, based on the COMPARE microsimulation model. Premium spending is decomposed into enrollee out-of-pocket spending amounts and federal premium contributions (paid via tax credits). The table also reports total tax credit spending on the part of the federal government, and the percent of enrollees in each age group who are eligible for tax credits. Estimates reflect enrollment and premiums for all ACA-compliant individual market enrollees, including those enrolled on and off the Marketplaces. We apply ratio adjustments to the premium spending estimates to bring COMPARE's estimates into line with 2014 premium filings.

[a] Tax-credit-eligible individuals are citizens and legal residents with incomes between 100 and 400 percent of the FPL, who do not have an affordable offer of coverage from an employer, and who are not eligible for Medicaid, CHIP, or Medicare.

Figure 3. Predicted Change in ACA-Compliant Market Premiums, by Age Composition

NOTES: Figure 3 reports the estimated percentage change in ACA-compliant, individual market premiums that could occur as the share of young adult enrollees increases or decreases, relative to the baseline COMPARE estimate. We add and subtract young adults from the market using a utility-maximization approach. This approach implies that young adults with high spending, or who receive high subsidies, will be most likely to remain enrolled as the fraction of young adult enrollees is reduced.

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Figure 4. Predicted Change in ACA-Compliant Market Enrollment, by Age Composition and Age Group
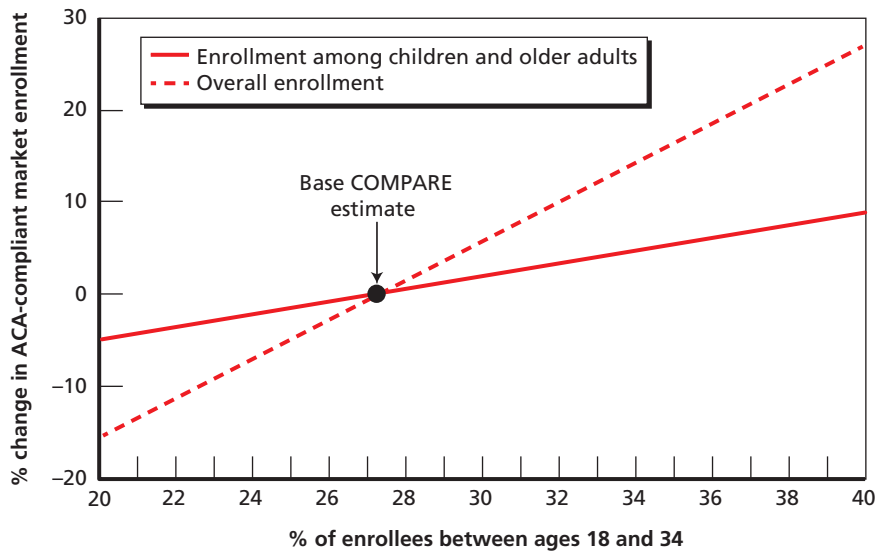
NOTES: Figure 4 shows the percent change in ACA-compliant, individual market enrollment that we estimate as the share of young adult enrollees changes. We add and subtract young adults from the market using a utility-maximization approach. Much of the change in overall enrollment (the dashed line) is driven by the fact that we are changing the number of young adult enrollees. The solid line shows enrollment changes among children and older adults; decisions for these groups are driven by the premium changes that occur as young adults enter and exit the market. All estimates are based on the COMPARE microsimulation model.

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ship is "mechanical" because, as we increase and decrease the proportion of young adult enrollees in the market, we are by definition increasing and decreasing total enrollment. The solid line shows changes in enrollment among children and people age 35 and over. Any change in enrollment among this population reflects modeled responses to increases in premiums. For example, as the share of young adults in the Marketplace decreases, premiums go up, and enrollment among older adults and children might then fall. The enrollment effects among children and older adults are relatively modest. For example, if the share of young adults fell by 1 percentage point, total enrollment among older adults and children would fall by about 0.71 percent. If the share of young adults increased from 28 to 40 percent, enrollment among older adults and children would increase by approximately 8.5 percent.

Government spending is also affected by enrollment among young adults. However, these effects are complex. On a per-enrollee basis, government spending on Marketplace tax credits increases as the proportion of young adult enrollees falls, because premiums increase. Figure 5 shows the change in tax credit spending per enrollee, which increases from $1,750 in the base case (27.2 percent young adult enrollees) to $1,790, or by 2.3 percent, if the share of young adult enrollees falls by 1 percentage point. The increase in per capita government spending is larger than the increase in premiums (Figure 3)

because the government bears close to the full burden of premium increases. Once individuals hit their required income contribution, all additional premium costs are transferred to the federal government, as long as the individual chooses the second-lowest-cost silver plan or a less expensive policy.

At the aggregate level, the effect of higher premiums is offset to some degree by lower enrollment (Figure 6). As a result, aggregate spending is relatively insensitive to the number of young adults in the market, remaining close to $35 billion throughout the range of young adult enrollment considered. In fact, aggregate spending follows a very slight, inverted u-shaped pattern, with a maximum occurring when between 22 and 23 percent of the individual market is between the ages of 18 and 34. When the share of 18-to-34-year-olds declines below this point, government spending falls slightly due to reduced enrollment. When the share of 18-to-34-year-olds increases above this point, government spending also falls slightly, due to lower premiums. However, the spending changes are small—the highest spending observed is $35.8 billion (when the share of 18-to-34-year-olds is 22.4 percent), and the lowest spending observed is $33.8 billion (when the share of 18-to-34-year-olds is 40.0 percent) in the domain of the graph, a difference of just 5.6 percent.
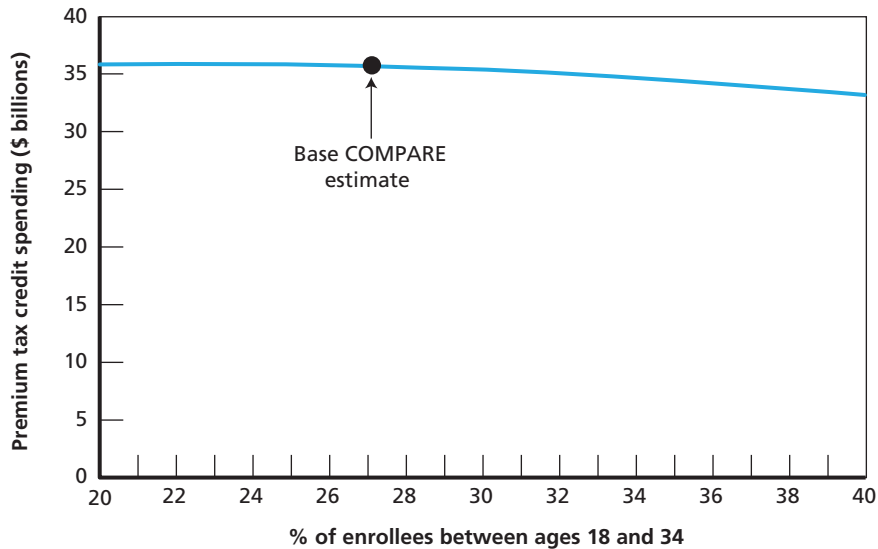
Figure 5. Per-Enrollee Premium Tax Credit Spending, by Age Composition
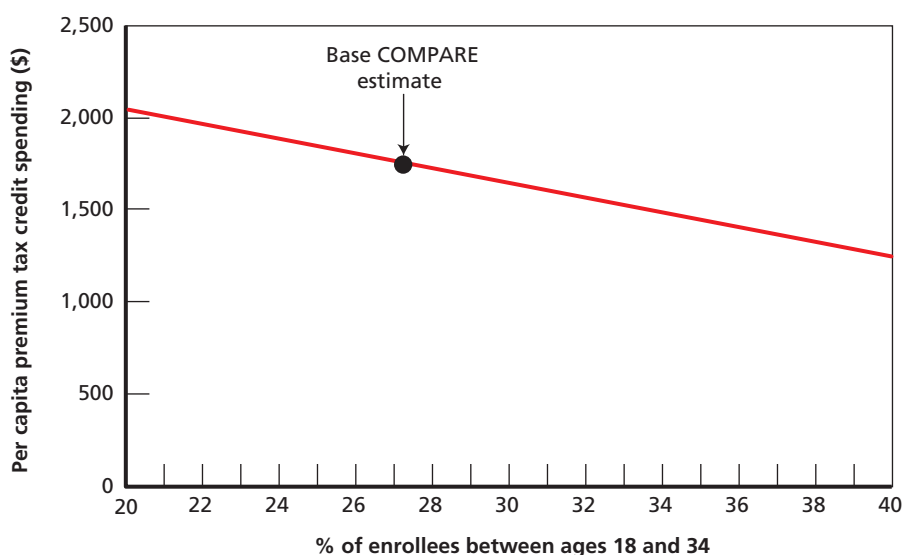
NOTES: Figure 5 shows how federal per-enrollee premium tax credit spending changes as the share of young adults in the ACA-compliant individual market increases and decreases. Estimates come from the COMPARE microsimulation model and are for the 2015 calendar year. We add and subtract young adults from the market using a utility-maximization approach.

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Figure 6. Premium Tax Credit Spending, by Age Composition

NOTES: Figure 6 shows how total federal premium tax credit spending changes as the share of young adults in the ACA-compliant individual market increases and decreases. Estimates come from the COMPARE microsimulation model and are for the 2015 calendar year. We add and subtract young adults from the market using a utility-maximization approach.

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Sensitivity to Alternative Ways of Scaling

In the results described above, we assume that the young adults most likely to remain enrolled in the ACA-compliant market place a high value on this insurance, either because they have high expenditures or because they are eligible for tax credits and cost-sharing subsidies. In Figure 7, we test the sensitivity of our results to alternative ways of adding and subtracting young adults. In the "risk-based" case, we assume that the young adults most likely to remain enrolled have high spending relative to their allowable premium, irrespective of tax credit eligibility. In the random case, we randomly add or subtract young adults from the market without considering either spending or eligibility for tax credits.

Figure 7 shows that, if we assume young adults' decision-making is driven entirely by their expenditure levels (the dotted line), premium changes in response to shifts in young adult enrollment are larger than in the utility-based method. For example, a 1 percentage point decline in young adult enrollment increases premiums by 1.13 percent under the risk-based approach, compared with a 0.44 percent increase with the utility-based scaling approach (the solid line). In contrast, if we add and subtract young adults randomly (the dashed line), premiums rise by only 0.22 percent for every 1 percentage point decrease in young adult enrollment.

These findings may at first seem counterintuitive. Even under the risk-based approach, in which spending relative to premiums is the only factor that we use to increase and decrease the share of young adult enrollees, we estimate relatively modest change in premiums in response to reduced young adult enrollment. And, when we randomly increase or decrease the share of young adult enrollees, there is almost no relationship between young adult enrollment and premium levels.

The explanation for these results is twofold: Healthy individuals of any age can benefit the risk pool, and young adults are only beneficial if they have low spending. The insurance risk pool benefits, and hence premiums are lower, when an enrollee's actual spending is below what insurers are able to charge given the ACA's age rating. Any enrollee, regardless of age, can help the risk pool if spending is low relative to allowed charges. In fact, because insurers can charge older people up to 3 times as much as younger people, for any given level of realized spending, an older person is more beneficial to the risk pool than a younger person. For example, a 25-year-old who incurred $3,000 worth of spending will harm the risk pool in many states, because annual premiums for young adults are often below $3,000. However, the insurance risk pool would typically benefit if an older adult incurred $3,000 in expenditures, since premiums for older adults are typically more than $6,000.[48] Of course, on average, older adults' spending is

Figure 7. Predicted Change in ACA-Compliant Market Premiums, by Age Composition and Scaling Method
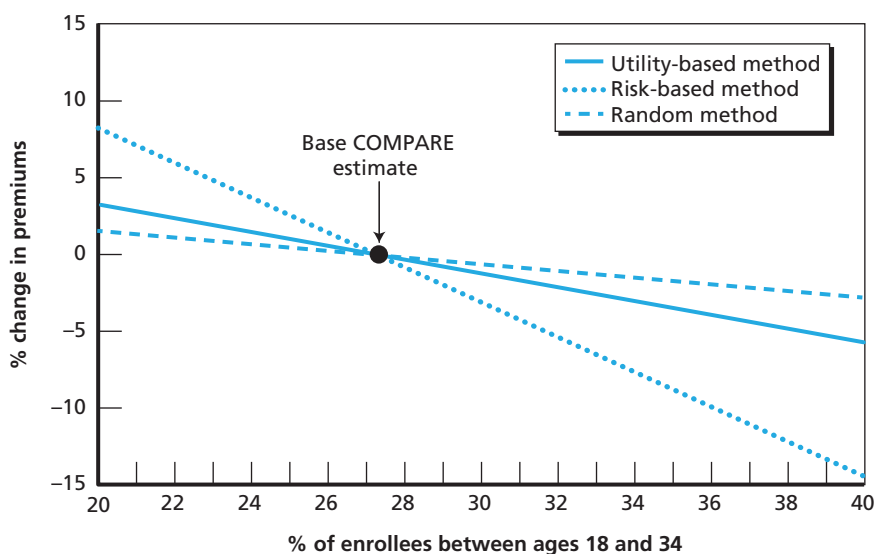
NOTES: Figure 7 reports the estimated percentage change in ACA-compliant, individual market premiums that could occur as the share of young adult enrollees increases or decreases, using three alternative approaches to adding and subtracting young adults. The solid line (utility-based method) shows estimates in which young adults' enrollment decisions are based on utility maximization, taking into account both anticipated spending and eligibility for subsidies. The dotted line (risk-based method) shows results from analysis in which we assume young adults' decisions are driven solely by spending, without considering subsidy eligibility. The dashed line (random method) reports results in which young adults are added and subtracted from the risk pools randomly, without considering either spending or subsidy eligibility. All estimates are from the COMPARE model and are for calendar year 2015.

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higher than younger adults' spending, and so older adults are more likely to have high spending in any given year.

Figure 8 shows the share of individuals in each age range who are "good risks"—meaning that their actual spending is below the age-rated spending amount permitted under ACA's rating regulations, under two scenarios. First, we consider the rating regulations stipulated under the ACA, which allow 3-to-1 rate banding on age. We estimate the age-rated expenditure amount using actuarially fair premiums for plan enrollees, discounted to remove plan administrative expenditures. Next, we consider an alternative scenario with a single premium for all age groups (pure community rating). In both scenarios, the risk pool of enrollees is derived using individuals simulated as enrolled in the ACA-compliant individual market using the baseline COMPARE simulation. With the ACA's rating regulations (the darker bars), there is relatively little difference across age groups in the share of individuals who are good risks. For example, 84.4 percent of 26-to-34-year-olds have spending below the age-rated allowable amount, compared with 81.1 percent of 55-to-64-year-olds. These findings imply that

81.1 percent of 55-to-64-year-olds are good risks, and will help the risk pool if they enroll.[49]

With full community rating (the lighter bars) the gradient is steeper—86.9 percent of 26-to-34-year-olds are good risks, compared with only 75.9 percent of 55-to-64-year-olds. That is, there is a 12.2 percentage point difference in the share of good risks across age groups in the full community rating scenario, compared with only a 3.3 percentage point difference with 3-to-1 rate banding on age. The fact that many older individuals can be good risks, particularly with 3-to-1 rate banding, helps to explain why we see relatively stable premiums even when young adults selectively drop out of the market. Similarly, it helps to explain why randomly removing young adults from the market has only a minimal effect on premiums. Young adults are only slightly more likely than older adults to have a positive effect on the risk pool; in order for young adults' enrollment decisions to substantially affect premiums, it would have to be the case that the healthiest and least-expensive young adults were selectively dropping out of the market.

Figure 8. Shared of Enrollees with Expenditure Below Age-Rated Amount
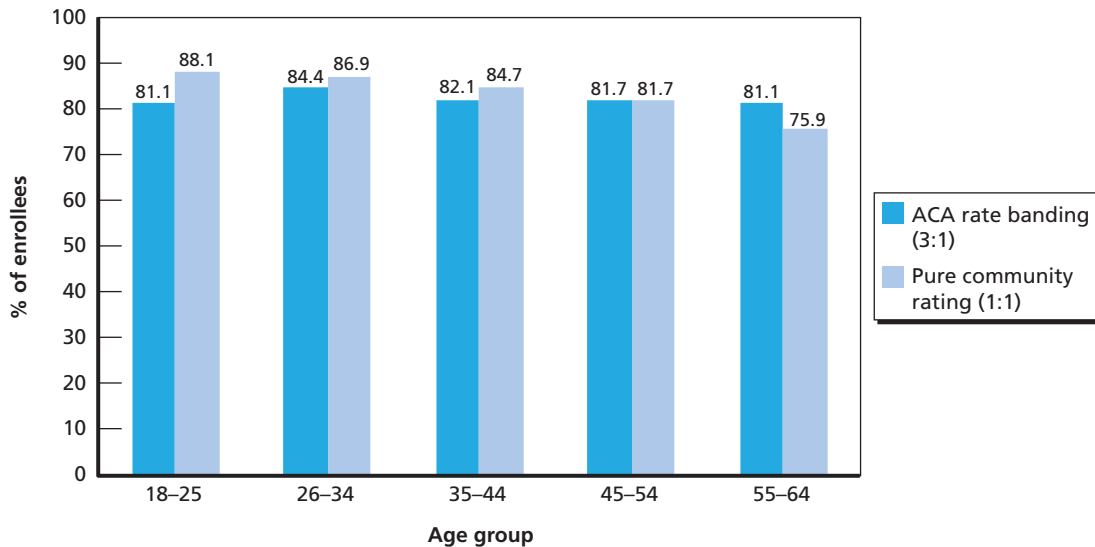
NOTES: Figure 8 shows the share of enrollees, by age group, with expenditures below the age-rated expenditure amount under two rating scenarios: first assuming the individual market is governed by the ACA's rating regulations, and second assuming an alternative scenario of pure community rating. In both cases, we assume premiums are actuarially fair (that is, premiums are set so that insurers' collections are exactly equal to total spending in the risk pool, plus allowed administrative costs). Data come from COMPARE model estimates for 2015. We assume that the individual mandate is in effect, tax credits and subsidies for marketplace coverage are available for qualifying individuals, and Medicaid expansion has occurred in participating states.

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Sensitivity to Alternative Subsidies

We investigated the role that the ACA's subsidy structure plays in stabilizing the ACA-compliant market by comparing it to two alternative subsidy mechanisms: percentage contributions and vouchers (Figure 9). For each modeled individual, we estimate the dollar value of the tax credit he or she would receive under the baseline COMPARE estimate, in which young adult enrollment is 27.2 percent of the ACA-compliant individual market. We then convert this dollar amount to a percentage of total premiums to estimate the individual's subsidy in the percentage contribution case. For the vouchers scenario, we assume the dollar value of the federal contribution in the COMPARE baseline becomes the fixed voucher amount.

By design, premiums under all three subsidy structures are equivalent when the share of young adults in the market is 27.2 percent, which corresponds to the baseline COMPARE estimate with no additional adjustment. However, as we adjust the share of young adult enrollees, premium change is greater under vouchers or the percentage contribution method relative to the ACA method. If the share of young adults decreases by 1 percentage point, premiums would rise 0.44 percent under the ACA tax credit structure. In contrast, premiums would increase by 0.61 percent in the percentage contribution subsidy

structure and by 0.73 percent in the voucher subsidy structure if the share of young adults decreased by 1 percentage point. Note that if the share of young adults were to increase from the base case, the ACA's subsidy structure would lead to the smallest decline in premiums among the three subsidy structures. With the ACA's tax credit structure, the federal government bears most of the risk associated with premium fluctuations caused by shifts in the age composition of enrollees; as a result, enrollees are relatively unresponsive to small changes in the age composition of the risk pool.

The ACA's subsidy structure thus has the effect of reducing adverse selection and cushioning potential shocks that may affect the risk pool. Because the alternative subsidy structures expose enrollees to greater risk associated with fluctuations in premiums, they increase adverse selection and hence premium volatility. The voucher subsidy structure has the greatest volatility because enrollees, rather than the federal government, bear the full risk of premium fluctuations.

We investigated how the ACA-compliant market would be affected if the government did not offer premium tax credits to enrollees. Table 2 shows the baseline COMPARE estimates juxtaposed with a case in which we entirely remove the tax credits. In both scenarios, the share of 18-to-34-year-olds enrolled

Figure 9. Change in ACA-Compliant Market Premiums, by Age Composition and Subsidy Structure
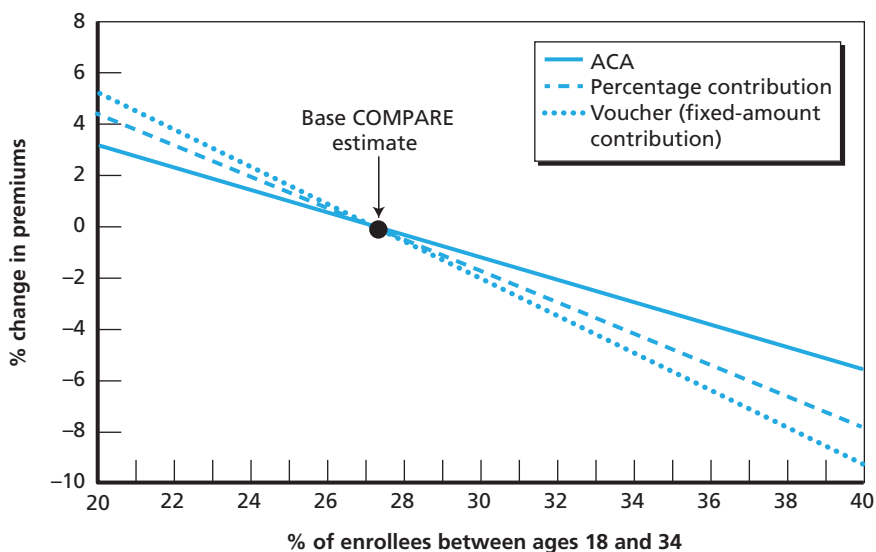
NOTES: Figure 9 shows the change in individual market premiums that could be expected as the share of young adult enrollees increases or decreases, under three alternative assumptions about the structure of premium subsidies. The solid line shows the ACA premium subsidy, which is a tax credit that caps spending as a percentage of income, up to the cost of the second-lowest-price silver plan in an individual's rating area. The dashed line shows an alternative subsidy in which both individuals and the federal government contribute a fixed percentage to the premium; each individual's percentage contribution varies with income and age. The dotted line shows a voucher approach, in which each individual receives a fixed dollar amount that can be used to purchase health insurance coverage. Voucher amounts also vary by age and income. All estimates are derived from the COMPARE model and represent calendar year 2015.

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Table 2. Enrollment and Premiums Under ACA's Tax Credit Structure, Compared to Scenario with No Tax Credits or Other Premium Subsidies, 2015

	Age-Standardized Premium[a]	Total ACA-Compliant Market Enrollment (millions)	ACA-Compliant Market Enrollment Among 18-to-34-Year-Olds	Total Insured (millions)
ACA	$3,400	19.8	5.4	244.9
No premium tax credits	$4,900	6.3	1.6	233.6
Difference	+43.3%	−68.0%	−69.6%	−4.8%

NOTES: Table 2 shows enrollment and premiums for 2015 as estimated in the COMPARE model under the ACA, and under an alternative scenario in which we assume there are no premium tax credits. Estimates reflect enrollment and premiums for all ACA-compliant individual market enrollees, whether enrolled on or off the Marketplaces. We apply a ratio adjustment to the enrollment figures to bring COMPARE's estimates into line with Congressional Budget Office's (CBO's) estimates, and to the premium spending estimates to bring COMPARE's estimates into line with 2014 premium filings. The same ratio adjustments are applied both to the ACA scenario, and to the "No premium tax credits" scenario.

[a] The age-standardized premium reflects the silver premium for a 40-year-old nonsmoker. While premium amounts will vary by age, the change in premiums resulting from the elimination of tax credits is 43.3 percent for all age groups due to the ACA's rating requirements.

in the ACA-compliant market is based on model predictions without additional adjustments to young adults' utilities or behaviors. If the government did not offer premium tax credits, we estimate that premiums would rise by 43.3 percent, while total ACA-compliant individual market enrollment would fall by 68.0 percent. Young adult enrollment in the ACA-compliant individual market would also decline substantially, falling by 69.6 percent. These results indicate that there could be severe disruptions in the individual market if subsidies were eliminated. The lack of affordable coverage on the individual market would also lead to a decline in the total number insured, which would fall from 245 to 234 million.

Our results demonstrate that, by subsidizing coverage, the federal government helps to lower total premiums in the ACA-compliant market. This observation is the result of how tax credits affect the behavior of low-risk and high-risk individuals. Individuals with large medical expenses are likely to sign up for health insurance coverage, regardless of whether they can obtain a tax credit. In contrast, low-risk individuals of any age may need a tax credit to incentivize them to sign up. As a result, premium tax credits encourage the enrollment

of low-risk individuals, who improve the risk pool and bring down premiums. An ACA-compliant market without premium tax credits would consist of a very small number of low-risk individuals, preventing the majority of potential enrollees from purchasing affordable coverage.

Figure 10 shows the sensitivity of premiums to young adult enrollment in scenarios with and without the tax credits. As shown in Table 2, the total number of enrollees falls by 68 percent when the tax credit is removed, as does the number of young adult enrollees. Furthermore, there is a decrease in the *share* of young adult enrollees, which drops from 27.2 to 25.9 percent (this change is denoted in Figure 10 by the large black dots labeled "Base estimate, no tax credits" and "Base estimate, ACA"). Premiums are also highly sensitive to the number of young adults enrolled when tax credits are not available. The slope of the dashed line in Figure 10, which represents the "No tax credits" scenario, is 1.7 percent, much steeper than the slope of the solid line, indicating that the change in premiums in response to a change in young adult enrollment is significantly larger in the scenario without the tax credits.

Figure 10. Change in ACA-Compliant Market Premiums, by Age Composition and Tax Credit Availability
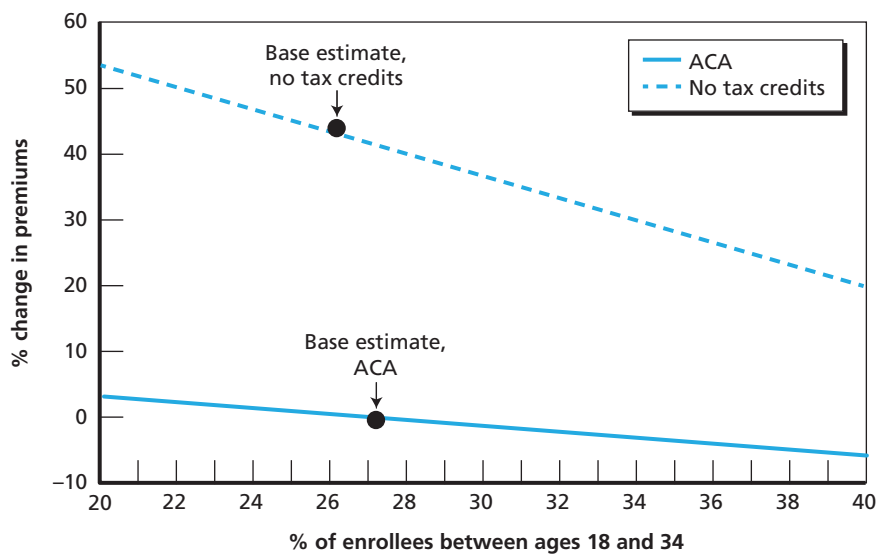
NOTES: Figure 10 shows the change in individual market premiums that could be expected as the share of young adults increases or decreases, for two scenarios. The solid line shows the relationship with the ACA, and the dashed line shows the relationship in a hypothetical scenario in which the ACA is implemented without premium tax credits. The black dots indicate the age-composition predicted by COMPARE without additional adjustment, and the lines show how premiums change as we increase and decrease the number of young adult enrollees. All estimates are derived from the COMPARE model and represent calendar year 2015.

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Sensitivity to Individual Mandate

Table 3 shows both the baseline COMPARE estimates and estimates from a scenario in which we remove the individual mandate. In both scenarios, the share of 18-to-34-year-olds enrolled in the market is based on model predictions without additional adjustments to young adults' enrollment decisions. We estimate that if the individual mandate were eliminated, age-standardized premiums would rise by nearly 7.1 percent, while total enrollment in the ACA-compliant individual market would fall by approximately 20.4 percent. ACA-compliant individual market enrollment among young adults would decline by 27.4 percent. The total number of insured individuals would also decrease substantially, falling by 8.2 million, and reducing the number of insured individuals by 3.3 percent.

Our results suggest that removing the individual mandate would cause modest premium increases and large enrollment declines. The relatively small effect of eliminating the individual mandate, relative to eliminating the tax credit, results in part from the fact the mandate penalty is small relative to the size of the tax credits. In 2015, the average penalty for enrollees eligible for tax credits would be $320, compared with an average tax credit amount of $2,650 among enrollees eligible for tax credits.

While the small change in premiums indicates that the individual market would remain relatively stable even without the individual mandate, the large decline in enrollment sug-

gests that the ACA would be much less effective at achieving the goal of nearly universal coverage.

Relative to our numbers, the CBO estimates that the effects of eliminating the individual mandate would be slightly larger, resulting in a 10 to 20 percent increase in premiums and a 13-million-person decline in total coverage.[50] Possible reasons for the difference between the CBO and RAND estimates include that the CBO makes an explicit assumption that people will be more responsive to penalties than to equivalently sized subsidies, and that the CBO assumes people will have a preference for compliance with the law that strengthens the impact of the individual mandate.[51] The CBO and RAND also use different approaches to estimating how people and firms will respond to policy changes. We assume that individuals and firms make decisions by weighing the costs and benefits of available insurance options, a procedure known in the economics literature as "utility maximization"; CBO makes predictions based on past experience with smaller-scale reforms.

In Figure 11, we show the relationship between premiums and the share of young adult enrollees in scenarios with and without the individual mandate. If we remove the individual mandate, the share of young adults in the ACA-compliant market declines from 27.2 percent to 24.8 percent. In addition, premiums are more sensitive to the share of young adult enrollees in the scenario without the individual mandate, compared with the scenario with the individual mandate. With the individual mandate, a 1 percentage point decline in the share of young

Table 3. Enrollment and Premiums Under ACA's Individual Mandate, Compared to Scenario with No Individual Mandate, 2015

	Age-Standardized Premium[a]	Total ACA-Compliant Market Enrollment (millions)	ACA-Compliant Market Enrollment Among 18-to-34-Year-Olds	Total Insured (millions)
ACA	$3,400	19.8	5.4	244.9
No individual mandate	$3,700	15.8	3.9	236.7
Difference	+7.1%	−20.4%	−27.4%	−3.3%

NOTES: Table 3 shows enrollment and premiums for 2015 as estimated in the COMPARE model under the ACA, and under an alternative scenario in which we assume there is no individual mandate. Estimates reflect enrollment and premiums for all ACA-compliant individual market enrollees, including those enrolled on and off the Marketplaces. We apply a ratio adjustment to the enrollment figures to bring COMPARE's estimates into line with the CBO's estimates, and to the premium spending estimates to bring COMPARE's estimates into line with 2014 premium filings. The same ratio adjustments are applied both to the ACA scenario and the "No individual mandate" scenario.

[a] The age-standardized premium reflects the silver premium for a 40-year-old nonsmoker. While premium amounts will vary by age, the change in premiums is 7.1 percent for all age groups due to the ACA's rating requirements.

Figure 11. Change in ACA-Compliant Market Premiums, by Age Composition and Individual Requirement to Obtain Insurance
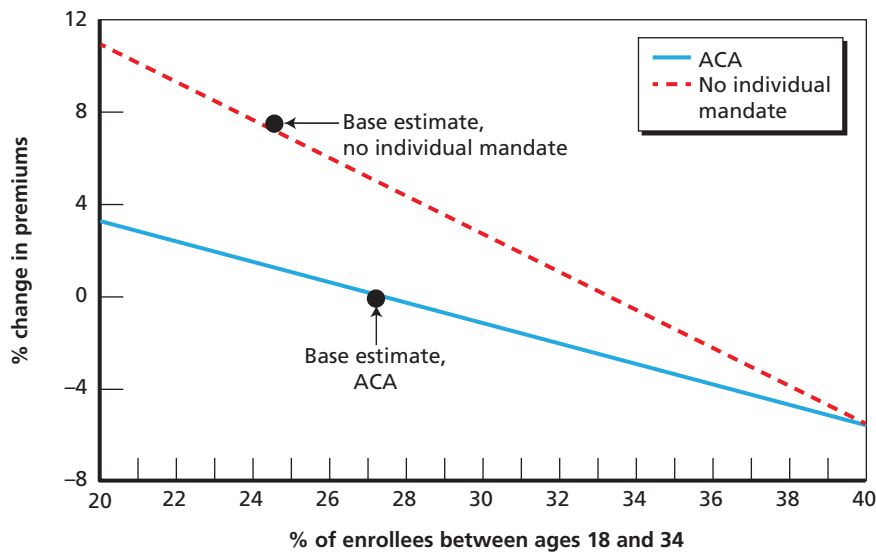
NOTES: Figure 11 shows the change in individual market premiums that could be expected as the share of young adults increases or decreases, for two scenarios. The solid line shows the relationship with the ACA, and the dashed line shows the relationship in a hypothetical scenario in which the ACA is implemented without the individual mandate. The black dots indicate the age-composition predicted by COMPARE without additional adjustment, and the lines show how premiums change as we increase and decrease the number of young adult enrollees. All estimates are derived from the COMPARE model and represent calendar year 2015.

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adult enrollees is associated with a 0.44 percent increase in premiums; without the mandate, a 1 percentage point decline in young adult enrollment is associated with a 0.83 percent increase in premiums.

Combined Policy Scenarios

The scenarios that eliminate the individual mandate and the tax credits both show that premiums increase when these reforms are implemented. However, it is unlikely that these reforms would be implemented in isolation. We tested the sensitivity of our analysis to several groups of reforms that combined multiple policies at once, including the elimination of the individual mandate, the elimination of the ACA's tax credits, the elimination of cost-sharing subsidies, relaxation of the ACA's age rating bands, and elimination of reinsurance (Table 4). In combined scenario 1, we assume that the elimination of subsidies is combined with the elimination of the individual mandate. In combined scenario 2, we additionally relax the rate banding in the ACA and eliminate reinsurance.

Scenario 1

The elimination of the individual mandate combined with the elimination of the ACA's subsidies (Scenario 1) leads to a 47 percent increase in premiums and a 77 percent decline in ACA-compliant individual market enrollment. Total insurance enrollment falls by 18.2 million individuals. The increase in premiums is identical whether we consider the premium for a 40-year-old nonsmoker or the average premium for a standard population because, with 3-to-1 age rating in both scenarios, the relative premium increase is by definition the same for all ages. The changes in premiums and enrollment in this combined scenario relative to the ACA are larger than the changes we estimated when we modeled the elimination of the premium tax credits alone (Table 2), or the elimination of the individual mandate alone (Table 3).

Scenario 2

When we remove reinsurance and change the age rating policy from 3-to-1 rate banding to 5-to-1 rate banding (Scenario 2), premiums increase even more, and enrollment falls further. Because the rate banding has changed, the percent increase

Table 4. Enrollment and Premiums Under the ACA Compared to Alternative, Combined Policy Scenarios, 2015

	Premium, 40-Year-Old Nonsmoker	Average Premium, Standard Population*	Total Marketplace Enrollment (millions)	Marketplace Enrollment Among 18-to-34-Year-Olds (millions)	Total Insured (millions)
ACA	$3,400	$4,200	19.8	5.4	244.9
Combined Scenario 1: • No individual mandate • No premium tax credits, cost-sharing reductions	$5,000	$6,200	4.6	0.9	226.7
Combined Scenario 2: • No individual mandate • No premium tax credits, cost-sharing reductions • 5:1 rate banding • No reinsurance	$5,900	$8,100	2.4	0.7	224.9

NOTES: Table 4 shows enrollment and premiums for 2015, as estimated in the COMPARE model under the ACA and under alternative scenarios in which we assume combinations of policies including the individual mandate, the tax credits, and the cost-sharing reductions are removed. Estimates reflect enrollment and premiums for all ACA-compliant individual market enrollees, including those enrolled on and off the Marketplaces. We apply a ratio adjustment to the enrollment figures to bring COMPARE's estimates into line with CBO's estimates, and to the premium spending estimates to bring COMPARE's estimates into line with 2014 premium filings. The same ratio adjustments are applied both to the ACA scenario, and to the "No individual mandate" scenario.

*The average premium for a standard population reflects the average premium among individuals predicted to enroll in the ACA-compliant market under the baseline ACA scenario.

in premiums for a 40-year-old-nonsmoker (74 percent) is now different from the percent increase for a standard population (a 93 percent increase). Enrollment in the ACA-compliant individual market falls by nearly 90 percent, to 2.4 million people, in this scenario, relative to the ACA. Total enrollment also falls substantially, from 244.9 million individuals under the ACA to 224.9 million individuals under this scenario.

LIMITATIONS

Our study has several important limitations. First, insurers are not included in our model, and we do not attempt to model insurer behavior. Rather, our premium estimates reflect premiums that might arise in a purely competitive market with full information. Particularly in the short run, this assumption may be too strong, and actual premiums could deviate from our estimates for many reasons, including differences between insurer expectations about enrollment and actual enrollment outcomes. Second, there is limited information on premiums

and insurer-pricing strategies in the pre-ACA nongroup market, and our assumption that base rates for 64-years-olds were 3.75 times as high as base rates for 21-year-olds (before additional adjustments for health status) may not be correct. Related to this issue, while we allow for health status rating prior to the ACA, we do not account for the possibility that some individuals in poor health may have been charged the same price as healthier individuals because they bought their policies when they were in good health.

DISCUSSION

State-specific rating reforms in the individual market prior to the ACA, which were typically implemented without an individual mandate or tax credits, were associated with significant adverse selection. For example, Lo Sasso and Lurie analyzed outcomes in eight states that implemented individual market rating reforms in the 1990s and found evidence of sharply reduced enrollment among healthier individuals.[52] They also estimated that premiums for healthier individuals may have increased by 84 percent as a result of state rating reforms.

The ACA initiates similar rating reforms to enable guaranteed access to individual market plans for all enrollees, and to limit price variation on the basis of age, illness, or other demographic factors. However, unlike the previous state reforms, the ACA contains many provisions that are designed to protect against premium escalation due to the exit of younger and healthier enrollees from the individual market. The ACA's premium tax credits and cost-sharing subsidies offer a "carrot" to encourage enrollment among young and healthy enrollees. Simultaneously, the individual mandate acts as a "stick," with threats of penalties should individuals choose not to enroll. Risk adjustment, reinsurance, and risk corridors protect insurers against potential losses should they price premiums inaccurately or disproportionately enroll sicker individuals, and provide a cushion against the possibility that sick and expensive people are among the first to enroll. In addition, unlike some of the state reforms that were implemented in the 1990s, the ACA stops short of full community rating. Under the ACA, older adults can still be charged up to 3 times as much as younger adults, and the youngest adults (18–20) are grouped with children rather than adults for the purpose of setting premiums. While these rating provisions have the effect of shifting some costs from older to younger enrollees, premiums paid by younger adults offset only a portion of higher health spending by older adults.

In this report, we used the COMPARE microsimulation model to estimate the degree of premium increase that might occur if young adults systematically opt out of the market and to assess the importance of the ACA's tax credit structure and individual mandate in guarding against adverse selection.

We find that premiums are moderately sensitive to the share of young adult enrollees in the ACA-compliant market. In our most realistic scenario, a 1 percentage point drop in the share of young adult enrollees on the market is associated with a 0.44 percent increase in ACA-compliant individual market premiums. If the number of young adults in the market increased from 28 to 40 percent, premiums in our model would fall by only 5.3 percent. These modest changes in premiums are similar to estimates previously reported by Kaiser Family Foundation.[53]

The relative insensitivity to young adult enrollment is due in part to the ACA's tax credits, which ensure that some healthy young people will remain enrolled simply because their premiums are heavily subsidized by the federal government. In a sensitivity analysis in which we assume that young adults' enrollment decisions are driven only by expenditure levels, without considering tax credit eligibility, premiums become more sensitive to the share of young adults in the market than in the ACA base case.

The insensitivity of premiums is also due in part to the fact that many older individuals can be "good risks" (that is, individuals who contribute more to the insurance risk pool than they spend). While older adults spend more than younger adults, on average, age rating allows premiums to increase with enrollees' age, reducing the risk pool's reliance on younger individuals. Because older adults can be charged up to 3 times as much as younger adults, we find that over 80 percent of 55-to-64-year-olds can be considered good risks. The fact that there is a sizable fraction of good risks across all age groups acts to stabilize individual market premiums and reduces the impact when younger adults drop out of the market.

The ACA contains many provisions that are designed to protect against premium escalation due to the exit of younger and healthier enrollees from the individual market.

The nature of the ACA's premium tax credit is also important to keeping healthy individuals of all ages enrolled in the market. Not only does the federal government provide tax credits, the structure of the tax credits insulates enrollees from premium escalation due to adverse selection. Specifically, enrollees with incomes between 100 and 400 percent of the federal poverty level pay no more than a fixed percentage of their income for the second-lowest-cost silver plan available in their rating area. Any spending above that income level is fully offset by the tax credit, as long as the individual chooses the second-lowest-cost silver plan or a less expensive policy. This tax credit structure insulates enrollees against premium increases due to other people's enrollment decisions and guards against a cycle of premium increases and subsequent disenrollment (i.e., a death spiral). In sensitivity analyses, we found that premiums were more sensitive to young adult enrollment under alternative subsidy structures, including vouchers and percentage-based federal contributions. These alternative subsidy structures expose subsidized enrollees to premium fluctuations. If the ACA's subsidies are eliminated entirely, our model predicts a near death spiral—that is, sharp premium increases and drastic enrollment declines in the individual market.

Suspending the individual mandate in 2015 would also have significant repercussions for the ACA-compliant market. We estimate that, if the individual mandate were not in effect, premiums would rise by 7.1 percent, while enrollment in the ACA-compliant individual market would fall by 20.4 percent. Simultaneously, the total number of people insured would decline by more than 8 million. Repealing the individual mandate could also prove costly for the federal government, which would not only forgo revenue generated by the individual mandate, but would also subsidize a more expensive population in the ACA-compliant market. These results suggest that the individual mandate is a key component of the ACA that promotes the goal of achieving nearly universal coverage and keeps federal spending in check.

If the ACA's subsidies are eliminated entirely, our model predicts a near death spiral—that is, sharp premium increases and drastic enrollment declines in the individual market.

We estimate that eliminating both the individual mandate and the ACA's subsidies would lead to higher premiums and lower enrollment than eliminating either of these policies in isolation. Relative to the ACA, we estimate that eliminating the subsidies and individual mandate could lead to a near-doubling of premiums. Premiums for a standard population would increase even further if, in addition to eliminating the mandate and subsidies, reinsurance was also eliminated and the 3-to-1 age rating was changed to 5-to-1. Simultaneously, enrollment in the ACA-compliant market would fall substantially, and many fewer people would be insured.

Our analysis suggests that lower-than-expected enrollment among young adults could be associated with slightly higher premiums, but the effects are relatively small. The effects are minimal because of the numerous provisions in the ACA to guard against adverse selection. In sensitivity tests in which we eliminate some or all of these policies, premiums increase substantially and enrollment falls. The structure of the ACA's tax credits is particularly important to ensuring that premiums remain stable under alternative assumptions about young adults' health insurance enrollment decisions.

ENDNOTES

[1] See U.S. Department of Health and Human Services, Office of the Assistant Secretary for Planning and Evaluation (HHS ASPE), *Health Insurance Marketplace: Summary Enrollment Report for the Initial Annual Open Enrollment Period*, Washington, D.C., ASPE Issue Brief, May 1, 2014a. As of September 5, 2014:
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marketplaceenrollment/apr2014/ib_2014apr_enrollment.pdf

[2] For December 28, 2013, and March 1, 2014, enrollment tallies, see HHS ASPE, *Health Insurance Marketplace: March Enrollment Report*, Washington, D.C., March 11, 2014b. As of September 5, 2014:
http://aspe.hhs.gov/health/reports/2014/marketplaceenrollment/
mar2014/ib_2014mar_enrollment.pdf

[3] Jason Millman, "Major Obamacare Insurer Backs Away from Double-Digit Rate Hike Prediction," *Washington Post* Wonkblog, April 30, 2014. As of September 5, 2014:
http://www.washingtonpost.com/blogs/wonkblog/wp/2014/04/30/
major-obamacare-insurer-backs-away-from-double-digit-rate-hike-
prediction/

[4] Cherry-picking is the practice of attempting to selectively enroll the healthiest people, for example through benefit design or selective marketing.

[5] Larry Levitt, Gary Claxton, and Anthony Damico, "The Numbers Behind 'Young Invincibles' and the Affordable Care Act," Kaiser Family Foundation, December 17, 2013.

[6] John Kautter, Melvin Ingber, Gregory C. Pope, and Sara Freeman, "Improvements in Medicare Part D Risk Adjustment: Beneficiary Access and Payment Accuracy," *Medical Care*, Vol. 50, No. 12, December 2012, pp. 1102–1108.

[7] Colleen L. Barry, Jonathan P. Weiner, Klaus Lemke, and Susan H. Busch, "Risk Adjustment in Health Insurance Exchanges for Individuals with Mental Illness," *American Journal of Psychiatry*, Vol. 169, No. 7, July 2012, pp. 704–709; University of Florida, "The Role of Reinsurance in Financing Children's Health Care, Part II: Case Mix Effects," *Focus on Child Health Policy*, No. 6, 2011. As of September 5, 2014:
http://ichp.ufl.edu/files/2011/11/Issue_Brief_6.pdf

[8] Mark A. Hall, "Government-Sponsored Reinsurance," *Annals of Health Law*, Vol. 19, No. 3, 2010, pp. 465–478.

[9] See 45 Code of Federal Regulations, Part 153, "Patient Protection and Affordable Care Act: Standards Related to Reinsurance, Risk Corridors and Risk Adjustment," Vol. 77, No. 57, March 23, 2012.

[10] Amitabh Chandra, Jonathan Gruber, and Robin McKnight, "The Importance of the Individual Mandate: Evidence from Massachusetts," *New England Journal of Medicine*, Vol. 364, No. 4, January 2011, pp. 293–295.

[11] Linda J. Blumberg and Matthew Buettgens, *Why the ACA's Limits on Age-Rating Will Not Cause "Rate Shock": Distributional Implications of Limited Age Bands in Nongroup Health Insurance*, Washington, D.C.: Urban Institute, March 2013.

[12] America's Health Insurance Plans, *Individual Health Insurance 2006–2007: A Comprehensive Survey of Premiums, Availability, and Benefits*, Washington, D.C.: America's Health Insurance Plans Center for Policy and Research, December 2007.

[13] Centers for Medicare and Medicaid Services, "State Specific Age Curve Variations," undated-b. As of September 5, 2014:
http://www.cms.gov/CCIIO/Programs-and-Initiatives/Health-
Insurance-Market-Reforms/Downloads/state-specific-age-curve-
variations-08-09-2013.pdf

[14] An exception to this rule is the ACA's catastrophic plans, which have high deductibles and are available only to people under age 30 and people who are eligible for hardship exemptions.

[15] The Departments of the Treasury, Labor, and Health and Human Services published requirements for grandfathered health plans in the *Federal Register*, Vol. 75, No. 116, on June 17, 2010. On March 5, 2014, the Centers for Medicare and Medicaid Services issued guidance extending the availability of transitional health plans to plan years beginning on or before October 1, 2016. Gary Cohen, *Insurance Standards Bulletin Series—Extension of Transitional Policy Through October 1, 2016*, Washington, D.C.: Centers for Medicare and Medicaid Services, March 5, 2014. As of September 5, 2014:
http://www.cms.gov/CCIIO/Resources/Regulations-and-Guidance/
Downloads/transition-to-compliant-policies-03-06-2015.pdf

[16] Kevin Lucia, Sabrina Corlette, and Ashley Williams, "The Extended 'Fix' for Canceled Health Insurance Policies: Latest State Action," The Commonwealth Fund Blog, June 10, 2014. As of September 5, 2014:
http://www.commonwealthfund.org/publications/blog/2014/jun/
adoption-of-the-presidents-extended-fix

[17] After 2014, these fixed percentages will be adjusted to reflect the excess of the rate of premium growth for the preceding calendar year over the rate of income growth for the preceding calendar year. For 2015, the relevant adjustment factor is 1.0058.

[18] In other words, if the enrollee chooses a plan that is more expensive than the second-lowest-cost silver plan, the enrollee would contribute the required percentage of income, and then additionally pay for the difference between the chosen premium and the premium of the second-lowest-cost silver plan. Mathematically, the individual's payment would equal max{(income*required percentage)+(chosen plan premium-second-lowest-cost silver plan premium),0}.

[19] For example, if an individual earned 133 percent of the FPL ($15,521 in 2014), he or she would have to pay 2 percent of income, or $310, annually for health insurance. If the second-lowest-cost silver premium were $2,500, the value of the tax credit would be $2,500 – $310 = $2,190. If a bronze plan were available for $2,200, the individual would have to pay only $10 out-of-pocket for this plan. If a bronze plan were available for $2,000, the individual could enroll for free (although he or she would not be refunded the $190 difference between the tax amount and the premium for the chosen plan).

[20] Risk adjustment also applies to plans sold in the small group market.

[21] Centers for Medicare and Medicaid Services, "HHS-Developed Risk Adjustment Model Algorithm Instructions," undated-a. As of September 5, 2014:
http://www.cms.gov/CCIIO/Resources/Regulations-and-Guidance/Downloads/ra-instructions-4-16-13.pdf

[22] See *Federal Register*, Vol. 79, No. 101, May 27, 2014. As of September 5, 2014:
http://www.gpo.gov/fdsys/pkg/FR-2014-05-27/pdf/2014-11657.pdf

[23] Ross Winkelman, Julie Peper, Patrick Holland, Syed Mehmud, and James Woolman, *Analysis of HHS Final Rules on Reinsurance, Risk Corridors, and Risk Adjustment*, Robert Wood Johnson Foundation State Health Reform Assistance Network Research Brief, April 2014. As of September 5, 2014:
http://www.rwjf.org/en/research-publications/find-rwjf-research/2011/08/rwjf-provides-states-with-resources-to-expand-coverage/analysis-of-hhs-final-rules-on-reinsurance--risk-corridors-and-r.html

[24] The HHS Notice of Benefit and Payment Parameters for 2014 argued that the risk corridors program would "permit issuers to lower rates by not adding a risk premium to account for perceived uncertainties in the 2014 through 2016 markets." See *Federal Register*, Vol. 78, No. 47, March 11, 2013.

[25] Sara R. Collins, *Young Adult Participation in the Health Insurance Marketplaces: Just How Important Is It?* Washington, D.C.: The Commonwealth Fund, February 2014.

[26] Collins, 2014. See also Congressional Budget Office (CBO), *Updated Estimates of the Effects of the Insurance Coverage Provisions of the Affordable Care Act, April 2014*, Washington, D.C., 2014. As of September 5, 2012:
http://www.cbo.gov/sites/default/files/cbofiles/attachments/45231-ACA_Estimates.pdf

[27] We estimate that the $4 billion reduction in reinsurance from 2014 to 2015 would be associated with premium increase of 4.9 to 6.4 percent, absent improvements in the risk composition of enrollees due to factors such as increased awareness of the law or the 2014 to 2015 increase in the level of the individual mandate penalty that is levied on nonexempt individuals who do not have qualifying coverage.

[28] "HHS Notice of Benefit and Payment Parameters for 2015," *Federal Register*, Vol. 78, No. 231, December 2, 2013; Centers for Medicare and Medicaid Services, "Risk Corridors and Budget Neutrality," April 11, 2014. As of September 5, 2014:
https://www.cms.gov/CCIIO/Resources/Fact-Sheets-and-FAQs/Downloads/faq-risk-corridors-04-11-2014.pdf

[29] In the unlikely event of a shortfall, HHS recognizes that the ACA requires the Secretary to make full payments to issuers, and will seek other sources of funding for the risk corridors payments.

[30] The 2014 tax filing threshold for a single individual under 65 is $10,150.

[31] See *Federal Register*, Vol. 78, No. 169, August 30, 2013.

[32] Chandra, Gruber, and McKnight, 2011.

[33] The authors measured spending using claims data from the Massachusetts Commonwealth Connector; the figures do not include premium spending.

[34] Amado Cordova, Federico Girosi, Sarah Nowak, Christine Eibner, and Kenneth Finegold, "The COMPARE Microsimulation Model and the U.S. Affordable Care Act," *International Journal of Microsimulation*, Vol. 6, No. 3, Winter 2013, pp. 78–117.

[35] HHS ASPE, 2014a.

[36] Collins, 2014.

[37] Katherine Grace Carman and Christine Eibner, *Change in Health Insurance Enrollment Since 2013: Evidence from the RAND Health Reform Opinion Study*, Santa Monica, Calif.: RAND Corporation, RR-656-RC, 2014. As of September 5, 2014:
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[38] Christine Eibner and Carter C. Price, *The Effect of the Affordable Care Act on Enrollment and Premiums, With and Without the Individual Mandate*, Santa Monica, Calif.: RAND Corporation, TR-1221-CMWF, 2012. As of September 5, 2014:
http://www.rand.org/pubs/technical_reports/TR1221.html

[39] New Hampshire, which in late March of 2014 announced its decision to expand Medicaid, is included as a nonexpanding state in this analysis.

[40] "Calibration" is the process that we use to ensure that model outcomes estimated in scenarios without the ACA match actual data from before the ACA took effect. In the old version of the model, we calibrated to match nine targets, such as Medicaid and CHIP enrollment among children less than age 19. In the current version of the model, we calibrate to match 145 different targets.

[41] Christine Eibner, Amado Cordova, Sarah A. Nowak, Carter C. Price, Evan Saltzman, and Dulani Woods, *The Affordable Care Act and Health Insurance Markets: Simulating the Effects of Regulation*, Santa Monica, Calif.: RAND Corporation, RR-189-DHHS, 2013. As of September 5, 2014:
http://www.rand.org/pubs/research_reports/RR189.html

[42] HHS ASPE, 2014a.

[43] For example, eHealth reported that 42 percent of enrollees were between ages 18 and 34. eHealth, *Health Insurance Price Index Report for Open Enrollment and Q1 2014*, May 2014. As of September 5, 2014:
http://www.ehealthinsurance.com/affordable-care-act/wp-content/themes/ace/price-index/data/quarterly-index.pdf

[44] Kaiser Family Foundation Survey of Non-Group Health Insurance Enrollees, Appendix Tables. As of September 5, 2014:
http://kaiserfamilyfoundation.files.wordpress.com/2014/06/survey-of-non-group-health-insurance-enrollees-appendix-tables-final1.pdf

[45] We have scaled our 2014 premium estimate to match actual premiums as reported to Healthcare.gov, and then adjusted for inflation and changes in enrollee age composition to get a 2015 estimate. Without adjustment, the COMPARE 2014 silver premium for a 40-year-old nonsmoker is $3,686; this is slightly higher than the actual 2014 premiums reported on Healthcare.gov, which average to $3,276 for a 40-year-old nonsmoker (to average across all rating areas, we apply population weights from the Census). The COMPARE estimate may be slightly higher than that actual premium amounts because the model is unable to capture the effect of narrow-network plans on premiums. COMPARE also estimates the premium for a single, average silver plan, not necessarily the second-lowest-cost silver plan. By comparison, the CBO reports the average 2014 silver plan premium is $3,800 (CBO, *Updated Estimates of the Effects of the Insurance Coverage Provisions of the Affordable Care Act, April 2014*, Washington, D.C., 2014). In COMPARE, the average 2015 silver premium (after scaling to match the Healthcare.gov figures) is $4,380, which deflates to $4,170 in 2014 dollars.

[46] The average premium before tax credits among individuals selecting a Marketplace plan on the federally facilitated Marketplaces was $346 per month, or $4,152, in 2014. Among Marketplace plans purchased on the federally facilitated Marketplaces, 76 percent of premium spending was subsidized by the federal government. However, this number is not directly comparable to the COMPARE estimates, which combine Marketplace and off-Marketplace ACA-compliant plans. See Amy Burke, Arpit Misra, and Steven Sheingold, *Premium Affordability, Competition, and Choice in the Health Insurance Marketplace, 2014*, Washington, D.C., ASPE Research Brief, June 18, 2014. As of September 5, 2014:
http://aspe.hhs.gov/health/reports/2014/Premiums/2014MktPlacePremBrf.pdf

[47] See, for example, Mark Landler and Michael D. Shear, "Enrollments Exceed Obama's Target for Health Care Act," *New York Times*, April 18, 2014, p. A1.

[48] Cynthia Cox, Gary Claxton, Larry Levitt, and Hana Khosla, *An Early Look at Premiums and Insurer Participation in Health Insurance Marketplaces, 2014*, Kaiser Family Foundation, September 2013. As of September 5, 2014:
http://kff.org/health-reform/issue-brief/an-early-look-at-premiums-and-insurer-participation-in-health-insurance-marketplaces-2014/

[49] We found a similar pattern when we calculated the age gradient in the share of individuals classified as "good risks" using data from the raw, unadjusted MEPS data as opposed to data from the COMPARE model.

[50] The CBO's most recent estimate of the effect of repealing the individual mandate came in the context of estimating the effects of H.R. 4015, which proposed changes to Medicare payment policy along with a five-year delay of the individual mandate. Results are available in CBO, "Estimate for H.R. 4015, the SGR Repeal and Medicare Provider Payment Modernization Act of 2014, as Introduced, with an Amendment Offered by Mr. Camp (Camp042) as Posted on the Website of the Committee on Rules on March 11, 2014," March 12, 2014. As of September 5, 2014:
http://cbo.gov/sites/default/files/cbofiles/attachments/hr4015withCampAmendment.pdf

[51] David I. Auerbach, Janet Holtzblatt, Paul Jacobs, Alexandra Minicozzi, Pamela Moomau, and Chapin White, "Will Health Insurance Mandates Increase Coverage? Synthesizing Perspectives from Health, Tax, and Behavioral Economics," *National Tax Journal*, Vol. 63, No. 4, Part 1, December 2010, pp. 659–679.

[52] Anthony T. Lo Sasso and Ithai Z. Lurie, "Community Rating and the Market for Private Non-Group Health Insurance," *Journal of Public Economics*, Vol. 93, 2009, pp. 264–279.

[53] Levitt, Claxton, and Damico, 2013.

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About This Report

This report summarizes analysis in which the COMPARE microsimulation model was used to estimate how several potential changes to the ACA, including eliminating the individual mandate, eliminating the law's tax-credit subsidies, and combined scenarios that change these and other provisions of the act, might affect 2015 individual market premiums and overall insurance coverage. Underlying these estimates is our COMPARE-based analysis of how premiums and insurance coverage outcomes depend on young adults' propensity to enroll in insurance coverage.

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