

The Effects of the American Health Care Act on Health Insurance Coverage and Federal Spending in 2020 and 2026

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Library of Congress Cataloging-in-Publication Data is available for this publication.

ISBN: 978-0-8330-9817-7

Published by the RAND Corporation, Santa Monica, Calif.

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Preface

In this report, we analyzed a version of the American Health Care Act (AHCA), a bill proposed by the U.S. House of Representatives on March 6, 2017. The bill would have repealed many of the provisions of the Affordable Care Act (ACA) and replaced them with alternative reforms. We used RAND’s Comprehensive Assessment of Reform Efforts microsimulation model to assess how the AHCA would have affected such outcomes as health insurance enrollment, consumer out-of-pocket costs, and the federal deficit relative to the ACA. The report may be of interest to policymakers, researchers, and journalists considering how proposals like the AHCA might influence health care coverage and federal spending.

Funding for this study was provided by the Commonwealth Fund. Additional support was made possible by the generous contributions of the RAND Health Board of Advisors and other donors.

We thank Katherine Carman, Leighton Ku, and Evan Saltzman for their helpful reviews of this document.

The research was conducted in RAND Health, a division of the RAND Corporation. A profile of RAND Health, abstracts of its publications, and ordering information can be found at www.rand.org/health.

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Abbreviations

ACA	Affordable Care Act
AHCA	American Health Care Act
CBO	Congressional Budget Office
CCIO	Center for Consumer Information and Insurance Oversight
CHIP	Children’s Health Insurance Program
CMS	Centers for Medicare & Medicaid Services
COMPARE	Comprehensive Assessment of Reform Efforts
CPI	consumer price index
CPI-M	medical consumer price index
CSR	cost-sharing reduction
FMAP	Federal Medical Assistance Percentage
FPL	federal poverty level
HSA	health savings account
MEPS	Medical Expenditure Panel Survey
MLR	medical loss ratio
SHOP	Small Business Health Options Program

Overview

In March 2017, Congress introduced the American Health Care Act (AHCA) as an alternative to the Affordable Care Act (ACA). The AHCA would have made many changes to the current health insurance system, including replacing the ACA’s advance premium tax credits with age-based credits, altering federal financing for the Medicaid program, changing regulations in the individual insurance market, eliminating the ACA’s individual and employer mandates, and requiring insurers to charge more for those who fail to remain continuously enrolled in insurance. We used the RAND Corporation’s Comprehensive Assessment of Reform Efforts (COMPARE) microsimulation model to estimate the combined effect of the AHCA’s major provisions on health insurance enrollment, the cost of individual-market coverage, and federal spending. We estimate that the AHCA would have reduced health insurance enrollment by 14.2 million people in 2020; the loss of health insurance would have increased to 19.7 million people by 2026. The insurance losses that we estimate are lower than those estimated by the Congressional Budget Office (CBO), largely because of different assumptions about consumer confusion and insurer mispricing in the individual market in 2020 and differences in assumptions about the stability of employer-sponsored coverage over time. CBO also relied on its March 2016 baseline, which it has since updated, to estimate the effects of the AHCA. As a result, we estimate smaller declines in individual market coverage in 2020 and larger declines in 2026, relative to CBO. We further estimate that the AHCA would have increased the federal deficit by \$38 billion in 2020 while reducing the deficit by \$5 billion in 2026. Both of these deficit impacts reflect one-year changes, so they cannot be directly compared with CBO’s estimate that the AHCA would have reduced the deficit by a cumulative \$150 billion over ten years. Our analysis relies on the version of the bill dated March 6, 2017, with several updates to account for the March 20 “Manager’s Amendment.” The provisions that we modeled are described next.

Changes to Tax Credits. The AHCA would have made substantial changes to the federal tax credits provided to those who purchase health insurance on the individual market. Under current law (the ACA), these tax credits depend on an enrollee’s age, income, and local premium levels, and they are not available for those with incomes above 400 percent of the federal poverty level (FPL).¹ The AHCA included annual age-based credits that ranged from \$2,000 to \$4,000 per individual, up to \$14,000 per household. Single tax filers with incomes under \$75,000

¹ Under the ACA, advance premium tax credits are available for individuals with incomes between 100 and 400 percent of the FPL and no other affordable source of coverage. The tax credit amount is derived by subtracting a percentage contribution that increases with income from the price of the second-lowest-cost silver plan available to the individual. Because premiums vary with age and geography, this approach results in tax credits that vary based on income, age, and local price levels.

(620 percent of the FPL in 2017) and joint filers with incomes under \$150,000 (920 percent of the FPL for a family of two) would have received the full amount of the credit. The credit would have been reduced for those with incomes above these thresholds, declining by \$100 for every \$1,000 in income. The AHCA’s tax credits would have grown over time at a rate of the consumer price index (CPI) plus 1 percentage point.

Changes to Medicaid. The AHCA would have converted federal funding for the Medicaid program to a per-capita allotment. Under current law, the federal government pays for a percentage of states’ Medicaid costs; these percentages vary across states and are higher for adults who were made newly eligible by the ACA’s 2014 coverage expansion. The AHCA would have provided states with a fixed-dollar contribution for each enrollee, based on federal spending in 2016. The fixed-dollar amount would have increased over time at the rate of the medical consumer price index (CPI-M) and would have varied for children; adults; and aged, blind, and disabled populations. States could have continued to cover those made newly eligible by the ACA, but after 2020, new enrollees in this group would have received the same per-capita allotment as adults who had been eligible before 2014. Adults made eligible by the ACA who enrolled prior to 2020 would have continued to receive an enhanced federal contribution, as long as they remained continuously enrolled in the program. We assume that states would have reacted to the per-capita allotment by adjusting Medicaid eligibility levels for nondisabled adults to avoid spending more under the AHCA than they would have spent under current law. This assumption requires all states to reduce eligibility for nondisabled adults to address the fact that CPI-M is projected to grow at a slower rate than Medicaid costs. In addition, expansion states would have further needed to reduce eligibility to account for reduced Federal Medical Assistance Percentages (FMAPs) for expansion adults.² We additionally account for states with “trigger” provisions that would have required them to eliminate eligibility for the expansion population if FMAPs were reduced (see the appendix for details).

Changes to Age Rating Bands. The AHCA would have allowed insurers offering coverage on the individual and small-group markets to charge older adults five times as much as younger adults. Under current law, older adults can be charged no more than three times as much as younger adults.

Ending the ACA’s Mandates. The AHCA would have eliminated the penalties associated with the individual mandate (which requires most people to obtain insurance or pay a fine). It

² We did not account for these “grandfathered” enrollees in our model, and we assumed that all adults received the same allotment amount. Prior work shows that people cycle in and out of eligibility for Medicaid with high frequency, making it unlikely that grandfathered enrollees will remain enrolled in the program for long. See, for example, Colin Planap, Brett Fried, and Julie Sonier, *ACA Coverage Expansions: Measuring and Monitoring Churn at the State Level*, State Health Access Data Assistance Center, September 2014; and Benjamin Sommers, Rebecca Gourevitch, Bethany Malone, Robert J. Blendon, and Arnold M. Epstein, “Insurance Churning Rates for Low Income Adults Under Health Reform: Lower Than Expected but Still Harmful for Many,” *Health Affairs*, Vol. 35, No. 10, October 2016, pp. 1816–1824.

also would have stopped penalizing large employers that do not offer health insurance to their full-time workers.

Instituting a Continuous Coverage Requirement. To encourage people to enroll in insurance, the AHCA would have required insurers to add a 30-percent surcharge to premiums for up to 12 months for enrollees who had a lapse in insurance coverage.

Patient and State Stability Fund. To help states stabilize insurance markets, the AHCA offered \$15 billion in funding in 2018 and 2019 and \$10 billion annually from 2020 to 2026. We assume that states would have used most of this funding to invest in reinsurance in the individual and small-group markets. Following CBO, we assume that reinsurance investments would have diminished from \$10 billion in 2020 to \$8 billion in 2026, due partly to the fact that states would have needed to contribute an increasing level of matching funds to draw down the federal amount and partly to account for the fact that some of the allocated funding might have been used for services that would not directly affect individual and small-group health insurance premiums.³

Changes in Actuarial Value. The actuarial value is a measure of health plan generosity that reflects the average share of covered expenditures paid for by the plan. The AHCA would have eliminated provisions in the ACA that required plans to be offered at specific actuarial values, that required insurers participating on the marketplaces to offer at least one plan at the 70th-percent actuarial value level and one plan at the 80th-percent actuarial value level, and that set a minimum actuarial value of 60 percent. Such changes could lead insurers to offer plans with lower actuarial values than permissible under current law. However, the AHCA also retained other ACA provisions that set maximum annual and lifetime limits on consumer out-of-pocket spending. CBO argued that, in practice, it would be difficult to design a plan with an actuarial value below 60 percent that adhered to the required annual and lifetime out-of-pocket limits.⁴ Given this concern, we assume that the minimum actuarial value available to consumers (60 percent) would have remained unchanged. We assume that plans with higher actuarial values (70, 80, and 90 percent) would have remained available to consumers, although the change in the tax credit structure would make 60-percent actuarial value plans more attractive than under current law.

Incentives to Use Health Savings Accounts. Health savings accounts (HSAs) are tax-advantaged savings accounts that can be used to fund health expenditures and that must be coupled with a high-deductible plan. The AHCA would have made several changes to encourage

³ State matching requirements increase from 7 percent in 2020 to 50 percent in 2026. Further, in the case that a state does not have an approved application for use of the Patient and State Stability Fund, the federal allocation is, by default, to be used for reinsurance. CBO thus estimated that a greater share of funding would have been used for reinsurance in earlier years, since states would have less time to develop an alternative plan.

⁴ CBO, *Congressional Budget Office Cost Estimate: American Health Care Act*, Washington, D.C., March 13, 2017c.

people to invest in HSAs, including increasing the contribution limit and reducing the penalty for withdrawals for nonmedical expenses. Further, because the AHCA created incentives to enroll in low-cost, high-deductible plans, the plan would have increased the number of people eligible to establish HSAs.

Manager's Amendment. Our model accounts for changes to the AHCA made on March 20, 2017, that would have eliminated individual-market enrollees' option to retain excess tax credits in health savings accounts; that would have increased growth rate for the Medicaid per-capita allotment amount for aged, blind, and disabled individuals by one percentage point; and that would have delayed the excise tax on high-cost employer health plans from taking effect until 2026 (one year later than originally proposed in the AHCA).⁵ The Manager's Amendment also made various changes to tax provisions stipulated under the AHCA, including reducing the threshold for the medical expense deduction and accelerating the repeal of other taxes. We accounted for the effect of the tax changes introduced under the AHCA and modified through the Manager's Amendment by extrapolating these amounts from estimates from CBO and the Joint Committee on Taxation.⁶ We did not account for the coverage effects of other aspects of the Manager's Amendment, including the addition of an option for states to choose Medicaid block grants as opposed to per-capita allotments, or coverage effects stemming from the change in the medical expense deduction. CBO's results suggest that the Manager's Amendment would have had little effect on insurance enrollment.

Table 1 summarizes the provisions that we modeled and how they differ from current law. We modeled these provisions for 2020, the first year for which the AHCA's age-based tax credits would have been implemented, and for 2026, the last year included in CBO's ten-year projection horizon.⁷ We compared the coverage and cost effects of the AHCA to what we estimated under current law. We provide more detail on the modeling assumptions in the appendix.

⁵ See "Manager's Amendment (Policy Changes)," March 20, 2017, and "Manager's Amendment (Technical Changes)," March 20, 2017.

⁶ CBO, letter to Paul Ryan, Speaker of the House, March 23, 2017d.

⁷ This is an important comparison point because CBO estimated that the AHCA would have caused the number of people without insurance to increase by 24 million in 2026, a number that was widely quoted in the media.

Table 1. Provisions Modeled

Provision	The Affordable Care Act (Current Law)	The American Health Care Act
Tax credits	Available to those with incomes between 100 and 400 percent of the FPL and no other affordable coverage; credit amounts reflect the difference between the cost of the second-lowest-priced silver plan available to the individual and a means-tested income contribution	Credits ranged from \$2,000 to \$4,000, depending on age; the full amount would have been available to those with incomes below \$75,000 for single tax filers and \$150,000 for married tax filers; the credit amount scaled down for those with higher incomes; credits grew at a rate of CPI plus 1 percentage point
Cost-sharing reductions (CSRs)	Available for marketplace enrollees with incomes between 100 and 250 percent of the FPL who enroll in the silver plan tier. CSRs increase the effective actuarial value of plans by 3 to 24 percentage points, depending on the enrollee's income	Not available
Medicaid	States can expand Medicaid to adults with incomes at or below 138 percent of the FPL; the federal government reimburses spending for this new adult group at 90 percent	The option to expand Medicaid would have ended in 2019; federal funding was converted to a per-capita cap based on contributions in 2016 inflated over time using CPI-M for nondisabled populations and CPI-M plus 1 percentage point for aged, blind, and disabled enrollees. Adults made newly eligible by expansion received the same allotment amount as previously eligible adults ^a
Age rating bands	Older adults enrolled in individual and small-group plans can be charged no more than 3 times as much as younger adults	Older adults enrolled in individual and small-group plans could be charged no more than 5 times as much as younger adults
Employer mandate	Employers with more than 50 workers must pay a penalty if they do not offer insurance and if workers enroll in subsidized coverage on the marketplaces	No employer mandate
Individual mandate	Individuals who do not have insurance can be charged tax penalties	No individual mandate
Continuous coverage	No continuous coverage requirement	Individuals who experience a coverage gap were charged a 30-percent premium surcharge if they enroll in individual or small-group coverage; surcharge was levied for up to 12 months
Actuarial value	Plans must have an actuarial value of 60 percent or higher; tax credits are tied to a 70-percent actuarial value (silver) plan	No actuarial value requirements; however—because other benefits requirements remain in plans—we assume that plans would have had an actuarial value of at least 60 percent
HSAs	HSAs are allowed for those with high-deductible health plans	HSAs were allowed for those with high-deductible health plans; new flexibilities, such as allowing spouses to make catch-up contributions, may have increased contribution levels; tax credit structure encouraged use of high-deductible plans, which may have increased eligibility and uptake
Excise tax on high-cost employer plans	Takes effect in 2020	Delayed until 2026
Patient and State Stability Fund	Not available	Provided \$15 billion in funding in 2018 and 2019 and \$10 billion in funding each year between 2020 and 2026. We assume that the funding would have been used for reinsurance in the individual and small-group markets

^a We did not model grandfathered enrollees, who receive per-capita allotments based on a 90-percent federal match.

Results

Table 2 shows how the AHCA would have affected insurance enrollment, overall and by source of coverage, as projected for 2020 and 2026. We estimate that the proposed policy would have reduced health insurance enrollment by 14.2 million in 2020—a result of Medicaid enrollment falling by nearly 10 million people and individual-market enrollment falling by 4.1 million people. The impact becomes more pronounced over time, with the reductions in coverage increasing to 19.7 million by 2026. This is because the AHCA’s tax credits for individual-market insurance and per-capita allotments for Medicaid were pegged to inflation indexes that have, historically, not kept pace with health care cost growth in these markets. We assume that the divergence between Medicaid costs and the per-capita allotment would have caused states to reduce eligibility over time. For example, to achieve budget neutrality, we estimate that expansion states would have needed to reduce Medicaid eligibility thresholds for newly eligible adults to an average of 24 percent of the FPL in 2020 and to an average of 11 percent of the FPL in 2026.⁸ Similarly, the divergence between tax credits and individual-market premium growth would have caused some people to forgo insurance. In addition, the real value of the federal reinsurance investment would have diminished over time, leading to further premium increases in the individual market.

⁸ The range varies across states, with some having to eliminate eligibility entirely to achieve budget neutrality. See the appendix for details.

Table 2. Insurance Coverage Under Current Law and the AHCA with Age-Based Tax Credits

	Current Law (ACA) (millions under age 65)	AHCA (millions under age 65)	Difference (millions under age 65)	% Change
Estimates for 2020				
Total insured	252.4	238.1	-14.2	-5.6%
Individual market	22.4	18.4	-4.1	-18.1%
Employer insurance	155.6	155.3	-0.3	-0.2%
Medicaid	61.8	52.0	-9.8	-15.9%
Other	12.5	12.5	0	0%
Uninsured	25.7	39.9	14.2	55.3%
Estimates for 2026				
Total insured	254.8	235.1	-19.7	-7.7%
Individual market	19.1	12.3	-6.9	-36.0%
Employer insurance	161.0	161.7	0.8	0.5%
Medicaid	62.1	48.5	-13.6	-21.8%
Other	12.6	12.6	0	0%
Uninsured	27.3	47.0	19.7	72.1%

NOTE: The current-law scenario assumes enforcement of the individual mandate and maintenance of the ACA's cost-sharing reductions. Individual-market plans in the current-law scenario include plans offered on and off the marketplaces.

Relative to current law, the AHCA had advantages for some and disadvantages for others. The advantages and disadvantages are particularly noticeable for those who would enroll in the individual insurance market because of the large change in the approach to providing tax credits for these enrollees. Table 3 shows the share of people in different age and income categories who would have paid more for an individual-market insurance policy with a 70-percent actuarial value under the AHCA relative to current law in 2020 and in 2026. We focus on a 70-percent actuarial value plan (silver plan) because this is the most commonly chosen plan type in the ACA's marketplaces.⁹ Although the AHCA's tax credit structure would likely have increased enrollment in less-generous plans, those plans would have required higher out-of-pocket spending. The analysis in Table 3 is intended to convey how individuals' out-of-pocket premiums might change when holding benefit generosity constant. The results take into account changes in tax credits, changes in age rating rules, and changes in the risk composition of enrollees.

In contrast with some previously published studies that have focused on changes in tax credit amounts,¹⁰ this analysis captures variation in which individuals would have been required

⁹ See Kaiser Family Foundation, "Marketplace Enrollment by Metal Level," March 31, 2016.

¹⁰ Cynthia Cox, Gary Claxton, and Larry Levitt, *How Affordable Care Act Repeal and Replace Plans Might Shift Health Insurance Tax Credits*, Kaiser Family Foundation, March 8, 2017.

to pay to enroll in an insurance plan with a 70-percent actuarial value. These payments vary based on an enrollee’s age, income, and geography, as well as the type of the credit available.

Table 3. Percentage of Individuals and Families Enrolled in the Individual Market Under Current Law Who Would Have Paid More for a 70-Percent Actuarial Value Plan Under the AHCA

Age of Enrollee	Single Individual (%)		Family of Four (%)	
	≤200% FPL	>200% FPL	≤200% FPL	>200% FPL
Estimates for 2020				
21	39%	<10%	39%	<10%
35	85%	<10%	66%	<10%
45	87%	31%	>90%	<10%
55	>90%	81%	>90%	>90%
64	>90%	83%	>90%	>90%
Estimates for 2026				
21	78%	<10%	66%	<10%
35	89%	26%	>90%	<10%
45	>90%	45%	>90%	54%
55	>90%	89%	>90%	>90%
64	>90%	>90%	>90%	>90%

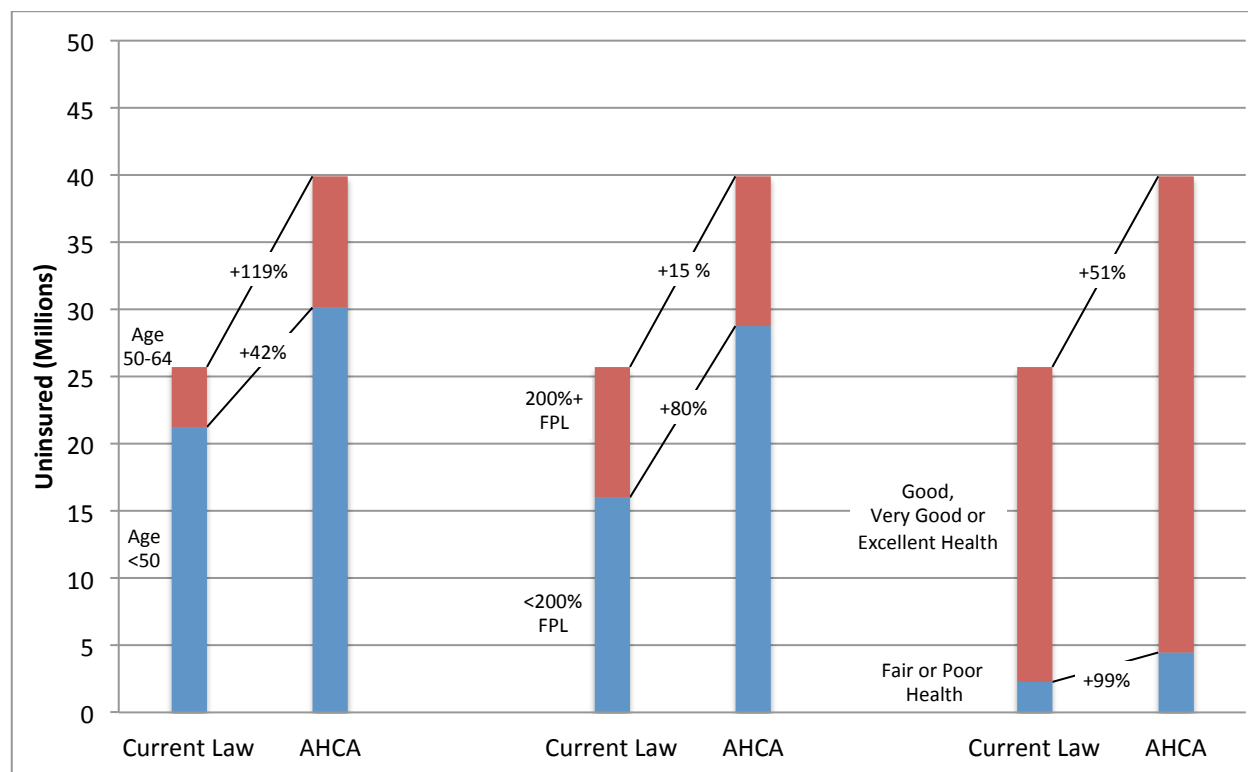
NOTES: Blue cells indicate that a majority of individuals in this age and income category would have paid less under the AHCA, and orange cells indicate that a majority would have paid more. For families, we assume that both parents are the same age. A 70-percent actuarial value plan would cover, on average, 70 percent of an enrollee’s expenses and is equivalent to a silver plan offered on the ACA’s marketplaces.

We estimate that most adults ages 50 to 64 and most people with incomes under 200 percent of the FPL would have paid more for individual-market insurance under the AHCA than under current law. The higher costs for older adults partly reflect that the AHCA’s tax credits did not increase as steeply with age as premiums did. Specifically, while premiums for older adults could be five times as large as for younger adults, the tax credit was only twice as large for older adults. In addition, the tax credits under the AHCA did not vary with local premium levels and were equivalent for all income levels below the thresholds (\$75,000 for single filers, \$150,000 for married couples filing jointly), which caused out-of-pocket premium costs to increase for some groups relative to current law. Younger people, particularly younger people with incomes above 200 percent of the FPL, tended to pay less for an insurance policy under the AHCA in 2020. However, the share of people who would have paid less under the AHCA relative to the ACA would have diminished by 2026 because growth rates in health insurance premiums exceeded growth rates in the AHCA’s tax credits. This led to growth in out-of-pocket premium contributions for all groups relative to what would have been required under the AHCA in 2020.

Despite lower individual-market premium payments for some groups, we estimate that the combination of changes included in the AHCA would have increased the number of uninsured

people in most demographic groups (Figures 1 and 2). However, older individuals, poorer individuals, and those with worse self-reported health would have been disproportionately affected by the AHCA relative to the ACA. For example, in 2020, we estimate that the number of uninsured individuals age 50 to 64 would have been 119 percent larger under the AHCA than under the ACA, compared with a 42-percent increase for those under age 50 (Figure 1). Similarly, we estimate an 80-percent increase in the number of uninsured people with incomes at or below 200 percent of the FPL under the AHCA, compared with a 15-percent increase in the number of uninsured people with incomes above 200 percent of the FPL.¹¹ Figure 1 also shows a 99-percent increase in the number of uninsured individuals in poor or fair self-reported health; this finding reflects that sicker people are more likely than healthy people to be older and poorer and are thus more likely to lose access to Medicaid or face high premiums in the individual market.

Figure 1. Number Remaining Uninsured in Select Demographic Groups, Current Law and the AHCA, 2020



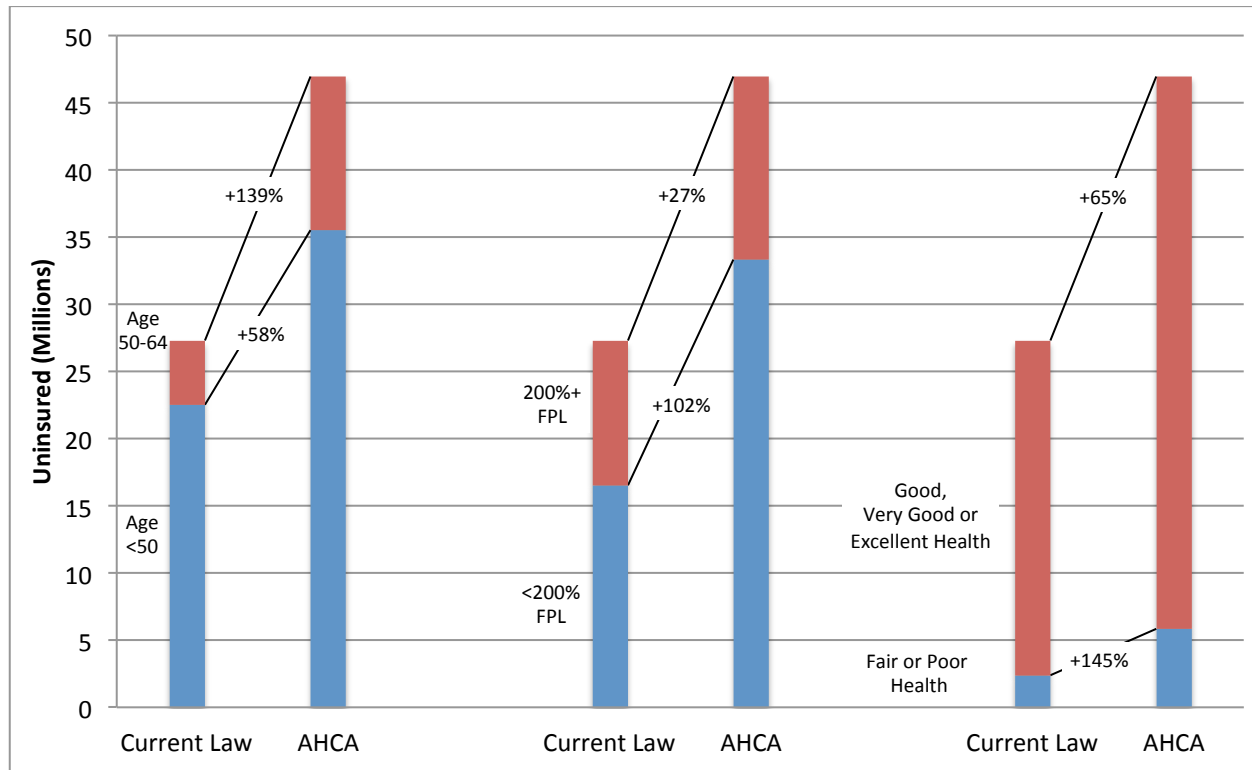
NOTE: Health status is based on self-reported information in the Medical Expenditure Panel Survey (MEPS).

Figure 2 illustrates demographic differences in the uninsured population for 2026, comparing the AHCA to current law. Comparing Figures 1 and 2, we can infer that the AHCA’s impact on

¹¹ In 2017, 200 percent of the FPL was \$24,120 for a single individual and \$49,200 for a family of four.

older individuals, lower-income individuals, and those in poor or fair health relative to the ACA’s widens over time. For example, in 2026, we estimate that the AHCA would have led to a 139-percent increase in the number of people age 50 to 64 without insurance, relative to current law. This compares to the 119-percent increase in the number of older adults without insurance in 2020, shown in Figure 1.

Figure 2. Number Remaining Uninsured in Select Demographic Groups, Current Law and the AHCA, 2026



NOTE: Health status is based on self-reported information in the MEPS.

In Table 4, we consider how the AHCA would have affected the federal deficit in 2020. We estimate that the AHCA would have reduced spending on coverage expansions by \$71 billion in 2020. It would also have eliminated funding from the ACA’s individual and employer mandates; postponed implementation of the “Cadillac tax” on high-cost employer health plans; and repealed numerous taxes and fees, including an additional Medicare hospital insurance tax on high-income individuals, a tax on branded prescription drugs, and a net investment tax. These changes would have reduced revenue by \$109 billion in 2020. In net, we estimate that the bill would have increased the deficit by \$38 billion in 2020.

Table 4. Net Deficit Effect, 2020

	Current Law (\$ billions)	AHCA (\$ billions)	Difference (\$ billions)
Spending effects			
Medicaid and Children's Health Insurance Program (CHIP)	\$291	\$228	-\$64
Tax credits for individual-market insurance	\$53	\$35	-\$18
Cost-sharing reductions	\$5	\$0	-\$5
Patient and state stability fund	\$0	\$15	\$15
Total spending	\$349	\$278	-\$71
Revenue effects			
Individual mandate	\$9	\$0	-\$9
Employer mandate	\$14	\$0	-\$14
Tax on high-cost health plans	\$10	\$0	-\$10
Tax revenue from changes in employer insurance	\$0	\$0.3	\$0.3
Tax revenue from HSA expansion	\$0	-\$0.5	-\$0.5
Repealing other taxes and fees ^a	\$0	-\$75	-\$75
Total revenue	\$33	-\$75	-\$109
Net deficit effect (total spending minus total revenue)	\$315	\$353	\$38

NOTES: The current-law scenario assumes enforcement of the individual mandate and maintenance of the ACA's cost-sharing reductions, which are subsidies to help low-income individuals defray the cost of deductibles and other out-of-pocket expenses. The tax on high-cost health plans reflects the Cadillac tax in the current-law scenario and a tax exclusion cap for employer-sponsored coverage in the alternative scenario. Tax revenue changes stemming from changes in employer insurance reflect changes in the taxable wage base that would occur if employers altered the share of compensation provided in the form of health insurance benefits as opposed to taxable wages. Numbers may not sum due to rounding.

^a We estimated the effect of repealing other taxes and fees by subtracting CBO's estimate of the cost of the coverage provisions modeled from those provisions' total deficit impact in 2020, which was \$4.8 billion (CBO, 2017d).

The impact on the deficit falls and becomes negative over time (Table 5) due primarily to the decrease in the number of people who would have been enrolled in Medicaid or would have been receiving tax credits for individual-market coverage. Specifically, by 2026, federal spending on health care programs (primarily Medicaid and individual-market tax credits) would have fallen by \$151 billion under the AHCA. This was offset by a \$146 billion reduction in federal revenue, leading to a net deficit reduction of \$5 billion.

Table 5. Net Deficit Effect, 2026

	Current Law (\$ billions)	AHCA (\$ billions)	Difference (\$ billions)
Spending effects			
Medicaid and CHIP	\$413	\$301	-\$112
Tax credits for individual-market insurance	\$68	\$27	-\$40
Cost-sharing reductions	\$6	\$0	-\$6
Patient and state stability fund	\$0	\$8	\$8
Total spending	\$486	\$336	-\$151
Revenue effects			
Individual mandate	\$11	\$0	-\$11
Employer mandate	\$19	\$0	-\$19
Tax on high-cost health plans	\$20	\$21	\$0
Tax revenue from changes in employer insurance	\$0	-\$4	-\$4
Tax revenue from HSA expansion	\$0	-\$0.3	-\$0.3
Repealing other taxes and fees ^a	\$0	-\$111	-\$111
Total revenue	\$50	-\$95	-\$146
Net deficit effect (total spending minus total revenue)	\$436	\$431	-\$5

NOTES: The current-law scenario assumes enforcement of the individual mandate and maintenance of the ACA's cost-sharing reductions, which are subsidies to help low-income individuals defray the cost of deductibles and other out-of-pocket expenses. The tax on high-cost health plans reflects the Cadillac tax in the current-law scenario and a tax exclusion cap for employer-sponsored coverage in the alternative scenario. Tax revenue changes stemming from changes in employer insurance reflect changes in the taxable wage base that would occur if employers altered the share of compensation provided in the form of health insurance benefits as opposed to taxable wages. Numbers may not sum due to rounding.

^a We estimated the effect of repealing other taxes and fees by subtracting CBO's estimate of the cost of the coverage provisions modeled from those provisions' total deficit impact in 2020, which was \$64.3 billion (CBO, 2017d).

Comparison with CBO Estimates

Table 6 compares the coverage estimates from our model with those estimated by CBO for 2020 and 2026. Relative to current law, CBO estimated that 21 million fewer people would have had coverage under the AHCA in 2020. This compares to a 14.2-million-person reduction in coverage in our model. CBO estimated, in 2026, that 24 million fewer people would have had coverage under the AHCA relative to the ACA, compared to our estimate that 19.7 fewer people would have had coverage. The differences in the two models stem from differences in estimated enrollment in the individual market and employer-sponsored coverage; our estimates of the change in Medicaid are nearly identical.

The difference in individual-market enrollment appears to stem from differences in assumptions about how well the market will function, particularly in 2020, and the degree of adverse selection that might have occurred when the AHCA's tax credits went into effect. CBO argues that shopping for plans could have been more difficult under the AHCA than under current law because plans would have been less standardized, and insurers would have no longer

been required to offer coverage through marketplace websites in order for their plans to be eligible for tax credits.¹² In addition, CBO argues that changes to tax credits and rating rules and the elimination of the individual mandate could have made it difficult for insurers to accurately set premiums in 2020. Together, CBO’s assumptions led to steep reductions in individual-market enrollment in 2020 (the first year the AHCA’s tax credits would have taken effect), with increases in subsequent years.

Although we accounted for the elimination of the individual mandate and the addition of the continuous coverage requirement, we did not assume that consumer confusion would have led to differences in enrollment under the AHCA relative to the ACA. While consumer confusion has been linked to reduced insurance enrollment,¹³ the ACA’s marketplaces have not necessarily solved this problem,¹⁴ and it is unclear to us whether insurance shopping under the AHCA would have been substantially more confusing than under current law. Further, we assume that insurers would have set premiums accurately in 2020. Experience with the ACA’s marketplaces suggests that insurers erred on the side of setting premiums too low in 2014 and 2015, resulting in subsequent losses and premium increases in later years.¹⁵ It is possible that insurers would have made the opposite mistake in 2020, increasing premiums above the actuarially fair level to ensure that they did not face major losses when the AHCA’s age-based tax credits went into effect. In sensitivity analysis (see the appendix), we found that such pricing mistakes might have increased the number of uninsured individuals to nearly 18 million individuals in 2020. However, there is no way to know for sure how insurers would have responded or—if they had made pricing mistakes—whether the premiums would have been too high or too low.

Given our assumptions about actuarially fair premiums and no increase in consumer confusion relative to current law, we estimate that the reduction in individual-market enrollment would have been relatively small in 2020, but—in contrast to CBO—we estimate that enrollment in the individual market would have declined over time. These declines occurred because the value of the tax credits relative to premiums was highest in 2020, reflecting that—historically—health care cost growth has exceeded the proposed rate of growth for the AHCA’s tax credits (CPI plus 1 percentage point). Further, the value of reinsurance would have fallen over time,

¹² CBO, 2017c.

¹³ Maximiliane Hoerl, Amelie Wuppermann, Silvia Helena Barcellos, Sebastian Bauhoff, Joachim K. Winter, and Katherine Grace Carman, “Knowledge as a Predictor of Insurance Coverage Under the Affordable Care Act,” *Medical Care*, Vol. 55, No. 4, pp. 428–435.

¹⁴ Mary K. Zimmerman, Tracy LaPierre, Emily V. M. Jones, Tami Gurley-Calvez, and Bridget McCandless, “Awareness and Experience with Affordable Care Act Health Insurance Exchanges: Perspectives from Low-Income Adults in Two Nonexpansion States,” *Journal of Poverty*, June 2016, pp. 1–15.

¹⁵ See, for example, Anna Wilde Matthews, “Insurers Losses Deepened on ACA Plan in 2015; Rising Medical Costs Were a Big Factor During Second Year of Health Law’s Exchanges,” *Wall Street Journal*, May 15, 2016; see also Reed Ableson and Margot Sanger-Katz, “A Quick Guide to Rising Obamacare Rates,” *New York Times*, October 25, 2016, p. A19.

both because the Patient and State Stability Fund allotments were not indexed to inflation and because states may have used less of the available funding over time due to matching requirements. In our model, these factors would have led consumers' out-of-pocket premiums to increase over time, causing reductions in enrollment in the individual market.

CBO also estimates that the AHCA would have reduced employer-sponsored insurance by 2 million people in 2020 and by 7 million in 2026; we did not estimate such an effect. The stability of employer coverage in our model was driven partly by the favorable tax treatment of employer-sponsored insurance, which would have been preserved under the AHCA. In addition, based on enrollment and premium levels observed in pre-ACA data, we assume that most people would prefer an employer-sponsored policy to an equivalent, individual-market plan.¹⁶ It is possible that the availability of tax credits in the individual market would have made employer-sponsored insurance less attractive, particularly for younger workers in areas where individual-market premiums are relatively low. However, older workers, higher-income workers, and those in higher-cost geographic areas would have frequently benefited more from the employer tax advantage than from the individual-market tax credits. CBO previously estimated that employer-sponsored insurance would decline because of the tax credits offered under the ACA, but such declines have not yet occurred.¹⁷ As a result, CBO updated its baseline projections in January 2017 to reflect higher employer insurance enrollment and lower individual-market enrollment.¹⁸ However, for the purposes of estimating the effects of the AHCA, CBO used its March 2016 baseline, which may have overestimated the degree to which individual-market reforms would have reduced enrollment in employer-sponsored insurance.

¹⁶ This assumption is derived through the model's calibration process, described in more detail in the appendix.

¹⁷ Larry Levitt, Gary Claxton, Anthony D'Amico, and Cynthia Cox, *Assessing ACA Marketplace Enrollment*, Kaiser Family Foundation, March 4, 2016.

¹⁸ CBO, *The Budget and Economic Outlook, 2017–2027*, January 2017b.

Table 6. Impact of the AHCA on Coverage Relative to Current Law, RAND Relative to CBO

	RAND (millions)	CBO (millions)
Change from current law, 2020		
Total insured	-14.2	-21
Individual market	-4.1	-10
Employer-sponsored insurance	-0.3	-2
Medicaid	-9.8	-10
Other	0.0	0
Change from current law, 2026		
Total insured	-19.7	-24
Individual market	-6.9	-3
Employer-sponsored insurance	0.8	-7
Medicaid	-13.6	-14
Other	0.0	0

NOTES: Numbers may not sum due to rounding.

Because we estimated that fewer people would have lost coverage under the AHCA than CBO did, we also estimated that savings from reduced federal spending on coverage expansions would have been lower. As a result, we estimated that the AHCA would have increased the federal deficit by \$38 billion in 2020, compared with CBO’s much more modest estimate of a \$4.8 billion increase in the deficit in 2020. By 2026, we estimate that the AHCA would have led to a \$5 billion reduction in the deficit, compared with CBO’s \$64.3 billion deficit reduction in the same year. Our lower deficit effects in 2026 are partially explained by our lower reduction in insurance enrollment, which led us to estimate smaller savings relative to current law.¹⁹

In addition, RAND and CBO differ with respect to estimated federal Medicaid savings over time (Table 7). In 2020, RAND is very similar to CBO both with respect to Medicaid coverage changes (about 10 million fewer enrollees in both models) and with respect to federal Medicaid savings (\$64 billion savings in both models). In 2026, RAND and CBO continue to estimate similar Medicaid enrollment changes (about 14 million fewer enrollees in both models), but our savings estimates diverge from CBO’s, with RAND estimating \$112 billion in Medicaid savings, compared with CBO’s \$149 billion in Medicaid savings. While it is difficult to fully parse these differences, we think that the similarity in our 2020 numbers and 2026 coverage estimates masks differences in assumptions regarding how Medicaid per-capita allotments would have affected enrollment and costs. We assumed that states would have reduced enrollment in response to per-

¹⁹ CBO estimates that a sizable share of the enrollment reduction in 2026 would have come from reduction in employer-sponsored insurance. This change in employer coverage led to a revenue increase because CBO assumed that employers that dropped coverage would pass savings back to workers in the form of taxable compensation.

capita allotments, such that state spending after per-capita allotments were imposed was no higher than it would have been under current law. CBO also assumes that states may reduce enrollment, but it accounts for other possible responses, including that states might have eliminated optional Medicaid services, reduced payment for providers or insurers, or funded shortfalls out of state coffers. If states were able to save money through cutting benefits, or if they adapted to reductions in federal funding by increasing state payments, they would have been able to sustain higher levels of eligibility than RAND estimates. However, CBO also assumes that—in the absence of the AHCA—additional states would have expanded their Medicaid programs. Thus, many of the reductions in coverage estimated in CBO’s model in the AHCA scenario are coming from enrollees in nonexpansion states who would have become newly eligible for Medicaid under current law. RAND, in contrast, considers only enrollment changes coming from states that had either expanded Medicaid or announced intentions to expand Medicaid as of January 2017.

Together, these differences could imply that CBO’s reduction in enrollment disproportionately stemmed from newly eligible adults, whereas we assumed that states would cut eligibility from a mix of newly eligible and previously eligible (but nondisabled) adults. This difference in assumptions could have led to greater savings in CBO’s model because expansion adults receive a higher federal match and have higher per-capita spending than previously eligible adults.²⁰

Table 7. Impact of the AHCA on Medicaid and Tax Credit Spending, RAND Relative to CBO

	RAND (\$ billions)	CBO (\$ billions)
Change from current law, 2020		
Medicaid spending	-64	-64
Tax credits and cost-sharing reductions	-22	-32
Change from current law, 2026		
Medicaid spending	-112	-149
Tax credits and cost-sharing reductions	-46	-38

NOTES: Tax credit spending is the net change in tax credit spending after accounting for the reduction in spending on the ACA’s advance premium tax credits and the increase in spending on the AHCA’s age-based tax credits. A full accounting of the differences in deficit effects estimated by RAND and CBO is provided in the appendix.

²⁰ Centers for Medicare & Medicaid Services (CMS), Office of the Actuary, *2016 Actuarial Report on the Financial Outlook for Medicaid*, 2016.

Conclusion

To summarize, our analysis finds that the AHCA would have resulted in a reduction in health insurance enrollment of 14.2 million in 2020 and a reduction in health insurance enrollment of 19.7 million in 2026. While the magnitude of our estimated coverage reductions is smaller than those of CBO, our analysis confirms CBO’s general finding that the AHCA would have substantially reduced insurance enrollment relative to current law. Those without insurance under the AHCA would have tended to be older, sicker, and poorer than those currently uninsured. The reduction in insurance, particularly for these groups, could have left people at risk for medical bankruptcy or forgoing necessary care, and it could have increased providers’ uncompensated care burden.

While the debate has evolved since the AHCA was originally introduced, health reform remains relevant, as congressional lawmakers and the President continue to view repealing and replacing the ACA as a policy goal. The AHCA and other similar policy proposals, including Secretary of Health and Human Services Tom Price’s Empowering Patients First Act, contain tax credits that are available to a broad range of incomes, with limited targeting based on income and no targeting based on geographic costs. To retain current insurance enrollment levels without increasing the federal deficit, one possible solution would be to better target tax credits based on enrollees’ needs—for example, by increasing the amount of funding available for lower-income individuals. In theory, such an approach could lead people to forgo employment opportunities or reduce their hours worked to retain eligibility for tax credits. However, evidence to date shows no such effects stemming from the ACA’s coverage expansions.²¹ In addition, policymakers might consider higher tax credits for older adults to address the concern that premiums increase more steeply than credit amounts.

²¹ A. Gooptu, A. S. Moriya, K. I. Simon, and B. D. Sommers, “Medicaid Expansion Did Not Result in Significant Employment Changes or Job Reductions in 2014,” *Health Affairs*, Vol. 35, No. 1, 2016, pp. 111–118; R. Kaestner, B. Garrett, A. Gangopadhyaya, and C. Fleming, “Effects of ACA Medicaid Expansions on Health Insurance Coverage and Labor Supply,” NBER Working Paper #21836, December 2015; and H. Levy, T. Buchmueller, and S. Nikpay, “The Effect of Health Reform on Retirement,” working paper presented at the 17th Annual Joint Meeting of the Retirement Research Consortium, August 2015. While there is no evidence that people reduce labor supply to take advantage of Medicaid expansion or tax credits, some studies have found that the employer mandate may have caused employers to shift workers from full- to part-time work. See, for example, M. Dillender, C. Heinrich, and S. Houseman, “Effects of the Affordable Care Act on Part-Time Employment: Early Evidence,” Upjohn Institute Working Paper #16-258, June 2016.

Methods Appendix: COMPARE Overview

COMPARE is a microsimulation model that uses economic theory, nationally representative data, and evidence from past experience to estimate how consumers and business will respond to health policy changes.²² The model creates a synthetic population of individuals, families, health expenditures, and firms using data from the 2008 Survey of Income and Program Participation, the MEPS, and the Kaiser Family Foundation Annual Survey of Employer Benefits.²³ We assigned each individual in the Survey of Income and Program Participation a spending amount using the spending of a similar individual from the MEPS; we then augmented spending imputations with data on high-cost claims from the Society of Actuaries. These adjustments account for the fact that the MEPS underrepresents individuals with high spending.

Individuals in COMPARE 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 any penalties the individual would face by remaining uninsured, including the risk of facing denial or being charged higher premiums at a later date. Premium costs are adjusted to account for tax credits, if such credits are available to the enrollee. All else being 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.

Businesses in the model make decisions by considering the value of health insurance to their workers. Tax credits for individual-market coverage and Medicaid eligibility expansions may reduce the value of health insurance to workers, leading firms to drop insurance. However, mandates requiring individuals to enroll in insurance, as well as mandates requiring firms to offer coverage, tend to increase the likelihood that a firm will offer insurance.

We calibrated the model to ensure that it accurately predicts outcomes for years in which complete data exist.

²² 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, 2013, pp. 78–117.

²³ Kaiser Family Foundation and Health Research & Educational Trust, *Employer Health Benefits: 2016 Annual Survey*, September 14, 2016.

Approach to Modeling the Affordable Care Act

To model individual and family health insurance enrollment decisions under the ACA, COMPARE uses a utility-maximization approach, in which decisionmakers weigh the costs and benefits of available options. The utility-maximization framework accounts for the tax penalty for not purchasing insurance, the value of health care consumption, premium costs, expected out-of-pocket health care spending, and financial risk associated with out-of-pocket spending. We scaled each of these components of utility to dollars and assume that they are additively separable.²⁴ We further assume that individuals' utilities are separable in consumption and health. The health-related component of the utility function is modeled as follows:

$$U_{ijk} = u(H_{ij}) - E(OOP_{ij}) - p_{ij}^{(H)} - \frac{1}{2}r\text{VAR}(OOP_{ij}) - (0.8 * \text{Penalty}_j) + \text{Calibration}_{jk}, \quad (1)$$

where $u(H_{ij})$ is the utility associated with consuming health care services for individual i under insurance option j , and k represents an individual's demographic group based on age, health status, and income. OOP_{ij} is the out-of-pocket spending expected, $p^{(H)}$ is the premium, and r is the coefficient of risk aversion. Possible health insurance enrollment choices (j) under the ACA may include employer coverage, Medicaid or CHIP, an ACA-compliant individual-market plan (including plans available on and off the marketplaces), or another source of coverage.²⁵ Individuals can also choose to forgo insurance. Not all individuals will have access to all forms of coverage. For example, access to Medicaid is contingent on eligibility, and individuals will have access to employer coverage only if they (or their spouse or parent) work for a business that offers insurance. The *Penalty* term represents the tax penalty associated with insurance status j , and it is 0 for all but the uninsured insurance status. We downweighted the tax penalty by a factor of 0.8 to capture the fact that, on average, the Internal Revenue Service collects only about 80 percent of taxes owed.²⁶ The term *calibration_{jk}* is a factor that adjusts utilities to match enrollment patterns observed in pre-ACA data. The term accounts for nonpecuniary factors that may influence preferences for different types of insurance; such factors include the convenience associated with enrolling in employer coverage and access constraints associated with Medicaid. Specific modeling strategies for each source of coverage j are described next.

Small-Group Employer Coverage. Small employers in the model choose whether to offer coverage based on workers' preferences and a small set of other factors, including industry and

²⁴ This approach follows D. P. Goldman, J. L. Buchanan, and E. B. Keeler, "Simulating the Impact of Medical Savings Accounts on Small Business," *Health Services Research*, Vol. 31, No. 1, Part I, April 2000, pp. 53–75.

²⁵ Other sources of coverage include Medicare for the nonelderly with qualifying conditions and military-related sources of coverage, such as TRICARE.

²⁶ U.S. Internal Revenue Service, *Tax Gap Estimates for Tax Years 2008–2010*, Washington, D.C., April 2016.

whether workers are unionized. Under the ACA, all small firms are part of a single risk pool with guaranteed issue; 3-to-1 rate banding on age; and restrictions that preclude insurers from charging different premiums to different groups other than based on geography, family size, tobacco use, and plan generosity. In the current version of the model, small-group market regulations apply to all firms with 50 or fewer employees, regardless of year. Earlier versions of the model expanded the small-group market to include firms with 100 or fewer workers after 2015, as originally intended by the ACA. We revised the definition because the Protecting Affordable Coverage for Employees Act, signed into law in late 2015, amended the ACA's definition of a *small employer* to include firms with one to 50 employees in perpetuity, unless states opt to extend the small-group market to firms with up to 100 workers. Small firms in the model are permitted to purchase a 60-percent, 70-percent, 80-percent, or 90-percent actuarial value plan on the ACA's regulated small-group market, which includes the Small Business Health Options Program (SHOP) marketplaces. Small firms in the model may retain grandfathered status, which exempts them from the ACA's rating regulations, although we assume that a certain percentage of small firms will lose grandfathered status each year.

The ACA also offers a small business tax credit to small firms with low-wage workers who obtain coverage through the SHOP marketplaces. Because firms can take advantage of these credits for only two years, we assume that all small firms will have exhausted their tax credit eligibility by 2020 (the year modeled in this analysis).

Large-Group Employer Coverage. Like small employers, large employers choose whether to offer coverage based on worker preferences and several other characteristics, including union status and industry. We allow large firms that offer coverage to choose between four different plans, which are distinguished by plan generosity and rated based on enrollees' expected health expenditures. We estimated premiums for the large-group market based on a regression. The firm's decision to offer is modeled using structural econometric techniques.²⁷

Medicaid. We modeled state Medicaid expansion decisions as of January 1, 2017,²⁸ and included North Carolina as a Medicaid expansion state.²⁹ We assume that, under the ACA, states with Medicaid eligibility thresholds that exceeded 138 percent of the FPL before 2014 will roll back their eligibility thresholds to 138 percent because of federally funded tax credits and cost-

²⁷ For more details, see the appendix in Christine Eibner, Federico Girosi, Amalia Miller, Amado Cordova, Elizabeth A. McGlynn, Nicholas M. Pace, Carter C. Price, Raffaele Vardavas, and Carole Roan Gresenz, *Employer Self-Insurance Decisions and the Implications of the Patient Protection and Affordable Care Act as Modified by the Health Care and Education Reconciliation Act of 2010 (ACA)*, Santa Monica, Calif.: RAND Corporation, TR-971-DOL, 2011.

²⁸ Kaiser Family Foundation, *Status of State Action on the Medicaid Expansion Decision*, January 1, 2017.

²⁹ North Carolina's governor announced plans to expand Medicaid, and—although there is uncertainty about whether the plans will move forward—we assumed that the state would expand by 2020. For a recent summary, see Richard Craver, "U.S. House ACA Reform May Turn Up Heat on N.C. Medicaid Expansion," *Winston-Salem Journal*, March 8, 2017.

sharing subsidies that become available to this group. In states that did not expand Medicaid, individuals who would have qualified for Medicaid expansion and have income above the FPL can obtain tax credits on the marketplaces. However, those with incomes below the FPL are ineligible for tax credits. Through our calibration process, the model accounts for the fact that not all Medicaid-eligible individuals chose to enroll, perhaps because of stigma, lack of information, or transaction costs associated with enrolling. To account for the fact that the ACA increased Medicaid enrollment among the previously eligible population, we increased the calibration parameter by a factor of approximately \$200 in the post-2014 period.

Individual Market. Under the ACA, the individual market consists of two components: (1) the insurance marketplaces where individuals can receive tax credits and (2) off-marketplace plans that comply with the ACA's rating requirements. Because the ACA requires all plans in the individual market to be rated together, we modeled on- and off-marketplace plans that are ACA-compliant as a single risk pool. Hence, we did not distinguish between enrollment in on-marketplace plans and in off-marketplace plans that comply with the ACA. In the ACA-compliant individual market, modeled individuals and families can purchase plans with a 60-percent, 70-percent, 80-percent, or 90-percent actuarial value, corresponding to bronze, silver, gold, and platinum plans on the marketplaces, respectively. We did not model catastrophic plans, which are available only to those who are under age 30 or who qualify for a hardship exemption from the individual mandate. According to a 2015 fact sheet published by CMS, less than 1 percent of all marketplace enrollees have selected catastrophic coverage.³⁰

ACA-compliant individual-market premiums are calculated endogenously in the model based on the health expenditure profile of those who choose to enroll. The total, unsubsidized premium is based on enrollees' age, smoking status, and the market rating reforms implemented under the ACA.³¹ We modeled 3-to-1 rate banding on age for adults ages 21 and older, with a separate age band for children and young adults under age 21. We also accounted for the ACA's risk-adjustment requirements, which transfer funds from plans with lower-than-average actuarial risk to plans with higher-than-average actuarial risk.

Under the ACA, the actual premium that an enrollee pays is adjusted to account for tax credits available to qualifying individuals with incomes between 100 percent and 400 percent of the FPL who do not have affordable offers of insurance from another source (e.g., employer coverage, Medicaid). We applied the ACA's subsidy formula using the benchmark silver premium and the individual's income. Eligible individuals who have income between 100 percent and 250 percent of the FPL can also receive cost-sharing subsidies that help to lower out-of-pocket spending. As required by the ACA, individuals receiving cost-sharing subsidies in

³⁰ CMS, *Fact Sheet: March 31, 2015 Effectuated Enrollment Snapshot*, June 2, 2015.

³¹ Patient Protection and Affordable Care Act; Health Insurance Market Rules; Rate Review, *Federal Register*, Vol. 78, February 27, 2013, p. 13405.

COMPARE must purchase a silver plan (70-percent actuarial value), and out-of-pocket spending is reduced to the equivalent of a 94-percent, 87-percent, or 73-percent actuarial value plan if the individual’s income is between 100 and 150 percent, 150 and 200 percent, or 200 and 250 percent of the FPL, respectively. Note that out-of-pocket spending enters the individual’s utility function; hence, individuals receiving cost-sharing subsidies are more likely to purchase coverage.

Comparison with CBO Estimates. Table A.1 compares the current COMPARE insurance estimates for 2020 under current law with those of CBO. We consider both CBO’s March 2016 baseline,³² which it used in its estimates of the effects of the AHCA, and a subsequent update from January 2017.³³ The January update revised CBO’s estimate of the number of enrollees in the individual market downward. Although the January update reported only individual-market coverage and the number of uninsured individuals, the text stated that the reduction in estimated individual-market enrollment was largely offset by revising upward the number of enrollees in employer-sponsored coverage. After accounting for these changes, RAND’s estimates are very similar to CBO’s. One remaining difference is that CBO allows people to have more than one source of health insurance coverage, so the numbers in its 2016 baseline do not sum to population totals. RAND assigns everyone a primary insurance category and does not account for multiple sources of coverage. This accounting difference may explain why CBO estimates more Medicaid enrollees than RAND.

Table A.1. Insurance Enrollment by Source of Coverage Under the ACA, COMPARE and CBO, 2020

	CBO, March 2016 (millions)	CBO, January 2017 (millions)	RAND COMPARE (millions)
Total insured	249	—	252.4
Employer	152	—	155.6
Medicaid	68	—	61.8
Individual	27	21	22.4
Other	14	—	12.5
Uninsured	27	28	25.7
Total population	276	—	278
Share uninsured	9.8%	—	9.2%

SOURCE: CBO estimates from CBO, 2016, and CBO, 2017a.

NOTE: Estimates reflect current law (the ACA), assuming that the individual mandate is enforced and cost-sharing reductions are funded. CBO’s numbers do not sum to population totals because they allow individuals to be assigned to more than one source of insurance coverage. CBO’s January 2017 update reported estimates only for individual-market coverage and the number uninsured.

³² CBO, *Federal Subsidies for Health Insurance Coverage for People Under Age 65: 2016 to 2026*, Washington, D.C., March 2016.

³³ CBO, “Federal Subsidies Under the Affordable Care Act for Health Insurance Coverage Related to the Expansion of Medicaid and Nongroup Health Insurance: Tables from CBO’s January 2017 Baseline,” 2017a.

Approach to Modeling the American Health Care Act

Tax Credits. To model the AHCA’s tax credits, we replaced the ACA tax credits described earlier with tax credits that vary with age, as follows:

- \$2,000 for those under age 30
- \$2,500 for those ages 30 to 39
- \$3,000 for those ages 40 to 49
- \$3,500 for those ages 50 to 59
- \$4,000 for those ages 60 and older.

For families, credits are capped at the lesser of \$14,000 or the maximum combined credit amount for the five oldest members. Credits are not available to individuals with access to job-based coverage, Medicaid, or other public insurance. Single tax filers with incomes under \$75,000 (620 percent of the FPL in 2017) and joint filers with incomes under \$150,000 (920 percent of the FPL for a family of two) receive the full amount of the credit. We reduced the credit for those with incomes above these thresholds, allowing the amounts to decline by \$100 for every \$1,000 in income.

Medicaid. We modeled the capped allotment amount by calculating average Medicaid spending for three groups in 2016: children, nondisabled adults, and disabled individuals. We then applied the regular federal matching percentage for each state and projected these amounts forward to 2020 using the CPI-M for children and nondisabled adults and the CPI-M plus 1 percentage point for disabled adults. We used the same projected growth rate in CPI-M as CBO, 3.7 percent per year, which is below the projected 4.4 percent annual growth rate for per-capita Medicaid spending. The divergence in growth rates creates a shortfall in all states because the federal allocation for children and nondisabled adults does not keep pace with inflation. Medicaid expansion states face an additional shortfall because they will no longer receive enhanced FMAPs for the expansion population. We assume that states will reduce eligibility for nondisabled adults to ensure that their total spending on the Medicaid program will not exceed projected spending under current law. We assume that all nondisabled adults receive the capped allotments based on the state’s regular federal matching percentage, without accounting for grandfathered enrollees who receive a higher allotment amount. Because the AHCA increased the frequency of Medicaid redeterminations, we anticipated that these grandfathered enrollees would churn out of the program relatively quickly. Prior research has found that half of all individuals with incomes under 200 percent of the FPL experience a change in eligibility for Medicaid coverage because of income churning within a 12-month period.³⁴

³⁴ Benjamin Sommers, John Graves, Katherine Swartz, and Sarah Rosenbaum, “Medicaid and Marketplace Eligibility Changes Will Occur Often in All States: Policy Options Can Ease Impact,” *Health Affairs*, Vol. 33, No. 4, March 2014, pp. 700–707.

This approach causes the Medicaid eligibility threshold in expansion states to fall from 138 percent of the FPL to an average of 24 percent of the FPL, with a range of 0 to 86 percent, in 2020 as states cut back eligibility to account for the lower FMAPs and the divergence between the allotment amount and CPI-M. In 2026, eligibility thresholds in expansion states would fall to an average of 11 percent, with a range of 0 to 23 percent. We additionally accounted for “trigger” laws in Arkansas, Illinois, Indiana, and New Hampshire that would require these states to eliminate Medicaid expansion if enhanced FMAPs were rescinded.³⁵ We assumed that states would also reduce their eligibility thresholds for previously eligible adults to make up for the difference in the rate of growth in expected costs for the previously eligible population and the rate of growth in the per-capita allotment.

We assumed that one state, North Carolina, would expand Medicaid by 2020 if the ACA continues. Because North Carolina’s expansion is currently in progress, we assumed that the state would stop moving forward if the AHCA were enacted, leading to no expansion in that state.

Age Rating. We modeled the change to 5-to-1 rating by adapting 3-to-1 age rating factors used in most states under current law and developed by the Center for Consumer Information and Insurance Oversight (CCIIO) Office of the Actuary in consultation with the National Association of Insurance Commissioners.³⁶ We adapted the CCIIO rating factors using the following formula:

$$5\text{-to-1 rating factor} = (2 * (3\text{-to-1 rating factor})) - 1. \quad (2)$$

Hence, for a 40-year-old, the rating factor increases from 1.278 to 1.556 under 5-to-1 rate banding. For a 64-year-old, the rating factor increases from 3 to 5. Following the CCIIO rating factors, we continue to assume that children and young adults under age 21 will be charged 63.5 percent of the premium charged to a 21-year-old under 5-to-1 rate banding. The formula in Equation 1 is designed to preserve the general shape of CMS’s standard rating curve while steepening the gradient so that a 64-year-old is now charged five times as much as a 21-year-old.

Continuous Coverage Provision. The AHCA would have required insurers to charge people who failed to maintain continuous coverage a 30-percent surcharge for up to 12 months. We assume that people consider the potential future cost when they make health insurance

³⁵ While four additional states have trigger provisions, these other states would allow Medicaid expansion to continue if the state were able to make additional cuts to ensure that spending remained constant. For additional information, see Edwin Park, Matt Broaddus, Jesse Cross-Call, and Jessica Schubel, *House Republican Proposals to Radically Overhaul Medicaid Would Shift Costs, Risks to States*, Center on Budget and Policy Priorities, February 24, 2017.

³⁶ Patient Protection and Affordable Care Act; Health Insurance Market Rules; Rate Review, *Federal Register*, Vol. 78, February 27, 2013, p. 13405.

enrollment decisions. To model this, we decreased the utility of being uninsured by a cost factor that reflects the present discounted value of the 30-percent surcharge, multiplied by the probability of transitioning to fair or poor health in the next year. We estimated these transition probabilities by age and gender, using data from the MEPS. Specifically, the cost factor is as follows:

$$\text{Cost factor} = (1 / 1 + d) * 0.30 * \text{premium}_{t+1} * \text{prob}(\text{Sick}_{t+1}), \quad (3)$$

where d is a discount rate of 3 percent, premium_{t+1} is the premium the individual would face next year given his or her age, and $\text{prob}(\text{Sick}_{t+1})$ is the age- and gender-specific probability that the individual will transition to poor or fair health status within one year. The cost factor enters the individual's utility function (Equation 1) in place of the individual mandate penalty.

On its own, the cost factor modeled in Equation 3 would tend to decrease the utility of being uninsured and lead to higher insurance enrollment. However, the continuous coverage requirement would have caused those who were uninsured in the prior period to face higher premiums for individual and small-group coverage. These higher premiums enter the individuals' utility function and may lead to *reduced* enrollment among those facing the surcharge.

Patient and State Stability Fund. The AHCA would have set aside \$100 billion in funding over nine years for states to stabilize insurance markets and to assist high-cost individuals. We assume that states would have used this money to establish high-risk pools that segregated the costliest 1 percent of enrollees into a separate insurance pool. This approach would have reduced total spending in the standard-risk pool, thus leading to lower premiums for those enrolled in the standard market. We assume that high-risk pool assignments are imperfect by sampling individuals to be selected for the high-risk pool with a probability that is proportional to (total expenditures) ^{p} , where p equals 0.3.³⁷ We assume that individuals directed to the high-risk pool cannot be charged more than they would have been charged in the standard market. This approach is similar to the “invisible” high-risk pool model adopted previously in Maine.³⁸

Health Savings Accounts. The AHCA would have expanded the use of HSAs—tax-advantaged savings accounts that must be paired with a high-deductible health plan and that can be used to fund out-of-pocket spending not covered by one's insurance plan (e.g., copayments,

³⁷ When p is very small, individuals are selected for the high-risk pool with a nearly uniform probability, representing a scenario in which the selection criteria have a very poor ability to predict individuals' health care expenditures. When p is very large, the criteria by which individuals are selected for the high-risk pool is nearly perfect, and those selected for the high-risk pool have the highest expenditures. We use $p = 0.3$, which represents criteria for selection into the high-risk pool that is moderately good at predicting which individuals will have high expenditures.

³⁸ Joel Allumbaugh, Tarren Bragden, and Josh Archambault, “Invisible High-Risk Pools: How Congress Can Lower Premiums and Deal with Pre-Existing Conditions,” Health Affairs Blog, March 2, 2017.

deductibles). We assume that the increased availability of low actuarial value plans, along with increased incentives to use HSAs, increases uptake and contributions among individual-market enrollees relative to current law.

We calculated the increase in the HSA-eligible population by comparing the number of people who have low actuarial value plans (60-percent actuarial value) under current law with those who would have had low actuarial value plans under the AHCA. Among those newly eligible for HSAs under the AHCA, we assumed that a fraction would establish an HSA and that the likelihood of establishing and contributing to an account increased with income and age. To implement these assumptions, we assume that the probability of establishing an account given a specific income level is the same as the probability of filing an itemized tax return given that income level. Tax-filing probabilities by income come from data published by the Congressional Research Service.³⁹ Based on data published by the Employee Benefit Research Institute,⁴⁰ we assume that 45 percent of those who establish an account make a contribution to that account in a given year and that average contributions conditional on making any contribution vary with age.

Because HSAs are tax-advantaged, the major effect of HSAs in our model is to reduce federal government revenue due to forgone tax collections.

Accounting for Wage Changes Resulting from Changes in Employer Coverage. This version of the model adjusts federal revenue to account for the fact that, if employers drop or begin offering health insurance coverage, the taxable wage base will change. Following CBO, we assume that employers' total compensation will remain fixed regardless of whether they provide insurance or how many workers enroll in that insurance. As a result, if insurance take-up declines, or if the firm drops coverage, wages will increase to keep the total compensation equivalent. Similarly, if firms newly begin to offer coverage, or if workers newly take up existing offers, wages will decline. Because employer-sponsored coverage is not subject to federal income or payroll taxes, this dynamic causes federal tax revenue to increase when employers drop coverage and to decline when employers offer coverage. We account for these changes using average marginal tax rates from the National Bureau of Economic Research's TAXSIM model, which calculates tax liabilities under current tax laws. As implemented, this change affects federal revenue only; we did not take the added step of adjusting workers' incomes to reflect the changing wage levels.

Accounting for Geographic Variation in Health Care Prices. COMPARE is a national-level model, and in most previous work, we have not captured geographic variation in premium levels. However, the AHCA may have had important regional effects on insurance affordability because the AHCA's individual-market tax credits were not adjusted to account for local prices. To

³⁹ Sean Lowry, *Itemized Tax Deductions for Individuals: Data Analysis*, Congressional Research Service, R43012, February 12, 2014.

⁴⁰ Paul Fronstin, *Health Savings Account Balances, Contributions, Distributions, and Other Vital Statistics, 2015: Estimates from the EBRI HSA Database*, Issue Brief No. 427, November 29, 2017.

capture this effect, we estimated state-specific premiums by adjusting the national premium predicted by the model by a geographic price index based on average 2016 premiums in the health insurance marketplaces for each state, weighted across rating areas. The index ranges from 2.32 in Alaska to 0.79 in Washington, D.C., with a population-weighted national average of 1.⁴¹

Our approach to addressing geographic variation in health care costs reflects that consumers in high-cost states (such as Alaska and North Carolina) could see premium contributions more than triple, while consumers in lower-cost states (such as New Mexico and Arizona) could see premium contributions decline.⁴² However, our model is not granular enough to reflect premium variation at the substate level. The Kaiser Family Foundation estimates that the AHCA's tax credits could have led to significant winners and losers across localities and that, nationwide, the average tax credit in 2020 would have declined by 36 percent, from \$4,615 to \$2,957, under the AHCA.⁴³

Deficit Impact. We used CBO and the Joint Committee on Taxation's estimates to account for the deficit effects not modeled in our study, primarily taxes and fees that are included under current law but would have been repealed under the AHCA. To estimate the deficit impact of these remaining items, we summed CBO's estimates for all of the effects accounted for in the RAND model (Table A.2). We then subtracted CBO's estimate of these effects (–\$70 billion in 2020, –\$176 billion in 2026) from CBO's estimate of the AHCA's total deficit impact in each year. This results in a net \$75 billion in deficit-increasing impacts in 2020 and \$111 billion in 2026. These effects include the repeal of the additional Medicare hospital insurance tax for high-income individuals, repeal of a branded prescription drug tax, repeal of a net investment tax, increases in Disproportionate Share Hospital payments, and several other changes.

One notable difference between RAND and CBO's estimates is that, although our estimated reduction in Medicaid enrollment is very similar in both years, the cost of this reduction is lower in the RAND model than in the CBO model in 2026. As described in the main text of our report, this difference may reflect differences in assumptions about the share of enrollment reductions stemming from newly eligible adults (who would receive 90-percent federal matching) and previously eligible adults.

⁴¹ We calculated this index based on data reported by Jon Gabel, Heidi Whitmore, Adrienne Call, Matthew Green, Rebecca Oran, and Sam Stromberg, *Health Insurance Marketplace Premiums: Single and Family Premiums by State*, The Commonwealth Fund, January 28, 2016.

⁴² Aviva Aron-Dine and Tara Staw, *House Tax Credits Would Make Insurance Far Less Affordable in High-Cost States*, Center for Budget and Policy Priorities, March 9, 2017.

⁴³ Cox, Claxton, and Levitt, 2017.

Table A.2. Deficit Effects Estimated in Both RAND and CBO’s Analyses of the American Health Care Act, 2020

Item Affecting the Deficit	2020		2026	
	CBO (\$ billions)	RAND COMPARE (\$ billions)	CBO (\$ billions)	RAND COMPARE (\$ billions)
Medicaid	-64	-64	-149	-112
Tax credits and cost-sharing reductions	-32	-22	-38	-46
Patient and State Stability Fund ^a	15	15	8	8
Individual mandate	3	9	5	11
Employer mandate	15	14	23	19
Change in tax revenue from change in employer-sponsored insurance ^b	-4	-0.3	-18	4
Change in tax revenue from HSA expansion ^c	0	0.5	0.1	0.3
Tax on high-cost health plans ^d	-3.4	-10	-6.6	0
Total	-70	-57	-176	-115

SOURCE: CBO estimates come from CBO, 2017d. All effects estimated come from CBO, 2017d, Table 3, except the HSA effects and the tax on high-cost health plans, which are reported in Table 2. Numbers may not sum exactly to 100 because of rounding.

^a Following CBO, we assume that the costs associated with reinsurance accrue in the year after the funds are allocated. So, in 2020, we account for the \$15 billion in reinsurance funding allocated in 2019.

^b CBO labels this effect “other effects on revenues and outlays.”

^c For CBO, this item captures lost revenue stemming from allowing spouses to make catch-up contributions to HSAs.

^d CBO labels this effect “repeal of the tax on employee health insurance premiums and health plan benefits.”

Individual-Market Premiums. We estimate individual-market premiums endogenously in the model, based on the health expenditure of individual-market enrollees, plan actuarial values, and individual-market rating regulations, assuming a minimum loss ratio of 80 percent. The modeling approach accounts for the many ways that the AHCA would have influenced individual-market premiums, including the following:

- The repeal of the individual mandate would have tended to cause healthier people to drop coverage, leading to increased premiums.
- The continuous-coverage provision would have caused some people to stay enrolled, particularly older adults for whom the 30-percent upcharge represented a larger amount relative to younger enrollees.
- The change in age rating would have reduced costs for younger enrollees and increased costs for older enrollees, affecting the age distribution of the risk pool.
- The change in the tax-credit structure would have affected enrollment decisions, generally increasing enrollment among younger and higher-income individuals.
- The high-risk pool would have removed some of the costliest individuals from the standard risk pool.

Table A.3 shows the age-specific premiums that we estimated under current law and the AHCA for a 70-percent actuarial value plan.

Table A.3. Age-Specific Total Premiums, 70-Percent Actuarial Value Plan

Age	2020		2026	
	Current Law	AHCA	Current Law	AHCA
21	\$4,000	\$2,900	\$6,060	\$4,340
30	\$4,710	\$3,930	\$7,140	\$5,880
40	\$5,330	\$4,820	\$8,070	\$7,220
50	\$7,830	\$8,440	\$11,850	\$12,630
60	\$11,480	\$13,740	\$17,390	\$20,560

Sensitivity to Assumptions About the Individual Market

To estimate the effects of the AHCA, we needed to make many assumptions about consumer behavior, insurer behavior, and state response to policy changes. Assumptions about consumer and insurer behavior in the individual market are particularly important for the 2020 results. As described in the main text, CBO assumes that individual-market insurers may price inaccurately in 2020 and that consumers may not enroll in coverage because of confusion over the number of options available and other factors. Consumer enrollment decisions may also be sensitive to assumptions about the effect of the continuous coverage provision, something with which we have relatively little experience.

In Table A.4, we show coverage estimates for 2020 under alternative assumptions about policies and behaviors that affect individual-market enrollment. The specific sensitivity analyses that we consider are as follows:

- **No continuous coverage requirement:** In this scenario, we assume that there is no continuous coverage requirement.
- **Insurers overprice:** We assume that individual-market insurers are overly conservative when they set premiums in 2020, resulting in premiums that are high relative to enrollees' claims. To operationalize the overpricing assumption, we decrease the average medical loss ratio (MLR) in the individual market by 7.5 percentage points, from 83 percent in our main analyses to 75.5 in the sensitivity analyses. This 7.5-percentage-point reduction approximates the average MLR in the individual market prior to the ACA.⁴⁴ The reduction in MLR is equivalent to a 12-percentage-point increase in insurers' administrative load. This increase can be interpreted as an increase in the "risk premium" that insurers charge.⁴⁵

⁴⁴ Government Accountability Office, *Private Health Insurance: Early Indicators Show That Most Insurers Would Have Met or Exceeded New Medical Loss Ratio Standards*, GAO-12-90R, letter to Robert E. Andrews and John F. Tierney, House of Representatives, October 31, 2011.

⁴⁵ The MLR represents the share of premium collections spent on health insurance claims, as opposed to insurer profits and administrative costs. The ACA set a minimum MLR of 80 percent in the individual market and required insurers to return excess premiums to enrollees if the MLR exceeded the required level. The AHCA would not have

- **50-percent actuarial value plan:** In this scenario, we assume that a 50-percent actuarial value plan is available in the individual market. Such a plan would, on average, cover half of enrollees’ health expenditures. CBO has argued that because the ACA’s annual limits on consumer out-of-pocket spending would have remained in place under the AHCA, it might be impossible to offer a plan with a 50-percent actuarial value. However, a future bill could make additional changes—such as increasing consumer out-of-pocket spending limits—that would make it possible for insurers to offer low-benefit plans. We assume that the 50-percent actuarial value plan is risk-adjusted along with other individual-market plans, including those with higher actuarial values.
- **Individual-market reinsurance only:** We assume that the Patient and State Stability Fund would have been used solely to fund reinsurance in the individual market. In our main analysis, we assumed that half of the Patient and State Stability Fund would have been used for reinsurance in the individual market, and the other half would have been used for reinsurance in the small group market.
- **No reinsurance:** Here, we assume that there would be no reinsurance funding available in either the individual or small-group markets. Although it is likely that states would have used the Patient and State Stability Fund for reinsurance, the fund could be used for other purposes, such as prevention and public health. In addition, the Fund expires after 2026. The “no reinsurance” scenario provides a sense of the importance of reinsurance to the stability of the individual market.

Table A.4. Change in Enrollment and Deficit Impact Under the AHCA Relative to Current Law, Alternative Assumptions, 2020

	AHCA Original Assumptions	No Continuous Coverage	Insurers Overprice	50-Percent Actuarial Value Plan	Individual- Market Reinsurance Only	No Reinsurance
Enrollment, in millions (change relative to the ACA)						
Total insured	-14.2	-15.1	-17.6	-11.4	-12.8	-17.2
Individual market	-4.1	-3.8	-7.2	-0.1	-2.2	-7.5
Employer coverage	-0.3	-1.4	-0.7	-1.5	-0.7	0.2
Medicaid	-9.8	-10.0	-9.7	-9.7	-9.9	-9.9
Net deficit effect, in billions (relative to the ACA)						
Net change	\$38	\$38	\$31	\$48	\$40	\$32

repealed this requirement. We did not account for the fact that, by reducing the MLR, insurers would have been required to pass savings back to enrollees at the end of the plan year.

While our finding that the AHCA would have led to a reduction in coverage in 2020 is robust, the magnitude of the coverage change is highly dependent on assumptions about the individual market. Using alternative assumptions about continuous coverage, insurer behavior, and the presence of low-actuarial-value plans, we find that the change in individual-market enrollment in 2020 relative to the ACA could be a reduction of 0.1 to 7.5 million enrollees. We find almost no change in individual-market enrollment in the scenario in which we assume that policies with 50-percent actuarial values are available. Because such policies would require increasing annual consumer out-of-pocket maximums, they would leave consumers exposed to greater financial risk than under current law. We find the largest reduction in individual-market enrollment in the scenario in which we eliminate reinsurance funding—such a change would cause individual-market enrollment to decrease by 7.5 million relative to the ACA. If the entire Patient and State Stability Fund were used to provide reinsurance in the individual market (instead of being partly allocated to the small-group market), individual-market enrollment would fall by only 2.2 million individuals. These analyses demonstrate the importance of reinsurance to the overall stability of the individual-market risk pool, as well as the importance of assumptions about how states use the Patient and State Stability Fund.

The scenario in which insurers overprice also leads to large declines in individual-market enrollment and increases the total uninsured population to nearly 18 million. We estimate that eliminating the continuous coverage provision would have had little overall effect on enrollment. This is because the threat of the penalty creates a relatively weak incentive to enroll in coverage in any given year. However, among those who experienced a gap in coverage, the 30-percent increase in premiums in the individual and small-group market creates a barrier that may reduce enrollment. As a result, individual-market enrollment hardly changes when we eliminate the continuous coverage requirement. Employer coverage falls by 1.4 million when we eliminate the continuous coverage provision. This is because we assume that workers at large firms consider the penalty when they make insurance decisions, even though large-group plans would not be required to levy a surcharge on enrollees who did not maintain continuous coverage.⁴⁶

⁴⁶ Because the penalty is downweighted by the probability of transitioning to poor or fair health, the impact of the penalty on enrollment decisions is small. We assume that large-group workers might worry about their ability to maintain access to employer coverage if they transitioned to poor or fair health (e.g., if they became too sick to work) and hence would be influenced by the penalties in the individual market.

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