

Public Options for Individual Health Insurance

Assessing the Effects of Four Public Option Alternatives

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Preface

This report analyzes policy options that allow people to enroll in public health insurance plans. We consider public option scenarios with the public plan offered on or off the individual Health Insurance Marketplaces, varying provider payment rates, and the marginal effect of extending premium tax credits. For each scenario, we estimate enrollment, premiums, and federal subsidy spending.

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Summary

Background

State and federal policymakers have signaled a growing interest in creating a “public option” for individual market insurance, broadly defined as an insurance plan with access to publicly determined payment rates. In 2019, members of Congress introduced four different bills that would create a federal public option offered to individuals eligible for insurance coverage on the individual Marketplaces (KFF, 2019b). In addition, former vice president Joe Biden and several Democratic primary candidates who ran in the 2020 presidential election include public options in their health reform platforms. As of June 2019, at least 18 states had considered legislation for a public option or a Medicaid buy-in option, and one state—Washington—had passed such legislation (Meyer, 2019). While many public option proposals would create government-run insurance plans that would compete with other private insurance plans, some propose plans administered by insurance carriers that operate under government oversight and set requirements. For example, the Washington state public option contracts with insurance carriers through a bidding process and imposes rate limits on plans (WA SB 5526, 2019).

In this analysis, we use a microsimulation approach to estimate how the addition of a federal public option for individual market insurance could affect overall insurance coverage, individual market enrollment, and premiums for individual market enrollees. We consider four designs for public plans that vary based on what rates providers are paid, whether the public option is implemented on the Health Insurance Marketplaces (or “Exchanges”) or off the Marketplaces, and whether premium tax credits are available to higher-income individuals.

The scenarios that we consider are as follows:

1. public option off the Marketplaces, payment set at 79 percent of commercial rates
2. public option on the Marketplaces, payment set at 79 percent of commercial rates
3. public option on the Marketplaces, payment set at 93 percent of commercial rates
4. public option on the Marketplaces, payment set at 93 percent of commercial rates, tax credits available up to 500 percent of the federal poverty level (FPL).

The objective of this work is to show the effects of public option alternatives on individuals and federal government spending. We also assess changes to affordability of coverage for individuals with access to federal marketplace subsidies and those without such access. Although we analyze public options as if they are available nationally, the trends and policy implications may be of interest to states considering a public option.

Key Assumptions

In all scenarios, we assume that the public option for individual market insurance would offer bronze, silver, gold, and platinum tiers of actuarial-based coverage generosity. Furthermore, we assume that the public option is part of the individual market, that is, part of a single risk pool with other individual market plans and risk adjustment between plans. In this report, we refer to other individual market premiums as “private” individual market premiums. The public option could be offered as government-run health plans or government-sponsored health plans by contracted insurers that are subject to government oversight over provider payment rates and other standards.

For this modeling analysis, we assume that providers are willing to contract at lower payment rates and that adequate provider networks can be formed. We model two rates, with the larger payment reduction set between Medicaid and commercial rates and the smaller payment reduction based on allowable rates in the Washington state public option. For scenarios 1 and 2, we assume that public payment rates would be set at 79 percent of private rates, which reflects a weighted average of Medicaid and private rates that is 40 percent above Medicaid rates and is calculated using relative payment rates weighted by health care expenditures for each payer. For scenarios 3 and 4, we assume that payment rates would be set at 93 percent of payment rates. Although we model a federal public option, we determined the 93 percent rate based on an estimate of the difference between the allowable rate for Washington state’s public option and current commercial rates in Washington state. The Washington state law enacting a public option stipulates that rates may not exceed 160 percent of Medicare rates for providers excluding pharmacy benefits (WA SB 5526, 2019), and current payment rates by individual market plans are estimated to be 174 percent of Medicare rates (Cousart, 2019). We also assume that the addition of the public option with lower provider-payment rates would put downward pressure on private individual market premiums, due to increased competition with the introduction of the lower-cost public option.

We assume that public plan enrollees could apply their advance premium tax credits (APTCs) to the public plan or receive APTC pass-through amounts equal to APTCs they would have on private individual market plans.¹ Under current law, individuals with income between 100 and 400 percent of the federal poverty level and no other affordable source of insurance are eligible for APTCs equal to the difference between the “benchmark” second-lowest-cost-silver premium available to an individual and the income-based required contribution.² In scenario 1,

¹ For an off-Marketplace public option, a state could apply for a Section 1332 waiver to redirect federal APTC funding for Marketplace enrollees to APTC pass-through amounts for public plan enrollees.

² The income-based required contribution for 2020 ranges from 2.06 percent of income for individuals with income between 100 and 133 percent of FPL to 9.78 percent for those with income between 300 and 400 percent of FPL (IRS, 2019).

the private silver plan remains the benchmark plan for calculating consumers' APTCs, because the public option is offered off the Marketplaces. In scenarios 2, 3, and 4, we assume the public silver plan becomes the benchmark plan.

We assume that the federal government continues to withhold payments for cost-sharing reductions (CSRs), and hence the costs of CSRs are loaded onto silver premiums.³ We assume that CSR loading occurs in both the public and the private plan options. Except for the extended APTCs up to 500 percent of FPL in scenario 4, we do not consider additional subsidies that may be possible if there are federal savings when a public option is available.

Finally, the modeling results reflect enrollment and premiums in a steady-state equilibrium. We do not assess transition periods in which awareness of plans and plan changes may take several years of implementation before reaching a steady state.

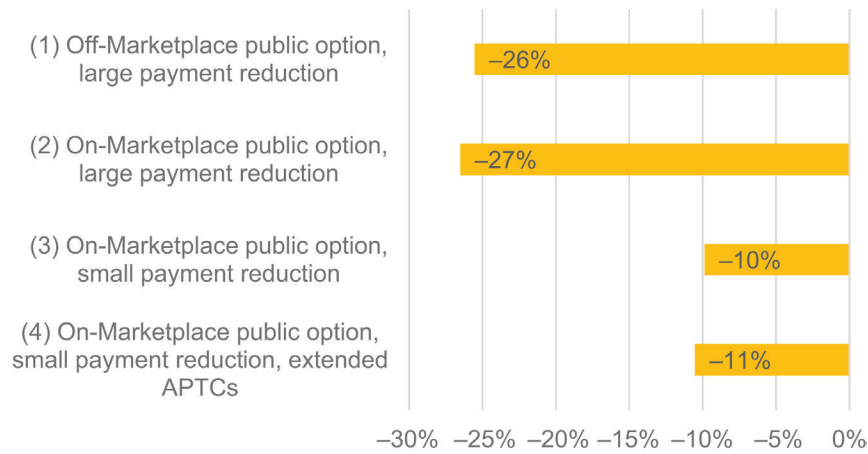
Findings

Public Option Premiums Were Substantially Lower Than Private Individual Market Premiums

Across the scenarios that we considered, public option premiums were between 10 and 27 percent lower than private individual market premiums (Figure S.1). Most of the difference in premiums was attributable to lower provider payment rates in the public option. In addition, we assumed that sicker and more expensive people would tend to prefer private plans, due to perceived or actual concerns about provider access on the public option. As a result, private premiums in some marketplace tiers increased when we modeled the public plan, even after accounting for risk adjustment and downward pressure on private premiums due to competition. Risk adjustment did not fully account for the higher-cost private enrollees because lower public payment rates deflated the pool of funding available for risk adjustment transfers.

³ CSRs are available to Marketplace enrollees; however, the Trump administration halted federal payment of these subsidies in 2017. To fund CSR payments, insurers have increased premiums for silver plans on the Marketplaces, a practice known as “silver loading.” Because APTCs are benchmarked to the second-lowest-cost silver premium available to the enrollee, silver loading has the effect of increasing APTC amounts for all APTC-eligible enrollees.

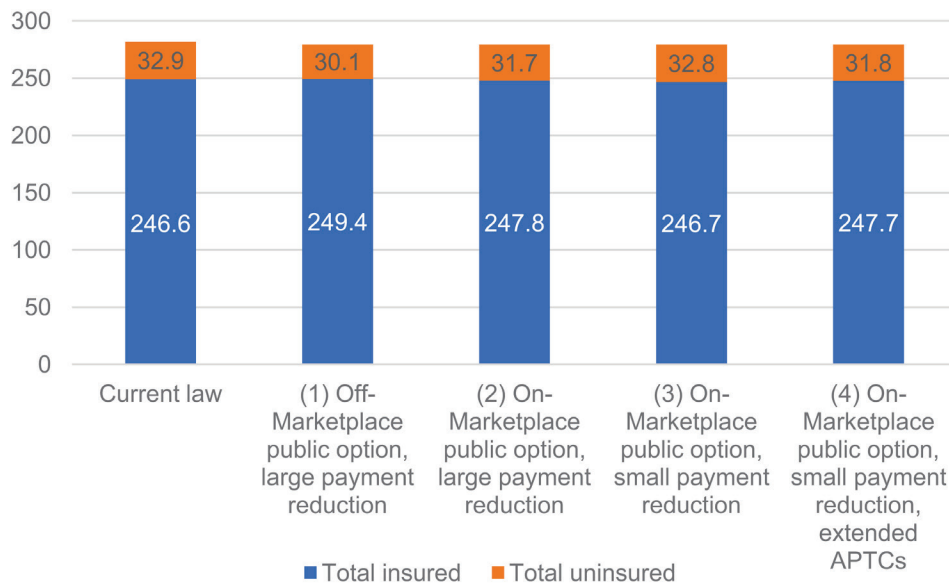
Figure S.1. Percent Difference Between Gold Public Option Premiums and Private Individual Market Premiums, 2022



Small Changes in Health Insurance Enrollment in Most Scenarios

In scenario 1, in which the public option was offered off the Marketplaces (and hence did not directly affect the benchmark premium and APTC amounts), the addition of the public option led to a 2.8 million-person decrease in the number of uninsured (8-percent decrease relative to current law) (Figure S.2). In the other three scenarios, the addition of the public option had a

Figure S.2. Total Insured and Uninsured, Millions, 2022

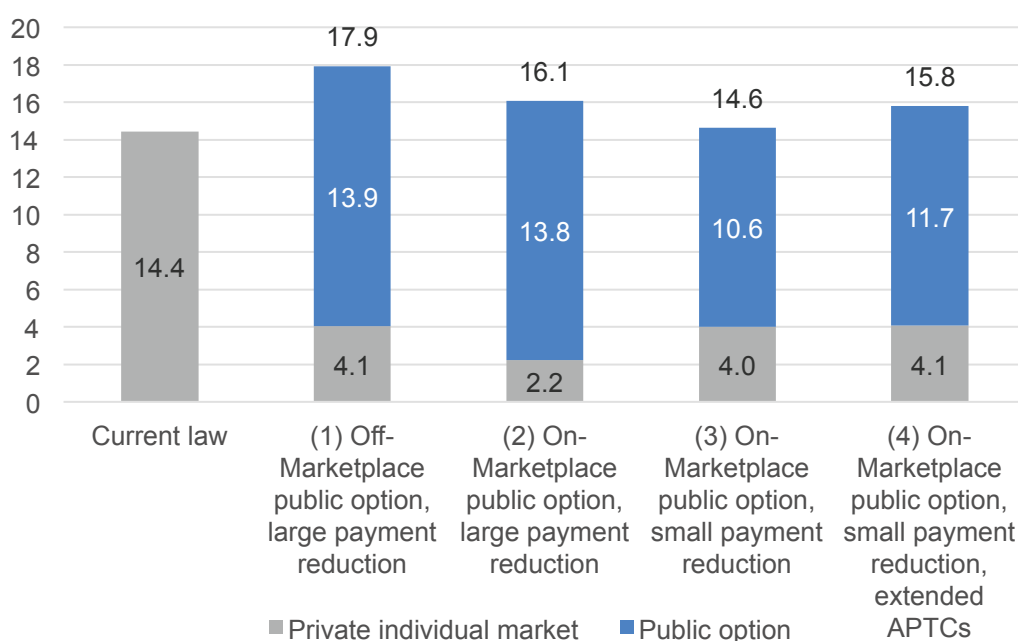


smaller effect on insurance enrollment, with 1.1 to 1.2 million fewer uninsured in scenarios 2 and 4 and a marginal decrease in uninsured in scenario 3. The marginal change in uninsured in scenario 3 results from the combination of a relatively small difference in public and private premiums compared with the other scenarios, coupled with the decrease in APTCs.

Most Enrollees Switched from Private Individual Market Plans to Public Option Plans

Most individual market enrollees switched from private to public plans. A relatively small pool of more expensive people remained enrolled in private plans, due to our assumption that higher spenders would have a lower preference for public plans because of real or perceived access barriers related to lower provider payment. Public option enrollment ranged from 10.6 to 13.9 million individuals across scenarios, while private individual market enrollment ranged from 2.2 to 4.1 million (Figure S.3). Preference for the public option was particularly large in scenarios 1 and 2, in which public payment rates were 79 percent of private rates.

Figure S.3. Public and Private Individual Market Enrollment, Millions, 2022

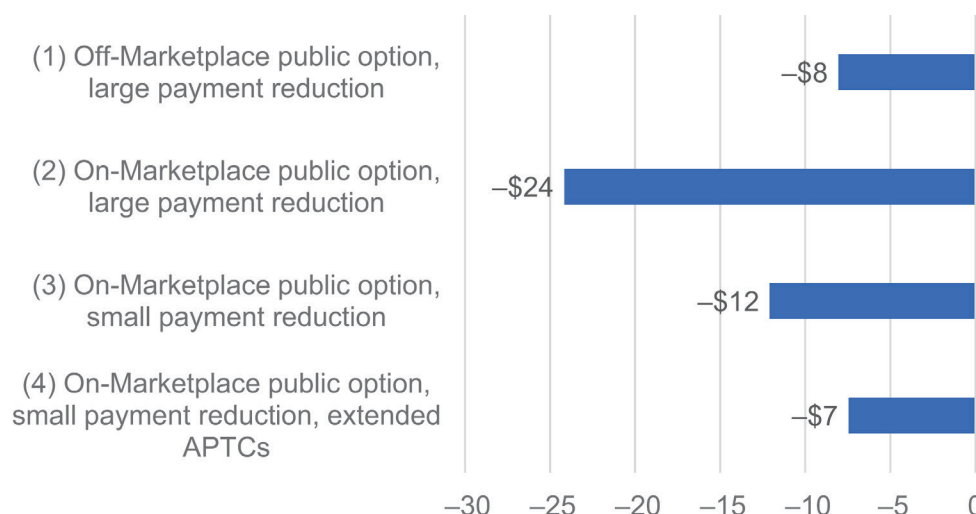


Federal Spending Fell

In all scenarios, federal spending on APTCs fell with the introduction of the public option, with savings ranging from \$7 to \$24 billion (Figure S.4). The reduction in federal APTC spending was driven by changes in the benchmark premium used to set tax credit amounts. In scenarios 2, 3, and 4, we assumed the public silver option, which pays lower rates, would become the benchmark premium. The benchmark premium also fell in scenario 1, due to downward pressure from competition and reductions in CSR loading. Relative to current law,

CSR loading in the private individual market plans is reduced when some of the CSR-eligible individuals enroll in the public option such that CSR costs are spread across public and private silver plans. In scenario 4, the federal savings is smaller relative to scenario 3 because the cost of extending APTCs to people with incomes between 400 and 500 percent of FPL is included in the federal spending amount.

Figure S.4. Federal Savings in Spending on APTCs and APTC Pass-Throughs, Billions, 2022



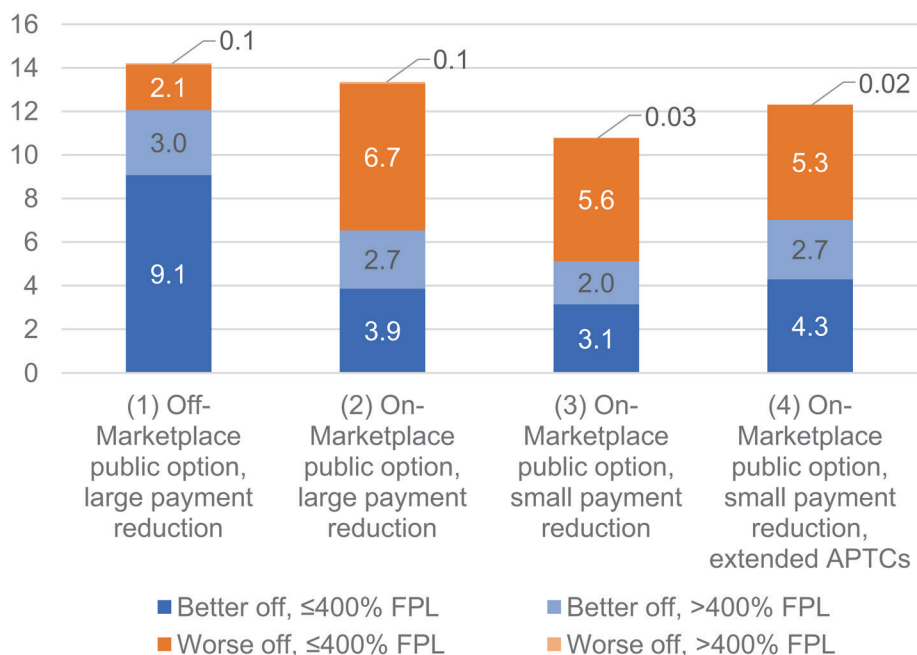
NOTE: In the off-Marketplace public option (scenario 1), we assumed public plan enrollees would be eligible for APTC pass-through amounts equal to what they would have received on other individual market plans.

The Addition of the Public Option Made Some Better Off and Some Worse Off

The addition of the public option had complex effects on the health insurance market, adding a more affordable option for some individuals while increasing the cost of existing private options and reducing APTCs. To gauge the welfare effects on individuals, we estimated the number of people who would be “better off” (becoming newly insured or paying less for an equivalent or more generous plan) or “worse off” (becoming uninsured or paying more for an equivalent or less generous plan) in each scenario. Across all public option scenarios, 5.1 to 12.1 million people were better off, and 2.2 to 6.8 million people were worse off (Figure S.5). The number of people who were better off exceed the number of people who were worse off in scenarios 1 and 4, and there were more people worse off than better off in scenarios 2 and 3). Those who were worse off tended to have incomes below 400 percent of FPL. Because APTCs were tied to the public option premiums in scenarios 2, 3, and 4, individuals’ tax credits fell substantially when the public plan was introduced. As a result, for many subsidized individuals, the introduction of the public option did not reduce out-of-pocket premiums. Except for the extended APTCs up to 500 percent of FPL in scenario 4, these public option scenarios did not

consider the possibility of additional tax credits funded by federal savings that could alleviate the increases in out-of-pocket premiums for those who would be worse off otherwise.

Figure S.5. Number of Individuals Better and Worse Off Relative to Current Law, Millions, 2022



NOTE: Uninsured individuals who remain uninsured and individuals with no change in their premium, defined as within 1 percent of their premium under current law, for the same actuarial value (AV) plan are not shown. Negligible numbers of people with income over 400 percent FPL were worse off.

Policy Implications

The public option is substantially cheaper than private health insurance and hence reduces federal spending on tax credits relative to current law. Effects for enrollees, however, are more mixed. The tax credit structure of the Affordable Care Act (ACA) was intentionally designed to insulate enrollees from fluctuations in premiums. Specifically, tax credits are based on the cost of a benchmark silver plan minus an income-based required contribution. When the benchmark premium increases, this tax credit structure serves as a “shock absorber,” allowing people to retain coverage without experiencing significant changes in out-of-pocket costs. However, when the benchmark premium falls, tax-credit-eligible individuals may not experience a reduction in their health insurance costs, because their tax credit declines as well. The lack of savings for currently subsidized enrollees dampens the effect of the public option on health insurance enrollment, particularly in scenarios where the public option becomes the benchmark plan. Further, lower-income people are less likely to benefit from the public option than higher-income people. This is because higher-income people who pay the full cost of insurance out of pocket can receive a substantial reduction in costs when the public option is available, while lower-income people may receive lower tax credits that may outweigh the accompanying change in premiums.

One policy that could make the public option more beneficial to lower-income people would be to reinvest federal savings in bigger tax credits for people with incomes below 400 percent of FPL. While we did not explore the effects of this policy option, many proposals to adopt a public option would also increase tax credits.

Our research has several important limitations. Most significantly, we assumed providers would accept lower public rates. It's likely that proposals to cut provider payment would be met with resistance, and—as a result—it's unclear whether the rates that we've assumed would be politically feasible to implement. The extent to which provider payment could be reduced would likely vary for a federal or state option, and it would depend on factors such as whether the plan is publicly administered or publicly sponsored with contracted carriers as well as market conditions in a given state. The Washington state public option legislation—in which the initial intent was for the public payment rates to be set to Medicare rates but were finalized to be no greater than 160 percent of Medicare rates—provides one example of how challenging it can be to reduce provider payment rates. We assumed there would be at least two issuers in each market such that a single issuer wouldn't have monopoly pricing power. Even if lower payment rates could be implemented, it's possible that providers would be less willing to supply services to people in the public plan, as is currently the case in the Medicaid program. We assumed that enrollees would consider the possibility of access constraints when selecting a public plan versus a private plan, but we did not account for a reduction in supply on behalf of providers. Finally, preference for a public versus a private plan could be influenced by many factors that we did not model, such as political ideology, social norms, stigma, marketing, and broker steering.

Our results suggest that reductions in provider payment rates would be a key driver to making the public option a lower-cost option that is attractive to individual market enrollees. However, the impact on enrollees depends not only on changes to premiums but also on changes in tax credits. Federal and state policymakers considering a public option should be aware of how the introduction of low-cost plans on the Marketplaces can lower tax credits that are based on benchmark premiums. Policymakers could consider how federal savings from lower ACA tax credits could be used to enhance or provide additional tax credits.

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Abbreviations

| | |
|------|---|
| ACA | Affordable Care Act |
| AHA | American Hospital Association |
| APTC | advance premium tax credit |
| AV | actuarial value |
| CBO | Congressional Budget Office |
| CCIO | Center for Consumer Information and Insurance Oversight |
| CMS | Centers for Medicare and Medicaid Services |
| CSR | cost-sharing reduction |
| FPL | federal poverty level |
| KFF | Kaiser Family Foundation |
| MEPS | Medical Expenditure Panel Survey |
| NHEA | National Health Expenditure Accounts |

1. Introduction

Along with other health insurance reforms, the Affordable Care Act (ACA) made substantial changes to the individual insurance market—requiring insurers to offer plans to all applicants regardless of preexisting conditions, prohibiting the practice of charging differential premiums based on gender or health status, and limiting age-variation in premiums within a three-to-one rate band (older adults can be charged no more than three times as much as younger adults). These reforms ensure that older and sicker people have access to insurance coverage and do not face exorbitant prices relative to other enrollees. However, none of these reforms has the inherent effect of reducing health insurance costs, and health care remains unaffordable for some segments of the population. In particular, those without access to employer insurance or federal tax credits to assist with purchasing individual market coverage (available to those with incomes between 100 and 400 percent of the federal poverty line and no other affordable source of coverage) may be priced out of the market. While the ranks of the insured have increased sharply since the ACA took effect, recent trends suggest that unsubsidized individual market enrollees are leaving the market. For example, the Centers for Medicare and Medicaid Services (CMS) reported that the number of unsubsidized enrollees on the ACA-compliant individual market fell from a high of 6.3 million (43 percent of all enrollees) in 2016 to 3.8 million (31 percent of all enrollees) by 2018 (CMS, 2019a). Declining enrollment may be influenced by affordability of plans as premiums have increased, as well as a changing landscape with the elimination of the individual mandate penalty and reduced consumer outreach (KFF, 2019c).

Against this backdrop, state and federal policymakers have signaled a growing interest in creating a “public option” for individual market insurance. A public plan could be more affordable than private insurance if the public plan were able to obtain favorable rates from providers or if administrative costs were lower. However, potential savings depend on the public option’s organizational structure and ability to leverage lower payment rates through regulation or negotiation. In 2019, members of Congress introduced four different bills that would create a federal public option offered to individuals eligible for insurance coverage on the individual Marketplaces (KFF, 2019b). In addition, former vice president Joe Biden and several Democratic primary candidates who ran in the 2020 presidential election include public options in their health reform platforms. As of June 2019, at least 18 states had considered legislation for a public option or a Medicaid buy-in option, and one state—Washington—had passed such legislation (Meyer, 2019).

In this report, we broadly define a public option as an insurance plan with access to publicly determined payment rates. While many public option proposals would create government-run insurance plans that would compete with other private insurance plans, some would create a government-sponsored plan that involves contracted insurers regulated by the government. For

example, the Washington state public option contracts with insurance carriers through a bidding process and holds plans to rate limits and other requirements (WA SB 5526, 2019). Colorado's public option proposal requires every insurance carrier in the individual market to offer the public option (State of Colorado, undated).

In this analysis, we use a microsimulation approach to estimate how the addition of a federal public option for individual market insurance could affect insurance coverage, individual market enrollment, and premiums. We consider several designs for public plans that vary based on what rates providers are paid and whether the public option is implemented on the Health Insurance Marketplaces (or "Exchanges") or off the Marketplaces. In one scenario, we examine the effect of extending federal marketplace tax credits to individuals with incomes up to 500 percent of the federal poverty level (FPL) along with the public option, following the Washington state law authorizing the public option that also extends tax credits to higher-income individuals.

One potential complication associated with implementing a public option on the Marketplaces is that it could affect the premium of the benchmark second-lowest-cost silver plan, which is the basis for determining tax credits that enrollees apply to any Marketplace plan under the ACA. If a cheap public option were considered in determining the benchmark premium, tax credits would fall, making it harder for people to afford private individual market plans. By considering scenarios in which the public option is on and off the Marketplaces, we are able to estimate how such dynamics could affect enrollment and premiums.

The scenarios that we consider are as follows:

1. public option off the Marketplaces, payment set at 79 percent of commercial rates
2. public option on the Marketplaces, payment set at 79 percent of commercial rates
3. public option on the Marketplaces, payment at 93 percent of commercial rates
4. public option on the Marketplaces, payment at 93 percent of commercial rates, tax credits available up to 500 percent of FPL.

The objective of this work is to show the effects of public option alternatives on individuals and the federal government. We also assess changes to affordability of coverage for individuals with access to federal marketplace subsidies and those without such access.

2. Methods

We use the RAND COMPARE model to estimate health insurance coverage, premiums, and spending under four public option scenarios. COMPARE is a microsimulation model that uses nationally representative data and economic theory to analyze the effects of health policy changes. In the model, individuals and households choose insurance coverage based on the costs and benefits of available plans, and employers decide whether to offer insurance to their employees. The primary data sources in the model are the Survey on Income and Program Participation (SIPP), Medical Expenditures Panel Survey (MEPS), and Kaiser Family Foundation/Healthcare Research Educational Trust (KFF/HRET). We regularly update the model to reflect population growth, health care cost growth, and policy changes. We describe the details of the COMPARE model in Appendix A.

We compare fully phased-in versions of the public options with current law. We estimate differences in insurance enrollment, composition of the public option and private individual market enrollees, premiums, and federal spending on financial assistance for Marketplace enrollees. In this report, “private individual market” refers to individual market plans other than the public option, which includes on- and off-Marketplace ACA-compliant plans that may be offered by commercial insurers or managed-care organizations.

Key Assumptions

We assume the public options would be available to all individuals. We model four variants of a public option: (1) a public plan with provider payment rates 40 percent of the way between Medicaid and commercial rates offered off-Marketplace; (2) a public plan with provider payment rates 40 percent of the way between Medicaid and commercial rates offered on-Marketplace, (3) an on-Marketplace plan that reflects policy features similar to those adopted under Washington state’s Cascade Care legislation, and (4) an on-Marketplace plan with policy features similar to Cascade Care, with extended tax credits. The Washington legislation creates a quasi-public option on the individual market with a cap on provider reimbursement and develops a plan for subsidies for individuals with income less than 500 percent of FPL (WA SB 5526, 2019).

For this analysis, we assume the public plans are offered at 60-, 70-, 80-, and 90-percent actuarial value (AV), which are equivalent to bronze, silver, gold, and platinum plans on the Marketplaces. Below we describe key assumptions used to model the public plans.

Risk Pooling and Premium Adjustments

In each of the public option alternatives that we model, we assume public plan enrollees would be risk adjusted with private individual market enrollees. Like private individual market premiums, the public option premiums would be rated by age and tobacco use. To implement the

risk adjustment transfer, we use the federal risk adjustment transfer formula described in Pope et al. (2014), with adaptations to account for recent changes made by CMS (CMS, 2019b). With risk adjustment, dollars are transferred from lower-risk pools to higher-risk pools. However, the reduced provider payment rates in the public plan reduce the total risk adjustment dollars per enrollee available in the market relative to the status quo. A full description of our approach can be found in Appendix A.

In addition to premium changes due to enrollee composition and risk adjustment, we further assume that the addition of the public option reduces private individual market premiums through a competition effect. The introduction of the lower-cost public option could put downward pressure on other insurers to lower premiums in order to compete with the public option and attract enrollees. Insurers could lower premiums by lowering administrative costs, negotiating lower provider-payment rates, or narrowing provider networks; however, the dynamics would vary based on local market characteristics. In addition to compositional changes in enrollment and risk adjustment that cause changes in premiums, we assume that private individual market premiums would be 6 percent lower because of private insurers strategically lowering premiums to compete with the public option. This percent reduction is similar to those estimated by Dafny, Gruber, and Ody (2015), who estimated a 5.4-percent reduction in the second-lowest-cost silver premium if UnitedHealthcare had entered the Marketplace in 2014, and Blumberg et al. (2019), who found that Marketplace premiums were 7 percent lower when there was a competitor that was a Medicaid managed-care organization. The extent of the competition effect likely depends on market conditions, including the number and type of insurers already in the market. In Appendix B, we show results absent a competition effect.

Financial Assistance

Enrollees who qualify for federal financial assistance in the individual market may apply that assistance toward the public plan. Consumers who are ineligible for federal financial assistance can enroll in the public plan at the full premium charged to consumers of the applicable age and smoker status.

We assume an off-Marketplace public option would be established such that it is available for purchase through the Marketplaces; however, it would be classified as non-Marketplace coverage. As such, public option enrollees would not be eligible for advance premium tax credits (APTCs), and public option premiums would not be considered in determining the benchmark premium used to calculate APTCs for Marketplace enrollees. Instead, we assume public option enrollees would be eligible for a federal “APTC pass-through.”⁴ The APTC pass-through amount would be equal to the APTC amount that the individual would have been eligible for on the Marketplaces.

⁴ Enrollees of off-Marketplace plans are not eligible for APTCs under the ACA. A federal public option or a state public option under a Section 1332 waiver could redirect federal APTC funding for Marketplace enrollees to APTC pass-through amounts for public plan enrollees.

For the public options offered on Marketplaces, we assume that enrollees would be eligible for APTCs and that the public option would affect the second-lowest-cost silver plan used to determine APTC amounts. We assume the benchmark premium used to calculate APTCs would be equal to the on-Marketplace public option premium.⁵ We also examine the marginal impact of extending APTCs to individuals with incomes up to 500 percent of FPL.

We assume that cost-sharing reductions (CSRs) available to eligible silver plan enrollees would also be available to public silver plan enrollees with the same income eligibility criteria.⁶ Although there would not be a federal requirement to offer CSRs for an off-Marketplace public option, we assume that CSRs would be offered in scenario 1 to have consistency across the public option scenarios that we analyzed. Without federal CSR payments, we assume that insurers finance CSRs by “loading” the costs for public silver plan enrollees onto the public silver plan premiums, similar to silver loading observed in the private individual market.⁷ Because APTCs are benchmarked to the second-lowest-cost silver premium (the private silver premium in scenario 1 and the public silver premium in scenarios 2, 3, and 4), silver loading has the effect of increasing tax credit amounts for all APTC-eligible enrollees.

Provider Payment Rates

As public programs such as Medicaid and Medicare pay providers less on average than commercial insurance plans, we assume that the public plans would also pay providers at a lower rate than private plans. The extent of lower payment rates depends on factors such as how rates would be determined and whether the plan is publicly administered or publicly sponsored. Current federal bills proposing a public option include Medicare payment rates or rates between Medicare and commercial rates of other insurers on the Marketplaces (KFF, 2019b). Although the Washington state public option originally included Medicare rates, the enacted legislation specifies that provider payment rates would be capped at 160 percent of Medicare rates and that payment for primary care services would be at least 135 of Medicare rates (Kliff 2019; WA SB 5526, 2019). The Washington state public option would operate with one or more carriers contracted by the state through a bidding process.

⁵ This could reflect either multiple public plan offerings with one of the public plan premiums becoming the benchmark premium, or reductions in a silver plan premium such that the second-lowest-cost silver premium is equivalent to the public silver plan premium.

⁶ The effective AV of silver plans with CSRs are 94 percent if household income is between 100 and 150 percent of FPL, 87 percent if income is between 150 and 200 percent of FPL, and 73 percent if income is between 200 and 250 percent of FPL.

⁷ For the off-Marketplace public plan (scenario 1), a possible alternative assumption would be CSRs funded through pass-through funds rather than through loading. For a state considering such an option, federal pass-through funds under a Section 1332 waiver agreement would need to be budget neutral, whether the funds are used for APTCs, CSRs, or a combination for public plan enrollees.

Lower provider-payment rates mean that public option premiums and perhaps out-of-pocket payments for public plan enrollees would be lower than those for private individual market plans. However, lower provider-payment rates may also mean that the public plan could have real or perceived constraints to access, such as narrower networks or inadequate networks. Some providers could choose not to accept the public plan, which could lead to patients having difficulty getting appointments. We model these competing effects as reductions to the premium and to the utility associated with consuming health care services equal to the public plan payment rate relative to average private rates (see Appendix A for the utility function).

For the public options with the large payment reduction (scenarios 1 and 2), we assume provider payment rates would be set between Medicaid and average levels among commercial plans. Specifically, we model a payment rate equal to the Medicaid payment rate plus 40 percent of the difference between Medicaid and private payer levels, excluding prescription drugs. To calculate the public payment level, we used relative payment rates reported for hospitals and physician services. Medicaid payments for hospital services are 61 percent of private payer rates (AHA, 2018), and Medicaid pays physicians about 58 percent of rates paid by private insurance (KFF, 2016; CMS, 2012). For all other services except for prescription drugs, we assume the relative payment rates between Medicaid and private insurers are the same as those paid for physician services. We weighted these relative payment rates using health care expenditures by service type from the 2017 National Health Expenditure Accounts (CMS, 2018a). Assuming a payment rate equivalent to 40 percent of the difference from Medicaid to private rates for all services except prescription drugs, the resulting public payment rate is 79 percent of private rates.

For the public options with the small payment reduction (scenarios 3 and 4), we determine a provider payment rate based on policy features that have been adopted under Washington state's Cascade Care legislation. The Washington public plan would pay providers, excluding pharmacy benefits, no more than 160 percent of Medicare rates (WA SB 5526, 2019). Washington Exchange plans are estimated to pay rates equal to approximately 174 percent of Medicare rates (Cousart, 2019). Based on these rates after excluding prescription drug spending, we assume that these public plans would pay providers at 93 percent of private rates.

Administrative Rates

The administrative rates for a public option depend partly on the organizational structure. Although public programs tend to have lower administrative rates than private insurance plans, a public option may be administered by the government or by private insurers contracted by the government, as is the case in the Washington state public option. Furthermore, a public option may have similar administrative rates to other individual market plans because of similar enrollment and consumer outreach activities needed. As a conservative estimate for this analysis, we assume that administrative rates under the public option are equal to those for private individual market plans, which are about 20 percent in our model.

Scenarios

Table 2.1 summarizes the four public option scenarios that we modeled in this analysis. Scenario 1 is an “off-Marketplace” public option, meaning that the public plans would be offered by insurers outside of the federal and state Marketplaces. The off-Marketplace public option would reimburse providers 79 percent of private plan rates. Under scenario 1, we assume that the off-Marketplace public plan enrollees would be eligible to receive tax credit pass-through amounts equal to APTCs they would have received on a Marketplace plan.⁸ In scenario 2, the public plan also reimburses providers 79 percent of private plan rates; however, the public plan is considered Marketplace coverage (and thus affects the benchmark premium for APTCs). In scenarios 3 and 4, the public plans are also offered on-Marketplace, but the public plan’s provider reimbursement rate is 93 percent of private plan rates. In scenario 4, we also analyze the marginal effect of extending APTCs up to 500 percent of FPL, which improves affordability for enrollees with income between 400 and 500 percent of FPL but adds costs to the federal government. We compare the public option scenarios to current law.

Table 2.1. Public Option Scenarios Modeled

| Scenario | Public Plan Available? | Public Plan Considered Marketplace Coverage? | Provider Payment Rate on Public Plan | Tax Credits Available on Public Plan? |
|---|------------------------|--|--------------------------------------|---|
| Current law | No | NA | NA | NA |
| (1) Off-Marketplace public option, large payment reduction | Yes | No | 79% of private rates | APTC pass-through amount for 100–400% FPL |
| (2) On-Marketplace public option, large payment reduction | Yes | Yes | 79% of private rates | APTCs for 100–400% FPL |
| (3) On-Marketplace public option, small payment reduction | Yes | Yes | 93% of private rates | APTCs for 100–400% FPL |
| (4) On-Marketplace public option, small payment reduction and APTCs extended up to 500% FPL | Yes | Yes | 93% of private rates | APTCs for 100–500% of FPL |

In Appendix B, we show sensitivity analysis without a competition effect on private individual market premiums.

⁸ Although we model a federal public option, an off-Marketplace public option with APTC pass-through amounts could be implemented by states under a Section 1332 waiver under the ACA.

3. Results

Table 3.1 shows health insurance enrollment under current law and the public option scenarios. In the four public option scenarios, enrollment in the public plans is higher than in the private individual market plans. Even though we estimate significant shifting from the private individual market to the public option, there are only small changes in overall insurance enrollment.

In the off-Marketplace public option (scenario 1), 13.9 million individuals enroll in the public plan, while 4.1 million enroll in private individual market plans. There are about 2.8 million fewer uninsured individuals compared with current law. When the public option is offered on the Marketplaces with the same payment rate (scenario 2), public plan enrollment is 13.8 million, and the number of uninsured decreases by 1.2 million relative to current law. The smaller increase in total insurance coverage in the on-Marketplace scenario reflects reductions in APTCs when the public plan is considered in the determination of the benchmark premium.

In the on-Marketplace public option with the smaller payment reduction (scenario 3), the public plans are still preferred over private individual market plans, with 10.6 million public plan enrollees. However, relative to scenarios 1 and 2, public plan enrollment is lower due to the smaller provider-payment reduction. The number of uninsured decreases marginally by less than 0.1 million due to the reduction in APTCs counterbalancing the relatively small payment reduction on the public option. With extended APTCs to individuals with income between 400 and 500 percent of FPL (scenario 4), public plan enrollment increases to 11.7 million, and the number of uninsured decreases by 1.1 million.

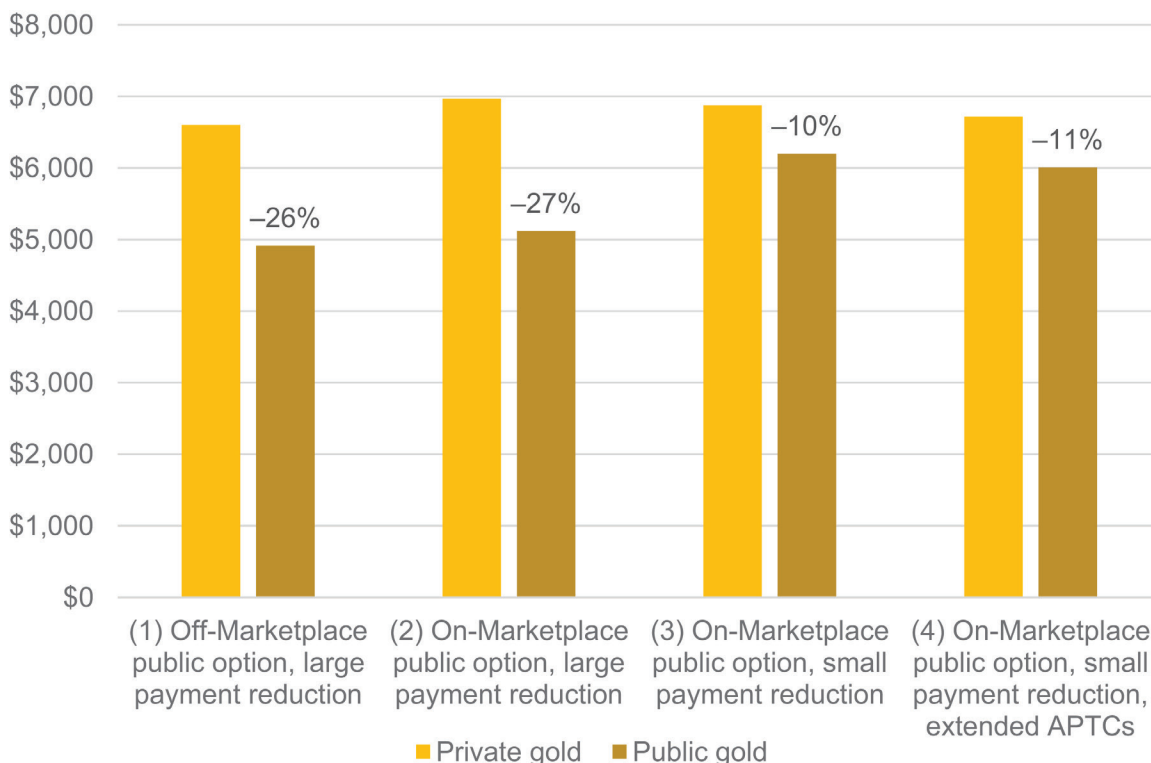
Table 3.1. Health Insurance Enrollment, Population Under Age 65, Millions, 2022

| | Current Law | (1) Off-Marketplace Public Option, Large Payment Reduction | (2) On-Marketplace Public Option, Large Payment Reduction | (3) On-Marketplace Public Option, Small Payment Reduction | (4) On-Marketplace Public Option, Small Payment Reduction, Extended APTCs |
|---------------------------|--------------------|---|--|--|--|
| Employer | 160.1 | 159.5 | 159.7 | 160.0 | 159.8 |
| Individual market | 14.4 | 17.9 | 16.1 | 14.6 | 15.8 |
| Private individual market | 14.4 | 4.1 | 2.2 | 4.0 | 4.1 |
| Public option | 0.0 | 13.9 | 13.8 | 10.6 | 11.7 |
| Medicaid | 59.5 | 59.5 | 59.5 | 59.5 | 59.5 |
| Other | 12.5 | 12.5 | 12.5 | 12.5 | 12.5 |
| Uninsured | 32.9 | 30.1 | 31.7 | 32.8 | 31.8 |

NOTE: "Private individual market" refers to individual market plans other than the public option, including on- and off-Marketplace plans that may be offered by commercial insurers or managed-care organizations. Other insurance includes military health insurance and Medicare enrollees under the age of 65.

Figure 3.1 shows public gold premiums relative to the private gold premiums for 40-year-olds. In all four scenarios, the public option is less expensive than other individual market plans with the same AV due to the lower provider-payment rate and the composition of enrollees that affects risk adjustment. The public option premiums in scenarios 3 and 4 are higher compared with scenarios 1 and 2 because of the higher provider-payment rate (93 percent versus 79 percent).

Figure 3.1. Private Gold and Public Gold Plan Premiums for 40-Year-Olds, 2022

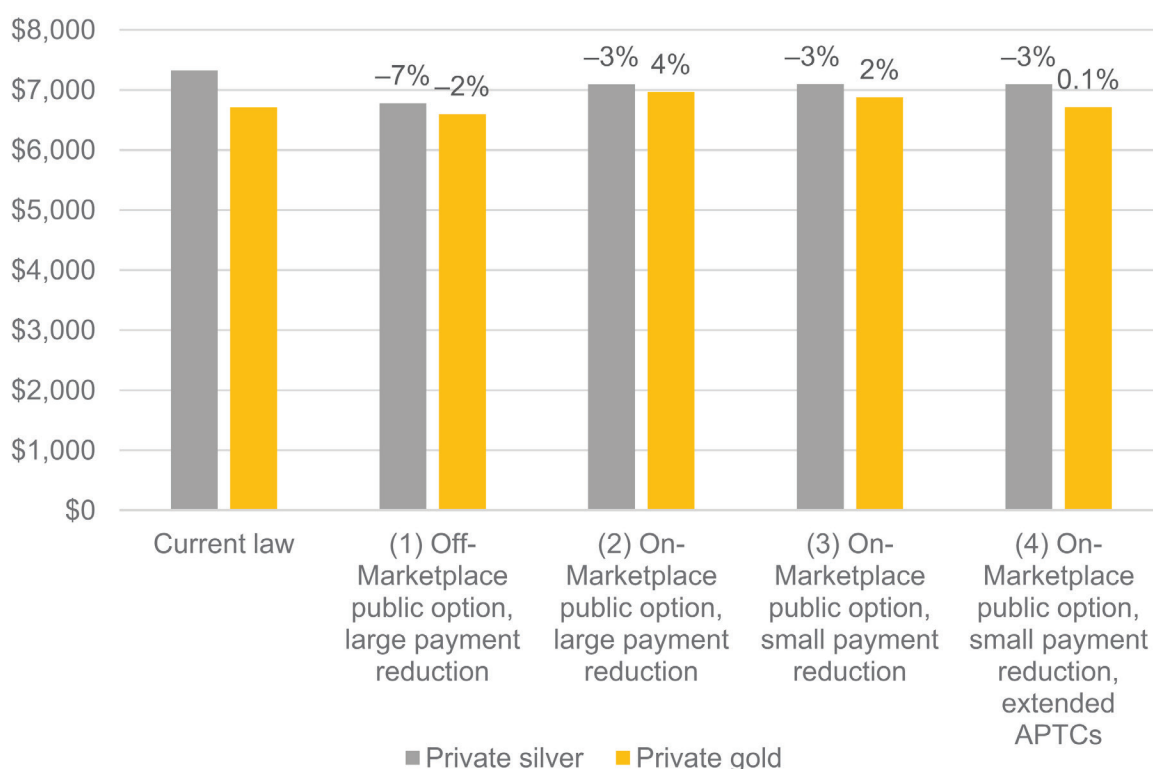


NOTE: Percentage changes are shown for the public gold premium relative to the private gold premium.

Individuals who do not enroll in the public plan and remain on other individual market plans also face changes to their premiums when a public option is introduced. Figure 3.2 shows private individual market premiums for silver and gold plans in the public option scenarios relative to current law. Relative to current law, the change in private gold premiums ranges from a 2-percent decrease to a 4-percent increase in the public option scenarios. The net change in private gold premiums results from increases due to adverse selection into the private plans and deflated risk adjustment dollars resulting from the lower public-provider payment rate, and a decrease due to competition introduced by the public option. The adverse selection in the private plans results from our assumption that higher-cost enrollees would have lower preference for public plans due to perceived or real access barriers. In all four scenarios, the public option is the lower-risk pool. The transfer from the

public pool to the private pool is lower than what it would have been without the discounted public payment rates and thus, the private individual market plans are not fully compensated for the risk level of their pool, and the private premiums are higher than they would have been without the public option.⁹ Private silver premiums decrease by 3 to 7 percent relative to current law due to dynamics with the loading of CSR costs, which are spread between the private and public silver premiums.

Figure 3.2. Private Silver and Gold Plan Premiums in Public Option Scenarios Compared with Current Law, 40-Year-Olds, 2022

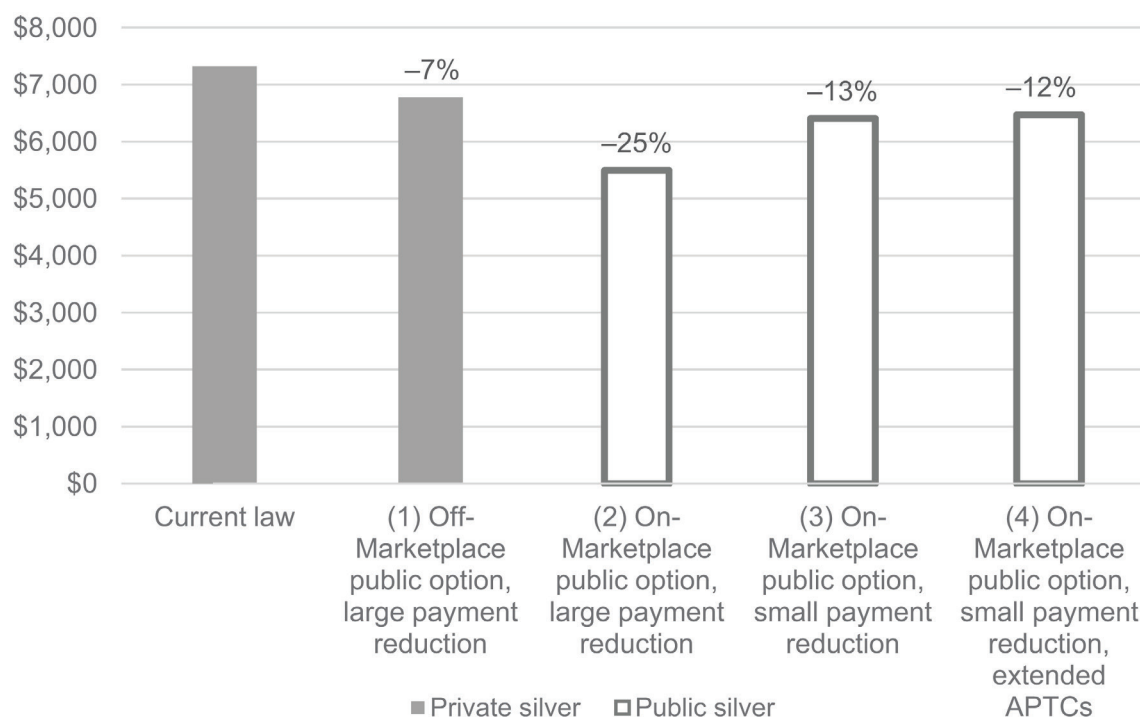


NOTE: Percentage changes are shown for the private silver and gold premiums, respectively, in each public option scenario relative to the private silver and gold premiums under current law. Silver premiums can be higher than gold premiums due to silver loading of CSR costs for eligible silver enrollees. Bronze and platinum premiums (not shown) increase at the same rate as gold premiums due to risk adjustment, whereas silver premiums reflect both risk adjustment and loading of CSR costs for silver enrollees.

⁹ When the public option is the lower-risk pool, the transfer from the public pool to the private pool is lower than what it would have been without the discounted public payment rates; thus, the private plans are not fully compensated for the risk level of their pool, and the private premiums are higher than what they would have been without the public option. When the public option is the higher-risk pool, the transfer from the private pool to the public pool is lower than it would have been without the discounted public payment rate, and the private premiums are lower than what they would have been without the public option.

Figure 3.3 shows the benchmark premium used to determine APTCs. Under current law, the benchmark premium is the second-lowest-cost silver premium. In all four public option scenarios, the benchmark premium decreases relative to current law, thereby decreasing the APTC amounts received by those eligible. In the off-Marketplace public option (scenario 1), the benchmark premium is still based on private silver premiums, which decrease by 7 percent relative to current law due to the combination of changes in loading of CSR costs on both private and public silver premiums and the effect of competition with the public option. When the public option is offered on Marketplaces (scenarios 2, 3, and 4), we assume the benchmark premium becomes the public silver premium, which is 12 to 25 percent lower than the benchmark premium under current law.

Figure 3.3. Benchmark Premium for APTCs in Public Option Scenarios Compared with Current Law, 40-Year-Olds, 2022

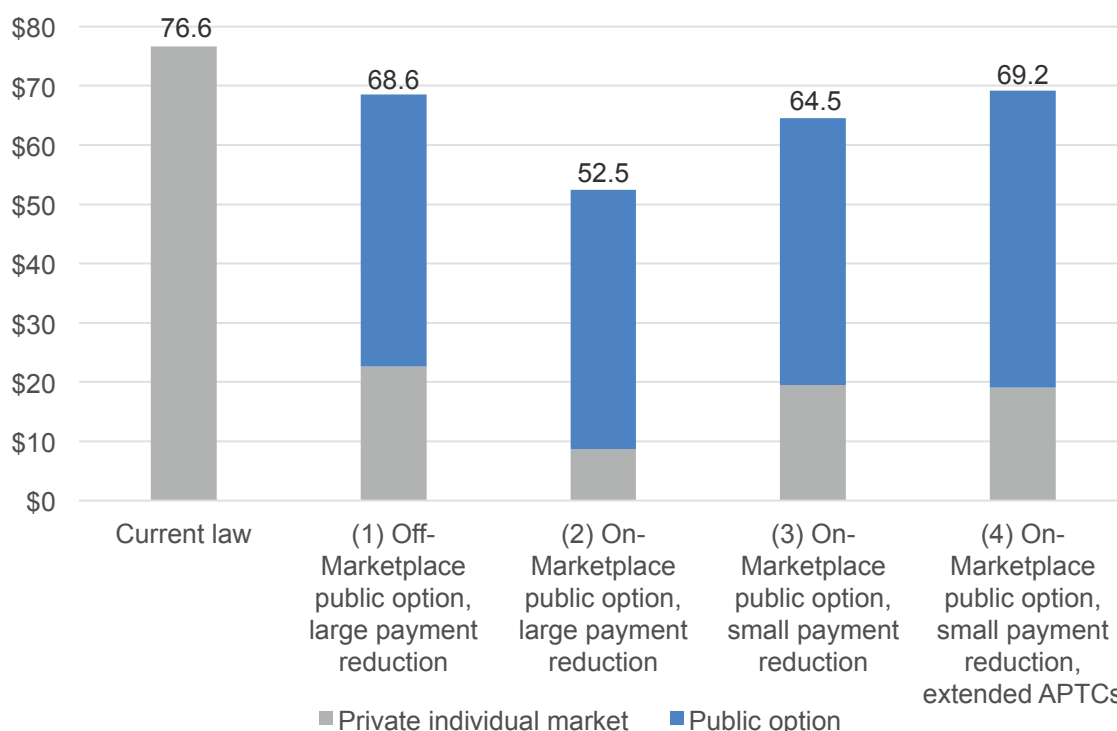


NOTE: Percentage changes are shown for the benchmark silver premium in each public option scenario relative to the benchmark silver premium under current law.

Figure 3.4 shows total federal subsidy spending on APTCs for the individual market and the on-Marketplace public plans, and APTC pass-through amounts for the off-Marketplace public plan. With most individual market enrollees favoring the public option over private plans, the majority of federal subsidy spending is for public plan enrollees. Total federal subsidy spending decreases in all four public option scenarios due to the lower provider-payment rates and reductions in the benchmark premiums for APTCs. Federal spending is similar under current law and the off-Marketplace public option (\$76.6 billion under current law versus \$68.6 billion in

scenario 1) because the addition of the public option has only a modest effect on the benchmark premium. With the on-Marketplace public option in scenario 2, federal spending decreases substantially (to \$52.5 billion) relative to current law when the payment reduction is large and the public option is considered in determining the benchmark premium used to calculate APTC amounts. With the smaller payment reductions in scenarios 3 and 4, federal spending is \$64.5 and \$69.2 billion, respectively. In scenario 4, the extended APTCs for people with income between 400 and 500 percent of FPL are included in the federal subsidy spending. We did not analyze the impact of additional tax credits except for those in scenario 4, although the federal savings could potentially be reinvested to improve affordability for individual market enrollees.

Figure 3.4. Federal Subsidy Spending on APTCs and APTC Pass-Throughs, Billions, 2022



The changes in premiums and APTC amounts due to lower benchmark premiums result in some people paying less than they would under current law and some people paying more. To better understand the distributional effects on people who were enrolled in individual market plans or uninsured under current law, we calculated the number of people in four categories:

- “better off” with public option
 - became insured
 - paid less for the same AV or a higher AV plan
- “worse off” with public option
 - lost or dropped insurance coverage

- paid more for the same AV or a lower AV plan
- unclear effect
 - paid more for a higher AV plan or paying less for a lower AV plan
- no change
 - remained uninsured
 - paid about the same (less than 1-percent difference) for the same AV plan.

Figure 3.5 shows the number of individuals in these categories. The largest category is “no change,” as the number of uninsured individuals remains fairly constant in all scenarios. In all four public option scenarios, the number of people better off outweighs the number who are worse off. Note that federal spending is lower in all of the public option scenarios relative to current law; we did not assess reinvestment of federal savings that could potentially be applied to subsidies for those who are worse off. In the off-Marketplace public option (scenario 1), 12.1 million individuals are better off, and 2.2 million are worse off. When the public plan is offered as Marketplace coverage (scenario 2), there are 6.5 million people better off and 6.8 million worse off. The larger number of people worse off is due to reduced APTCs when the public plan is taken into consideration in determining the benchmark premium, and due to increases in unsubsidized private individual market premiums. In the public option scenario with the small payment reductions (scenario 3), there are also similar numbers of people better and worse off (5.1 and 5.7 million, respectively) due to reduced APTCs as well as the more modest provider-payment reduction in the public option. When APTCs are extended in scenario 4, there are 7.0 million people better off and 5.3 million worse off.

The numbers of people better and worse off by APTC eligibility under current law (below and above 400 percent of FPL) are shown in Figure 3.6. Individuals who are eligible for APTCs under current law (below 400 percent of FPL) tend to be worse off when APTCs are lower due to reduced benchmark premiums, which occurs in all four public option scenarios and has a larger effect when the public plan is offered on-Marketplace and the public silver premium becomes the benchmark premium (scenarios 2, 3, and 4). Nearly all individuals above 400 percent of FPL are better off or face no substantial change. In Appendix C, we show detailed results about individuals who are better and worse off due to changes in insurance status and changes in premiums.

Figure 3.5. Number of Individuals Better and Worse Off in Public Option Scenarios Compared with Current Law, Millions, 2022

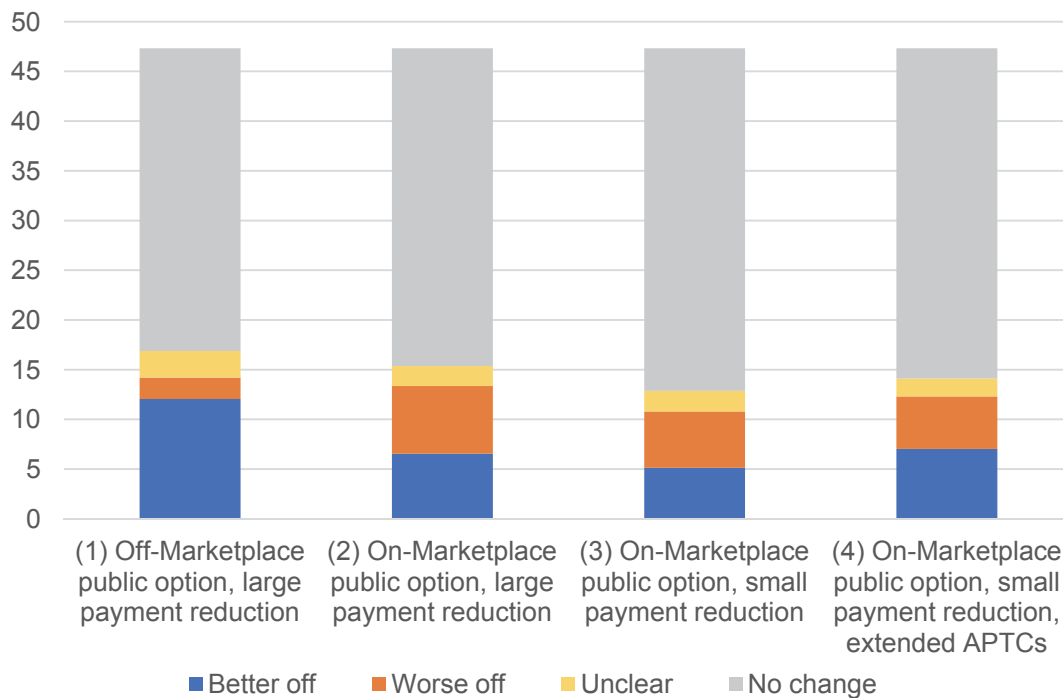
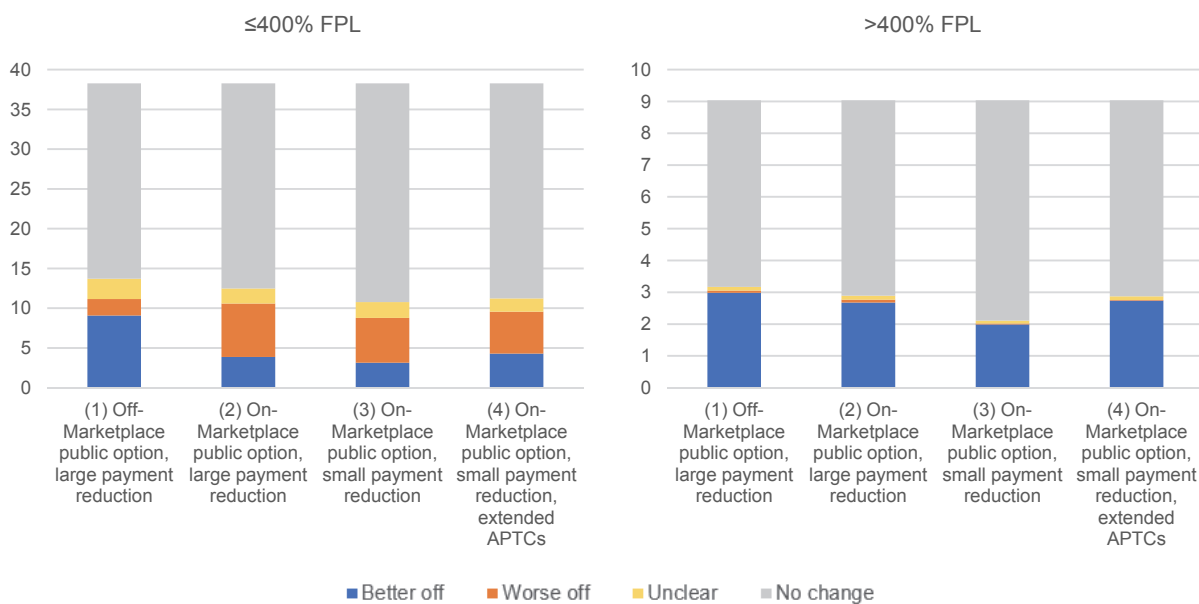


Figure 3.6. Number of Individuals Better and Worse Off with Public Option Compared with Current Law, by Income Group, Millions, 2022



4. Limitations

Our analysis has several limitations. First, we modeled the public plans assuming reduced provider-payment rates could be negotiated by the government with adequate networks and provider participation. Reductions in provider payment rates would likely be met with resistance. Some providers may not accept lower rates or may see fewer people enrolled in public plans or provide them with fewer services. Although the extent of provider payment reductions that would be possible varies by state and urbanicity, we do not model geographic variation in the reductions to provider payment rates in this national analysis. We assume provider participation is similar to the level in Marketplace plans, but in reality the government may need to take more aggressive action, such as requiring participation, in order to achieve network adequacy.

Although we did not model possible reduction in provider supply of services to public plan enrollees, we assumed lower provider payment would lead to a proportional reduction in the consumer's "utility," or overall taste for the public plan. This lower utility reflects that lower provider payment may also be coupled with real or perceived reductions in provider access or quality, such as inadequate networks or more difficulty scheduling appointments, that would lower an individual's utility. A proportional reduction on the utility of consuming health care services means that people with higher costs have a larger disutility for the public plan. While a one-to-one dollar reduction on premiums and utility of health care consumption may be reasonable, there is uncertainty in awareness and preferences associated with lower provider payment and other factors such as political ideology, social norms, stigma, marketing, and broker steering that could lead to lower or higher effects on the utility of consuming health care services. We also did not consider consumer preferences that may vary by income. We modeled these scenarios assuming enrollment and premiums are in a steady state, without accounting for any transition periods during which awareness and preferences may be shifting.

Our assumptions about consumers' preferences result in sicker people preferring private plans. However, it is possible that private insurers might use other plan features, such as the prescription drug formulary and utilization management programs, to attract healthier enrollees. Medicare Advantage plans that are administered by private insurers tend to attract a healthier population than traditional Medicare (Brown et al., 2014), although risk adjustment mitigates the risk selection to some degree (Newhouse et al., 2015). However, it is unclear whether the Medicare Advantage experience is directly relevant to the debate of the public option. Premiums in Medicare Advantage are typically lower than premiums for traditional Medicare, which may make it easier for insurers to attract healthy enrollees. Further, unlike traditional Medicare, in both the Washington state and Colorado examples, the public option would be managed by private insurers.

The estimated premiums in this analysis reflect national average premiums for each metal tier. We assumed the benchmark premium is the public silver premium when the public option is offered on the Marketplaces. This assumption implicitly means that there would be at least two public silver plans, which could be offered by one or more insurers. If there were only one public silver plan, then it's possible that the public silver plan would be the lowest-cost silver rather than the second-lowest cost silver. Multiple plan offerings may occur if private insurers are contracted to administer the public option, such as in Washington state's public option (WA SB 5526, 2019), and are likely to occur with public options such as the one proposed in Colorado that would require every carrier offering in the individual market to also offer the public option (State of Colorado, undated).

Although the availability of a public option would likely put downward pressure on private individual market plans, the effect of competition would depend on factors such as the number of plans available and insurer-provider negotiations in a given market area. In this analysis, we included a 6-percent reduction in private individual market premiums due to competition based on estimates from two studies that analyzed differences in premiums when an additional insurer enters the market (Dafny, Gruber, and Ody, 2015) and between areas with and without a managed-care organization traditionally offering Medicaid (Blumberg et al., 2019). However, these comparisons are not fully analogous to a situation in which a public option is introduced. In addition, we do not model geographic variation in insurer competition, which exists between urban and rural areas. The introduction of a public option could have a smaller competition effect in markets that already have multiple competing plans and a larger competition effect if there are few plans. We include sensitivity results with no competition effect in Appendix B. We also do not model the possibility that competitive effects drive all private individual market plans out of the market. Furthermore, we do not assess possible cost-cutting measures employed by private insurers—such as reducing profits, improving efficiency, narrowing provider networks, negotiating more aggressively with providers, and risk targeting—that may have positive or negative effects.

We do not account for the possibility that the public option could affect negotiations between providers and insurers, although it's possible that there could be significant effects on bargaining dynamics (Fiedler, forthcoming). On the one hand, insurers' negotiating powers may be improved if the public option payment rates are sufficiently low. On the other hand, the public option could reduce insurers' leverage if the public option payment rates are only somewhat lower than commercial rates and serve as a floor in negotiations.

We did not explore possible differences in administrative spending by private and public plans. Although administrative rates under a public option may differ from rates under private individual market plans, we chose to keep the rates consistent between the plans in this analysis, which is a more conservative assumption that is inclusive of different public option structures such as the Washington state and Colorado public options with contracted insurers. It's possible that the public plan could have lower administrative rates more similar to public programs such

as Medicare and Medicaid, or the public plan could operate with similar administrative rates as private individual market plans. The administrative rates under a public option would depend on whether the public plans are government run or operated by government-contracted private entities, which could be commercial insurers or managed-care organizations, and on the organizational structure.

Federal subsidy spending was lower in the four public option scenarios; however, we did not explore the possibility of reinvestment of federal funds. If a state were to offer a public option under a waiver agreement, the state could seek to recoup the federal funds it would have received under current law. The number and distribution of individual market enrollees varies state by state, and a given state could choose to allocate funds to improve affordability for individuals currently ineligible for ACA tax credits (e.g., similar to scenario 4 in which tax credits are extended to those between 400 and 500 percent of FPL) or to enhance tax credits for lower-income individuals. For example, funds could be used to increase tax credits for those who would be “worse off” due to reductions in APTCs if the benchmark premium were to decrease due to the public option. Similarly, if a public option were offered nationally, the federal funds could be repurposed to stabilize the individual Marketplaces or make plans more affordable for certain populations.

5. Discussion and Conclusion

There is growing interest in a public option, both at the national level and among individual states. Key considerations in the design of a public option include the degree to which the public option is able to negotiate or set lower provider-payment rates, whether the public option is offered on- or off-Marketplaces, and whether to make additional subsidies available to enrollees.

In our analysis, public option premiums were lower than other “private” individual market premiums due to the lower public payment rates. Public option premiums were lower in scenarios in which we assumed the public option paid providers 79 percent of commercial rates compared with scenarios in which providers were paid 93 percent of commercial rates. Enrollment in the public plans substantially exceeded enrollment in private individual market plans in the four scenarios that we considered, with enrollment ranging from 10.6 million enrollees in the public option with the small payment reduction to 13.9 million enrollees in the off-Marketplace public option with the large payment reduction.

Although we estimated a large shift from private individual market coverage to the public option, total insurance enrollment was relatively small in most scenarios. The exception was a 2.8 million decrease in the number of uninsured in the off-Marketplace public option scenario. The decrease in uninsured was due to the larger payment reduction resulting in lower public option premiums and APTCs based on more expensive private plans. Changes in insurance enrollment in the other three scenarios—in which APTCs were tied to the public option premiums—were smaller, ranging from a marginal decrease to 1.2 million fewer people uninsured.

Although the public plans were a lower-cost option for consumers, the overall impact on consumer spending is complicated by changes in premium subsidies received by enrollees. In all our scenarios, the public option reduced APTCs by lowering the benchmark premium, either directly (e.g., because the public option became the benchmark plan) or indirectly through competition. At the same time, premiums for nonsilver private health insurance premiums tended to increase relative to premiums under current law, despite the downward pressure from competition with the public option (private silver premiums decreased due to dynamics with silver loading that spread out CSR costs across both public and private silver premiums). The increases in private individual market premiums were due to adverse selection into the private plans, because we assumed people with higher health care spending would be less likely to enroll in a public plan due to concerns about provider networks or other access issues, and because of the discounted public payment rates lowering the risk adjustment dollars available to compensate the private plans for their higher-risk enrollees.

Because the addition of the public option tended to provide a lower-cost option while reducing APTCs and increasing private premiums, we estimated that a public option would

create both winners and losers. With the lower-cost public option available, we estimated that between 5.1 and 12.1 million people would be “better off” with the addition of a public option, either becoming newly insured or paying less for equivalent or more generous coverage than they currently have. Yet there were 2.2 to 6.8 million people who were “worse off” across the four scenarios, meaning that they became uninsured or had to pay more for equivalent health insurance coverage. Those who were “worse-off” tended to be people with incomes below 400 percent of FPL who received lower APTCs or faced higher private individual market premiums due to the public option.

The relatively modest effect of a public option on insurance enrollment and the mixed effects on affordability for tax-credit-eligible individuals are reflections of the ACA’s tax credit structure that was intentionally designed to insulate enrollees from fluctuations in premiums. Specifically, tax credits are based on the cost of a benchmark silver plan minus an income-based required contribution. When the benchmark premium increases, this tax credit structure serves as a “shock absorber,” allowing people to retain coverage without experiencing significant changes in out-of-pocket costs. However, when the benchmark premium falls, tax-credit-eligible individuals may not experience a reduction in their health insurance costs, because their tax credit declines as well. The lack of savings for currently subsidized enrollees dampens the effect of the public option on health insurance enrollment, particularly in scenarios where the public option becomes the benchmark plan. Further, lower-income people are less likely to benefit from the public option than higher-income people. This is because higher-income people who pay the full cost of insurance out of pocket can receive a substantial reduction in costs when the public option is available, while lower-income people may receive lower tax credits that outweigh the accompanying change in premiums.

Our results show that the public options lowered federal spending on health insurance subsidies as the benchmark premium was reduced because of the public option’s lower provider payments. Although we did not explore the possibility of reinvesting federal spending reductions, it’s possible the federal savings could be reinvested in tax credits or other incentives to lower consumer costs and increase health insurance enrollment. Reinvesting federal savings in larger tax credits for people with incomes below 400 percent of FPL would make the public option more beneficial to lower-income people.

Appendix A. COMPARE Overview

Overview

COMPARE is a microsimulation model that uses economic theory, nationally representative data, and evidence from past experience to estimate how consumers and businesses will respond to health policy changes (Cordova et al., 2013). The model creates a synthetic population of individuals, families, and firms and assigns health expenditures using data from the April 2010 wave of the 2008 Survey of Income and Program Participation, the 2010–2011 Medical Expenditures Panel Survey (MEPS), and the 2009 Kaiser Family Foundation/Health Research and Educational Trust Employer Health Benefits Survey. While the data sources predate the implementation of the ACA, we update them to reflect population growth based on factors reported by the U.S. Census Bureau, and to reflect health care cost growth using the Centers for Medicare and Medicaid Services (CMS) National Health Expenditures Accounts (CMS, 2018b).

We assign 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 augment 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. We also adjust the MEPS spending estimates to align with the National Health Expenditure Accounts (NHEA) estimates, according to the procedure developed by researchers from the Agency for Healthcare Research and Quality (Sing et. al., 2006; Bernard, Selden, and Pylypchuk, 2015).

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 the following:

- 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.

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. In contrast, several factors encourage enrollment, such as a lower risk of catastrophic spending, reduced out-of-pocket spending, the avoidance of penalties (if they apply), and increases in health care utilization.

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 calibrate the model to ensure that it accurately predicts outcomes for years in which complete data exist. As new data emerge, we update the model to reflect this information. For example, we added an adjustment to our Medicaid enrollment algorithm to account for the “welcome mat” effect in which people who were previously eligible for Medicaid enrolled after the ACA’s Medicaid expansion.

Below, we describe the health insurance enrollment algorithm used in COMPARE to model the current law scenario, as well as recent adjustments to the model that we have incorporated to better match post-ACA experience (e.g., administrative reports on enrollment, subsidy payments, and tax collections). We then describe the adjustments made to model the public option scenarios. We also discuss how our results compare to those of the Congressional Budget Office (CBO).

Health Insurance Enrollment Decisions

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 value of health care consumption, premium costs, expected out-of-pocket health care spending, and financial risk associated with out-of-pocket spending.

We scale each of these components of utility to dollars and assume that they are additively separable.¹⁰ We further assume that individuals’ utilities are separable in consumption and health. The health-related component of the utility function is modeled as follows:

$$U_{ijk} = u(H_{ij}) - E(OOP_{ij}) - p_{ij} - [0.5 * r * VAR(OOP_{ij})] + Calibration_{jk}. \quad (A.1)$$

Within this equation:

- $u(H_{ij})$ is the utility associated with consuming health care services for individual i under insurance option j
- k represents an individual’s demographic group based on age and income
- OOP_{ij} is the out-of-pocket spending expected
- p_{ij} is the individual’s premium contribution (after adjusting for tax credits)
- r is the coefficient of risk aversion
- $Calibration_{jk}$ is the calibration factor under insurance option j for group k .

¹⁰ This approach follows Goldman, Buchanan, and Keeler (2000).

Possible health insurance enrollment choices (j) under the ACA may include employer coverage, Medicaid or Children’s Health Insurance Program (CHIP) coverage, a private individual-market plan (including plans available on and off the Marketplaces), or another source of coverage.¹¹ 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 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 worker preferences and a small set of other factors, including the employer’s industry and whether workers are unionized. Under the ACA, all small firms are part of a single risk pool with guaranteed issue, three-to-one rate banding on age, and restrictions that preclude insurers from charging different premiums to different groups based on factors other than 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 *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-, 70-, 80-, or 90-percent actuarial value (AV) plan on the ACA’s regulated small-group market, which includes the Small Business Health Insurance Options 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 Small Business Health Insurance Options 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.

¹¹ Other sources of coverage include Medicare for the nonelderly with qualifying conditions and military-related sources of coverage, such as TRICARE.

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 estimate premiums for the large-group market based on a regression. The firm's decision to offer is modeled using structural econometric techniques.

Medicaid. 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 (Frean, Gruber, and Sommers, 2017), we increase the calibration parameter by a factor of approximately \$200 in the post-2014 period.

Individual Market. Private 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 market-rating reforms implemented under the ACA (PPACA, 2013). We model three-to-one rate banding on age for adults 21 and older, with a separate age band for children and young adults under 21. We also account 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 an enrollee pays is adjusted to account for tax credits available to qualifying individuals with incomes between 100 percent and 400 percent of the federal poverty level who do not have affordable offers of insurance from another source (e.g., employer coverage, Medicaid). We apply the ACA's subsidy formula using the benchmark silver premium and the individual's income. Eligible individuals who have incomes between 100 percent and 250 percent of poverty can also receive cost-sharing reduction (CSR) subsidies that help to lower out-of-pocket spending. As required by the ACA, individuals who receive CSR subsidies in COMPARE must be tax credit eligible and purchase a silver plan (i.e., 70 percent AV). With the CSR subsidies, the effective AV of the plan is increased to 94 percent if income is between 100 and 150 percent of poverty, 87 percent if income is between 150 and 200 percent of poverty, and 73 percent if income is between 200 and 250 percent of poverty. Accordingly, out-of-pocket spending is adjusted downward to reflect the higher AV of the plan. Note that out-of-pocket spending enters the individual's utility function; hence, individuals receiving CSR subsidies are more likely to purchase coverage.

Adjustments to Account for Post-ACA Experiences and Policies

CSRs. Given the Trump administration's decision to halt federal payments for CSRs, we assume in the model that insurers build the costs of the CSR payments into premiums for their silver plans. We take this into account in COMPARE by eliminating CSR payments from the federal government and loading the costs of CSRs onto the premiums of silver nongroup market

plans. Individuals who would have previously been eligible to receive CSR subsidies continue to do so.

Awareness of Marketplace Tax Credits. The U.S. Department of Health and Human Services (HHS) reported that approximately 14 percent of individual market enrollees are eligible for tax credits but forgo those credits by purchasing coverage outside of the Marketplaces (HHS, 2016). HHS further estimates that 9 million people are potentially eligible for tax credits but remain uninsured. Because these findings suggest that some people may be unaware of their tax credit eligibility, we assume that 25 percent of tax-credit-eligible individuals will not account for these credits in their health insurance enrollment decisions. With this assumption, we match HHS's estimate that approximately half of all individual market enrollees receive tax credits.

New Rating Curve. In May 2017, CMS updated the default age rating curve to adjust premium rating factors for children and young adults ages 20 and under (CCIIO, 2017). We use the revised rating curve in this analysis.

Adjustments to Model the Public Options

Plan Actuarial Value. We model the public option as plans with 60-, 70-, 80-, and 90-percent AV, similar to the AV in the ACA's bronze, silver, gold, and platinum plans. Public silver plan enrollees would be eligible for CSR subsidies equal to those for private silver plans. With the CSRs, the effective AV of the plan is increased to 94 percent if income is between 100 and 150 percent of poverty, 87 percent if income is between 150 and 200 percent of poverty, and 73 percent if income is between 200 and 250 percent of poverty.

Public Option Provider-Payment Rates. We assume that the public option would reimburse providers at rates lower than reimbursement rates by private plans under current law, which lowers the expenditures in the premium calculation. In our public option scenarios, we model two sets of payment rates: (1) a larger payment reduction, with rates in between Medicaid and private rates, and (2) a smaller payment reduction, with rates similar to those proposed in the Washington state Cascade Care legislation.

In the first set of payment rates, we assume provider payment rates would be 40 percent of the difference between Medicaid and private payer levels, above the Medicaid level, excluding prescription drugs. Based on relative payment rates reported for hospitals and physician services, we determined that 40 percent of the difference from Medicaid to private rates is equivalent to 79 percent of private rates. Medicaid payments are 61 percent of private payer rates for hospital services (AHA, 2018) and 58 percent of private rates for physician services (KFF, 2016; CMS, 2012). We exclude prescription drugs from the payment reduction to be consistent with the Washington state legislation that excludes pharmacy benefits from their payment limit. For all other services, we assume the relative payment rates between Medicaid and private insurers are the same as those paid for physician services. We weight these relative payment rates using

health care expenditures by service type from the 2017 National Health Expenditure Accounts (CMS, 2018a).

For the second set of payment rates with a smaller reduction, we assume that the public option would pay providers at 93 percent of private rates. The 93-percent level was calculated as the ratio between the Washington state public option's limit on provider payment rates of 160 percent of Medicare rates (WA SB 5526, 2019) after excluding pharmacy benefits (resulting in approximately 162 percent of Medicare rates overall) to 174 percent of Medicare rates, which is a current estimate of rates paid by Washington exchange plans (Cousart, 2019).

The lower provider-payment rates enter Equation A.1 as a reduction in the premium, p_{ij} . Furthermore, we assume that the lower provider-payment rates also reduce consumers' utility for the plan if there are real or perceived reductions in access due to the lower rates. This disutility is modeled as a reduction in the utility associated with health care consumption, $u(H_{ij})$, that is proportional to the relative provider-payment rate reduction.

Accounting for Geographic Variation in Affordability. We also account for geographic variation in public option premiums due to regional effects on insurance affordability, similar to the effects experienced by Marketplace premiums, as the APTCs are not adjusted to account for local prices. For both the private individual market and public option premiums, we capture geographic variation using a price index approach at the state level. We estimate 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 (Gabel et al., 2016). The index ranges from 2.32 in Alaska to 0.79 in Washington, D.C., with a population-weighted national average of 1.

Public Plan Administrative Rates. In COMPARE, we assume that private individual market plans spend approximately 20 percent of premiums on administration. We assume that the public plan would have the same level of administrative spending.

Risk Adjustment. As described in Pope et al. (2014) and updated by CMS (2019b), the risk adjustment transfer formula for the individual market is as follows:

$$T_i = \left[\frac{PLRS_i * IDF_i * GCF_i}{\sum_j (s_j * PLRS_j * IDF_j * GCF_j)} - \frac{AV_i * ARF_i * IDF_i * GCF_i}{\sum_j (s_j * AV_j * ARF_j * IDF_j * GCF_j)} \right] * \bar{P} * (1 - 0.14), \quad (A.2)$$

where

- T_i is the risk adjustment transfer amount for plan i
- $PLRS_i$ is a measure of risk that reflects plan AV and enrollee health status risk
- IDF_i is an induced demand factor
- GCF_i is an adjustment for geographic variation in costs
- AV_i is an adjustment for plan actuarial value
- ARF_i is an age rating factor

- \bar{P} is the average premium in the market
- the 0.14 discount factor applied in the last term represents an adjustment to premiums to account for plan administrative costs.

We have adapted Equation A.2 to use in the context of the COMPARE model. First, we made a few simplifications given modeling limitations, as follows:

- We do not address induced demand, so $IDF_i = 1$.
- We do not account for geographic variation in cost, so $GCF_i = 1$.
- We measure risk based on expenditure, as opposed to calculating a risk score based on conditions or other factors.
- We initially model the public option and other “private” individual market plans as separate risk pools. Then we create a single risk pool by transferring risk adjustment dollars between the public option and private plans.

With these changes, the risk transfer equation becomes

$$T_i = \left[\frac{Spend_i * AV_i}{\sum_j (s_j * Spend_j * AV_j)} - \frac{AV_i * ARF_i}{\sum_j (s_j * AV_j * ARF_j)} \right] * \bar{P} * (1 - 0.14), \quad (A.3)$$

where $Spend_i$ is average spending in plan i , represented in constant dollars not discounted for payment (in other words, by dividing spending in the public option by a factor of 0.79 or 0.93, depending on assumptions about negotiated payment rates).

We note, however, that this approach in Equation A.3 does not account for payment differences in public and private plans. To adjust for these differences, we add a term to the risk adjustment transfer equation to account for payment differences, as follows:

$$T_i = \left[\frac{Spend_i * AV_i * r_i}{\sum_j (s_j * Spend_j * AV_j * r_j)} - \frac{AV_i * ARF_i * r_i}{\sum_j (s_j * AV_j * ARF_j * r_j)} \right] * \bar{P} * (1 - 0.14), \quad (A.4)$$

where $r = 1$ for private plans and 0.79 or 0.93 for the public plan.

Because \bar{P} reflects market-level premiums, the total amount of risk adjustment dollars available declines when a low-cost public option is added. As a result, if low-risk people select into the public option, premiums for private plans will increase relative to what they would have been without the public option (holding the total risk pool constant). This is because risk adjustment transfer dollars are deflated, and the private plan—which has riskier enrollees—loses out. Conversely, if high-risk people select into the public option, premiums for private plans decrease relative to what they would have been without the public option (holding the total risk pool constant). This is because risk adjustment transfer dollars are deflated, and the healthy enrollees on private plans transfer slightly less money to the riskier public enrollees.

Premium Reduction due to Competition. We assume that the availability of the public option puts downward pressure on private individual market premiums due to competition. Dafny, Gruber, and Ody (2015) estimated a 5.4-percent decrease in the second-lowest-cost-silver

premium if UnitedHealthcare had entered the Marketplace in 2014. In a comparison of individual market premiums in regions with a Medicaid managed-care organization as an insurer, which are about 40 percent of regions, and those without, Blumberg et al. (2019) found that premiums were 7 percent lower in areas with a Medicaid insurer. Thus, we assume a 6-percent reduction in private individual market premiums when there is a public option. In a sensitivity analysis, we show the effects on enrollment and premium if there were no competition effect (Appendix B).

Comparison to CBO

Table A.1 compares our insurance estimates, assuming CSRs are not paid by the federal government and without the individual mandate, to those of the Congressional Budget Office (CBO, 2019).

The analyses differ in the assignment of primary insurance category and estimated population size. RAND assigns individuals to a primary insurance category, while the CBO allows people to have more than one source of coverage. Hence, the CBO's estimates do not sum to population totals. For the estimated population size, RAND matches population estimates published by the U.S. Census Bureau, which estimates that there will be 279.5 million nonelderly U.S. residents by 2022 (U.S. Census Bureau, 2017).

Compared with the CBO, RAND estimates that slightly more people will be enrolled in the individual market, and fewer people will be insured by Medicaid.

Table A.1. Comparison of COMPARE and CBO Estimated Enrollment for Individuals Under Age 65, 2022

| | COMPARE | CBO |
|-------------------------|---------|-----|
| Total insured | | |
| Employer | 160.1 | 159 |
| Individual market | 14.4 | 13 |
| Medicaid | 59.5 | 69 |
| Other | 12.5 | 11 |
| Uninsured | 32.9 | 33 |
| Total population | 279.5 | 274 |
| Share uninsured | 11.8% | 12% |

NOTES: CBO allows multiple sources of coverage, so estimates do not sum to population totals. These estimates reflect the elimination of the individual mandate and no federal payments to insurers for cost-sharing reductions. The COMPARE estimates reflect Medicaid expansion status as of May 13, 2019, with the following nonexpansion states: Alabama, Florida, Georgia, Kansas, Mississippi, Missouri, North Carolina, Oklahoma, South Carolina, South Dakota, Tennessee, Texas, Wisconsin, and Wyoming (KFF, 2019a).

Appendix B. Sensitivity Results Without Competition Effect

In our main scenarios, we assume a 6-percent decrease in private individual market premiums due to competition when the public option is available. However, competition between individual market plans differs by region and depends on factors such as the number of insurers and plans they offer. Furthermore, some regions have insurers that are managed-care organizations that traditionally offered Medicaid coverage prior to the ACA and may already offer lower provider-payment rates than commercial insurers. In this appendix, we show the impact on enrollment and premiums if there were no downward pressure on private individual market premiums from competition with the public option.

Enrollment and premiums with and without the competition effect are similar. Without the competition effect, public plan enrollment is still favored over private individual market plan enrollment due to the lower public payment rates (Table B.1). Compared with the scenarios with the competition effect, public plan enrollment is higher by 0.2 to 1.7 million people. In the on-Marketplace public option scenario, private individual market enrollment is 0.1 to 1.8 million lower than enrollment with the competition effect. Along with the lower private individual market enrollment levels in the public option scenarios, private nonsilver individual market premiums are 4 to 13 percent higher than premiums under current law (Figure B.1), compared with a 2-percent decrease to a 4-percent increase in the main scenarios with the competition effect. In the off-Marketplace public option without the competition effect, there is only a 1-percent decrease in the benchmark premium (Figure B.2).

Table B.1. Health Insurance Enrollment Without Competition Effect, Population Under Age 65, Millions, 2022

| | Current Law | (1) Off-Marketplace Public Option, Large Payment Reduction | (2) On-Marketplace Public Option, Large Payment Reduction | (3) On-Marketplace Public Option, Small Payment Reduction | (4) On-Marketplace Public Option, Small Payment Reduction, Extended APTCs |
|---------------------------|-------------|--|---|---|---|
| Employer | 160.1 | 159.5 | 159.7 | 160.1 | 160.0 |
| Individual market | 14.4 | 18.1 | 15.9 | 14.5 | 15.5 |
| Private individual market | 14.4 | 4.0 | 1.9 | 2.2 | 2.3 |
| Public option | 0.0 | 14.1 | 14.0 | 12.4 | 13.2 |
| Medicaid | 59.5 | 59.5 | 59.5 | 59.5 | 59.5 |
| Other | 12.5 | 12.5 | 12.5 | 12.5 | 12.5 |
| Uninsured | 32.9 | 29.9 | 31.8 | 32.8 | 31.9 |

NOTE: Private individual market plans include on- and off-Marketplace plans that may be offered by commercial insurers or managed-care organizations. Other insurance includes military health insurance and Medicare enrollees under the age of 65.

Figure B.1. Private Silver and Gold Premiums for 40-Year-Olds, Without Competition Effect, 2022

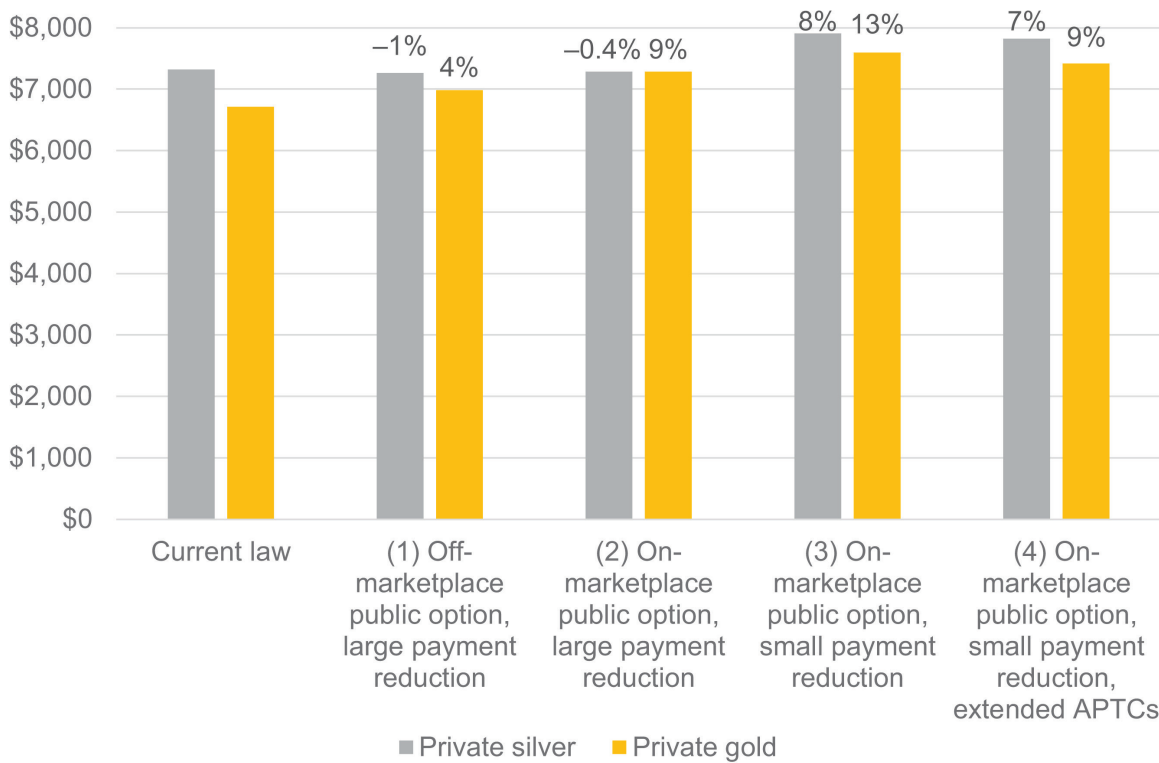
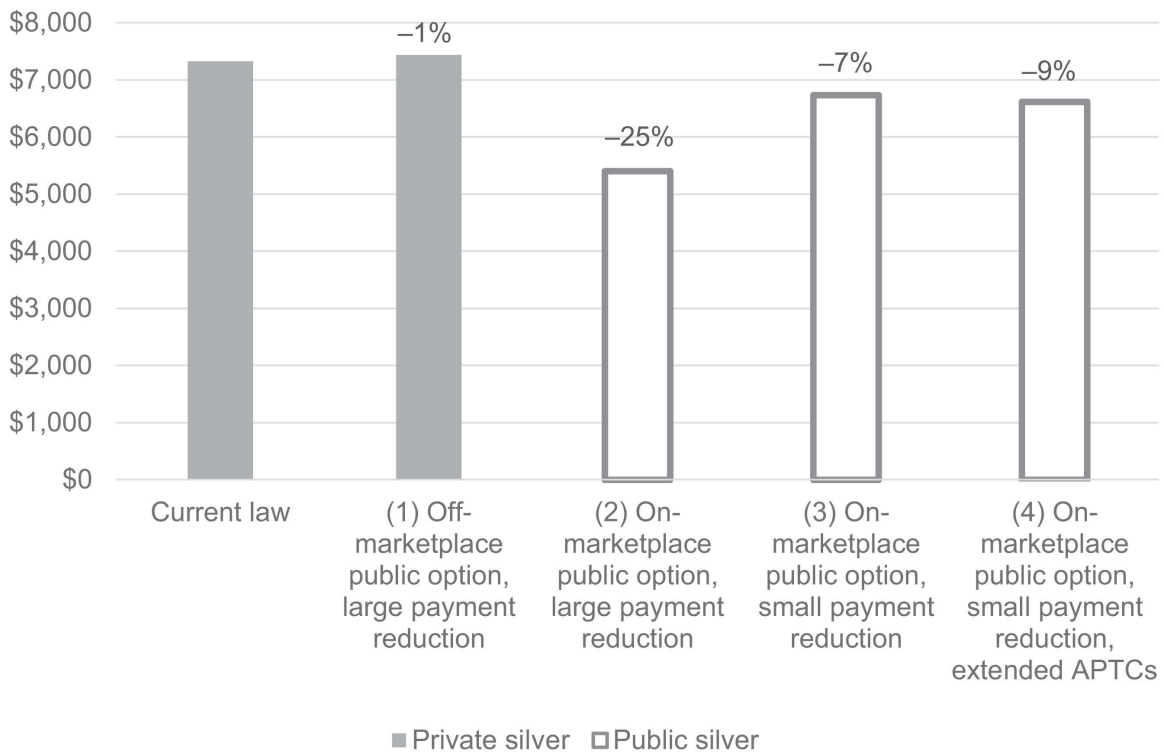


Figure B.2. Benchmark Premium for APTCs for 40-Year-Olds, Without Competition Effect, 2022



Appendix C. Supplemental Results for Individuals Who Were Better or Worse Off

Table C.1 shows the number of individuals and the average premium change for individuals who had individual market coverage or were uninsured under current law and became better and worse off due to changes in insurance and changes in premiums. Of those who are better off, about 14 to 35 percent became insured across the four scenarios. Of those who are better off because they pay less, the average decrease in premiums was \$560 to \$1,480 across the four scenarios. Of those who are worse off, about 8 to 14 percent became uninsured across the four scenarios. Of those who are worse off because they pay more, the average increase in premiums was \$320 to \$540 across the four scenarios. Nearly all the individuals who are worse off are have incomes below 400 percent of FPL and would see their APTCs decrease if the public option reduces the benchmark premium.

Table C.1. Insurance and Premium Changes Among Those Better and Worse Off with Public Option Compared with Current Law, Millions, 2022

| | (1) Off-Marketplace Public Option, Large Payment Reduction | (2) On-Marketplace Public Option, Large Payment Reduction | (3) On-Marketplace Public Option, Small Payment Reduction | (4) On-Marketplace Public Option, Small Payment Reduction, Extended APTCs |
|---|--|---|---|---|
| Better off, became insured | | | | |
| Number, millions | 3.1 | 2.3 | 0.7 | 1.7 |
| Better off, paid less for same or higher AV plan | | | | |
| Number, millions | 8.9 | 4.3 | 4.4 | 5.4 |
| Average premium change | -\$1,220 | -\$1,480 | -\$560 | -\$840 |
| Worse off, became uninsured | | | | |
| Number, millions | 0.2 | 0.9 | 0.6 | 0.5 |
| Worse off, paid more for same or lower AV plan | | | | |
| Number, millions | 2.0 | 5.9 | 5.1 | 4.8 |
| Average premium change | \$320 | \$540 | \$540 | \$420 |
| ≤400 percent FPL, better off, became insured | | | | |
| Number, millions | 1.8 | 1.2 | 0.4 | 0.6 |
| ≤400 percent FPL, better off, paid less for same or higher AV plan | | | | |
| Number, millions | 7.3 | 2.6 | 2.7 | 3.7 |
| Average premium change | -\$1,040 | -\$1,280 | -\$540 | -\$610 |
| ≤400 percent FPL, worse off, became uninsured | | | | |
| Number, millions | 0.2 | 0.9 | 0.6 | 0.5 |

| | (1) Off-Marketplace Public Option, Large Payment Reduction | (2) On-Marketplace Public Option, Large Payment Reduction | (3) On-Marketplace Public Option, Small Payment Reduction | (4) On-Marketplace Public Option, Small Payment Reduction, Extended APTCs |
|--|---|--|--|---|
| ≤400 percent FPL, worse off, paid more for same or lower AV plan | | | | |
| Number, millions | 1.9 | 5.8 | 5.0 | 4.8 |
| Average premium change | \$330 | \$540 | \$540 | \$430 |
| >400 percent FPL, better off, became insured | | | | |
| Number, millions | 1.4 | 1.1 | 0.3 | 1.0 |
| >400 percent FPL, better off, paid less for same or higher AV plan | | | | |
| Number, millions | 1.6 | 1.6 | 1.7 | 1.7 |
| Average premium change | –\$2,020 | –\$1,820 | –\$630 | –\$1,340 |
| >400 percent FPL, worse off, became uninsured | | | | |
| Number, millions | 0 | 0 | 0 | 0 |
| >400 percent FPL, worse off, paid more for same or lower AV plan | | | | |
| Number, millions | 0.1 | 0.1 | <0.1 | <0.1 |
| Average premium change | \$120 | \$510 | \$360 | \$300 |

NOTES: We assessed whether individuals who had individual market coverage or were uninsured under current law were “better off” (became newly insured or paid less for an equivalent or more generous plan) or “worse off” (became uninsured or paid more for an equivalent or less generous plan) under each public option scenario. The difference in the number who became insured and the number who became uninsured differs from the net change in total insurance because of other shifts in insurance coverage (e.g., some people on employer-sponsored insurance became uninsured or enrolled in individual market coverage).

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