ASPE RESEARCH BRIEF

HHS OFFICE OF THE ASSISTANT SECRETARY FOR PLANNING AND EVALUATION

OFFICE OF HEALTH POLICY

Did Consumers Respond to Changes in Gross Premiums or to Changes in Premiums Net of Tax Credits When Making Health Plan Choices in the 2016 ACA Marketplaces?

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The Affordable Care Act established the Health Insurance Marketplaces (Marketplaces) to provide consumers with choices of affordable health plans offered in a competitive insurance market. HealthCare.gov and state-run Marketplaces offer detailed information about each health insurance plan sold in an area, including the premiums, deductibles, other out-of-pocket costs, provider network, and more. Consumers can obtain information regarding their expected premium after tax credits by inputting their age, income, family size, geographic location, and smoking status when shopping.

Previous modeling by ASPE assumed that consumers make their plan choices based on their expected premiums net of tax credits.[i] However, as there is much public reporting each year – especially in the media – regarding premium growth that does not take into account the countervailing effect of premium tax credits, it is conceivable that increases in gross premiums could have an effect on consumers' plan choices.

To explore whether consumers responded to changes in net or gross premiums when making health plan choices in the 2016 ACA Marketplaces, we conducted two sets of analyses, one based on comparing counties and one based on comparing individuals.

In the county-level analysis, we conduct a statistical analysis comparing plan switching rates across counties by changes in average enrollment-weighted gross premiums between 2015 and 2016 and by changes in benchmark premiums between 2015 and 2016. The logic behind the county-level analysis is that, in counties in which average gross premiums increased yet benchmark premiums kept pace, most consumers likely saw little change in their premiums net of tax credits. Thus, if consumers are responding only to net premiums when making plan choices, it should not matter, in these counties, whether gross premiums increased by a large or small degree. However, if consumers are responding to increases in gross premiums when making plan decisions, we likely would see more consumers switching plans in counties when gross premiums increase regardless of whether benchmark premiums kept pace.

[i] For example, see DeLeire and Marks, "Consumer Decisions Regarding Health Plan Choices, in the 2014 and 2015 Marketplaces" ASPE Research Brief, October 28, 2015.

In our individual-level analysis, we conduct a statistical analysis examining whether consumers were more likely to switch plans in 2016 when their gross premium increased, or when their net premium increased.

Key Findings

- Comparing counties, we find:
  - A substantially greater fraction of Marketplace enrollees switched plans in 2016 when average premiums increased but benchmark premiums did not keep pace than if premiums did not change.
    - For example, we estimate that a $50 increase in average premiums with no change in benchmark premiums would lead to a 9.8 percentage point increase in the switching rate (a 37% increase).
  - When average premiums increased but benchmark premiums increased by the same amount, the fraction of Marketplace enrollees that switched plans in 2016 increased by a small amount, consistent with the fact that only a small percentage of enrollees are not eligible for premium tax credits.
    - For example, we estimate that a $50 increase in both average premiums and benchmark premiums led to a 3 percentage point increase (11%) in the switching rate.
  - These results suggest that consumers primarily respond to net premiums, rather than to gross premiums, when making plan selections in 2016.
- Examining consumer decisions at the individual-level, we find:
  - Consumers were much more likely to switch plans when the net premium of their 2015 plan increased (e.g., when that plan's premium increases by more than the benchmark premium), but were not more likely to switch plans when the gross premium of their 2015 increased but the net premium did not.
    - For example, we estimate that, if both net premiums and gross premiums increased by $50, the fraction of enrollees switching plans in 2016 increased 7.4 percentage points (34%). However, if gross premiums increased by $50 but net premiums did not change, there was no increase in the fraction of enrollees switching plans.
  - These results also suggest that consumers only responded to net premiums, and did not respond to gross premiums, when making plan selections in 2016.

I. CONSUMER RESPONSIVENESS TO CHANGES IN AVERAGE AND BENCHMARK PREMIUMS AT THE COUNTY LEVEL

A. Motivation

Counties experienced large variation in their rates of premium growth – both growth in average premiums and benchmark premiums – between 2015 and 2016. Because of the way in which tax credits are calculated, consumers who are eligible for premium tax credits (roughly 85% of Marketplace enrollees in 2015), experience no increase in premiums net of tax credits if benchmark premiums increase by the same amount as their plan's premium. (For the purposes of this analysis, we hold consumers' age, family composition, and income constant.) Thus, we would expect to see little difference in consumer behavior across counties in which average premiums and benchmark premiums

increased by the same amount, if consumers responded to premiums net of tax credits when making plan decisions. However, if consumers respond to average premiums without taking into account tax credits, we would see greater responsiveness (in terms of plan switching) among consumers in counties in which average premiums increased substantially regardless of whether benchmark premiums kept pace.

B. Approach

To conduct this analysis, we calculate the enrollment-weighted average age 21 Marketplace premium in each county in 2015 and 2016 using enrollment and premium data from CMS on states using the HealthCare.gov platform in both 2015 and 2016. We also calculate the benchmark premium in each county in each year. Finally, we calculate the county-level switching rate as the fraction of individuals in a county that purchased Marketplace coverage in both 2015 and 2016 who selected a different plan in 2016 than in 2015.[ii]

Table 1 reports the average and standard deviation of these premiums in each year as well as of the switching rate in 2016.

Table 1
County-Level Summary Statistics

	Mean	Standard Deviation
Fraction of 2015 Enrollees that Switched Plans in 2016	0.215	0.132
Average Age 21 2015 Premium	$217.85	$27.47
Average Age 21 2016 Premium	$236.32	$35.86
Difference	$18.44	$19.48
Percent Difference	8.1%	7.9%
2015 Age 21 Benchmark Premium	$217.83	$30.59
2016 Age 21 Benchmark Premium	$229.59	$39.67
Difference	$16.41	$24.04
Percent Difference	7.2%	10.4%
N	2,597	

Source: CMS enrollment and premium information from states using the HealthCare.gov platform in 2015 and 2016.

Notes: Statistics are weighted by total Marketplace enrollment at the county-level.

[ii] For consumers whose 2015 plan is no longer available in 2016, we do not consider them to have switched plans if they select the "cross-walked" plan.

We conduct a statistical analysis in which we related the county-level switching rate to the 2015 to 2016 changes in the county-level average premium and the county-specific benchmark premium using linear regression. We estimate two specifications, one in which the change in premiums are measured in dollars, and one in which the change in premiums are measured in percentage terms. The results of this statistical analysis are reported in Appendix Table 1.

C. Findings

The county-level switching rate was highly sensitive to changes in average premiums and was sensitive only to a small degree to changes in average premiums net of changes in benchmark premiums in 2016, based on the results of our statistical model.

This result is illustrated in Table 2 and in Figure 1. In both, we report the estimated increase in the county-level switching rate in response to a $50 increase in both the average and benchmark premium and the estimated increase in the switching rate in response to a $50 increase in the average premium with no change in the benchmark premium.[iii] In the case in which average premiums increase and benchmark premiums keep pace, most consumers would not see much of a change in their premiums net of tax credits. However, in the case in which average premiums increase but benchmark premiums do not change, all consumers would see their premiums increase as tax credits would not change from their previous-year levels.

In 2016, the average county-level switching rate was 21.5%. The results show that the switching rate was substantially higher – 9.8 percentage points higher – in counties in which average premiums increased by $50 but benchmark premiums did not change. By contrast, the switching rate was only slightly higher – 3.0 percentage points higher – in counties in which both average and benchmark premiums increased by $50. This finding is consistent with the fact that only a small percentage of Marketplace consumers were not eligible for tax credits in 2015 and 2016.

Table 2

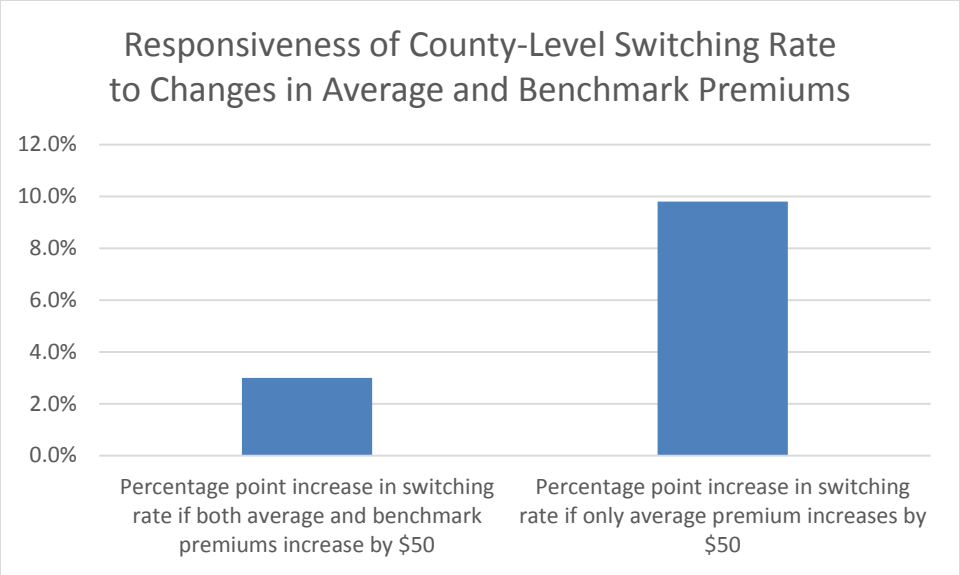
Estimated Responsiveness of the County-Level Switching Rate to Changes in the Average and Benchmark Premiums

Percentage point increase in switching rate if both average and benchmark premiums increase by $50	3.0%
Percentage point increase in switching rate if only average premium increases by $50	9.8%
Average County-Level Switching Rate	21.5%

Source: CMS enrollment and premium information from states using the HealthCare.gov platform in 2015 and 2016.
Notes: Based on a linear regression weighted by county-level Marketplace enrollment. Model results reported in Appendix Table1.

[iii] These estimates are based on the specification, reported in Appendix Table 1, in which we measure changes in premiums in levels. We prefer this specification because premiums net of tax credits are designed to remain constant only if benchmark premiums increase by the same amount, in dollar terms, as the increase in premiums.

Figure 1



The findings presented in Table 2 and in Figure 1 are consistent with consumers being sensitive to the net premium rather than to the gross premium when making health plan choices in 2016.

II. CONSUMER RESPONSIVENESS TO CHANGES IN NET AND GROSS PREMIUMS AT THE INDIVIDUAL LEVEL

A. Motivation

Consumers also experienced large variation in how much the gross premium of their 2015 plan increased in 2016 and in how much the premium, net of tax credits, of their 2015 selected plan increased in 2016. In this section, we explore whether consumers are sensitive to changes in their net premium or to changes in their gross premium when making Marketplace plan choice decisions.

Consumers who were enrolled in Marketplace plans in 2015 could have seen these premiums change to varying degrees in 2016. Moreover, they also could have seen changes in their net premiums depending, in addition, upon how their benchmark premium changed between 2015 and 2016. 2016 premium tax credits also could change if the consumer's family income or family size changed.

Because of the same underlying variation across areas in premiums and benchmark premiums discussed in the previous section, there was a great deal of variation across consumers in terms of how gross and net premiums changed between 2015 and 2016. We use this variation to determine whether consumers respond to changes in their gross premium or to changes in their net premium when making 2016 plan choices.

B. Approach

To conduct the individual-level analysis, we restrict the population to 2016 Marketplace enrollees who were also enrolled in 2015. For each of these consumers, we determine both the gross premium and the premium net of any advanced premium tax credits of the plan selected in 2015. We also determine the 2016 gross premium of the plan the consumer selected in 2015. The difference in gross premiums, for a consumer, between 2015 and 2016 is calculated as the difference between the 2015 and 2016 premium

of the plan selected in 2015. We calculate the 2016 net premium of the plan the consumer selected in 2015 as the 2016 gross premium of that plan less the amount of APTC the consumer was eligible for in 2016. The difference in net premium between 2015 and 2016 is calculated as the difference between the 2015 and 2016 net premiums of the plan selected in 2015. Finally, we determine that a consumer switched plans between 2015 and 2016 if the plan selected in 2016 is different from the plan selected in 2015.[iv]

Table 3 reports the average and standard deviation of premiums in each year and of the individual level switching rate in 2016.

Table 3
Individual-Level Summary Statistics

	Individuals	
	Mean	Standard Deviation
Fraction of 2015 Enrollees that Switched Plans in 2016	0.215	0.169
2015 Gross Premium	$351.91	$181.70
2016 Gross Premium of 2015 Selected Plan	$409.67	$211.55
Difference	$57.77	$60.89
Percent Difference	15.3%	14.4%
2015 Net Premium	$139.51	$141.96
2016 Net Premium	$179.26	$161.79
Difference	$39.74	85.5
Percent Difference	33.2%	70.2%
N	9,862,592	

Source: CMS enrollment and premium information from states using the HealthCare.gov platform in 2015 and 2016.

One could determine whether consumers respond to changes in gross or net premiums by estimating linear regressions of the probability of switching plans in 2016 where the change in the net premium of the 2015 selected plan and the change in the gross premium of the 2015 selected plan are the independent variables. However, this approach is complicated by the fact that the change in the net premium between 2015 and 2016 likely is endogenous. This endogeneity could arises because changes in income or changes in family size should have a direct effect on whether a consumer changes plans above and beyond any indirect effects through how these changes affect premium tax credits. As a result, we use a method that deals with this issue.

To estimate the effect of changes in the consumer's net premium on plan choice decisions, we use an instrumental variables approach. We first construct a "simulated" 2016 net premium of the consumer's

[iv] For consumers whose 2015 plan is no longer available in 2016, we do not consider them to have switched plans if they select the "cross-walked" plan.

2015 selected plan as the 2016 gross premium less the consumer's 2015 APTC, which is unaffected by changes in the consumer's income or family size between 2015 and 2016. At the same time, there is substantial stability across plan years in terms of APTCs. We then use the change between the 2015 net premium and the 2016 "simulated" net premium as an instrument for the change in the net premium between 2015 and 2016 in our analysis.[v] The results of this statistical analysis are reported in Appendix Table 2. As in the county-level analysis, we report the results of two specifications: one in which the difference in premiums is measured in levels and one in which this difference is measured in percentage terms.

C. Findings

The likelihood that consumers switched plans in 2016 was highly sensitive to changes in net premiums and was not sensitive to changes in gross premiums, based on the results of our statistical model.

This result is illustrated in Table 4 and in Figure 2. In both, we first report the estimated percent increase in the individual-level switching rate in response to a $50 increase in the gross premium with the net premium not increasing at all (which could occur, for example, if the benchmark premium increased by the same amount as the consumer's 2015 premium). Second, we report the estimated change in the individual-level switching rate in response to a $50 increase in both the gross and net premium (which could occur, for example, if the consumer's 2015 premium increased but the benchmark premium did not change).[vi]

In 2016, the average individual-level switching rate was 21.5%. The results show that the switching rate was substantially higher – 7.4 percentage points higher – among individuals whose net premiums increased by $50. By contrast, the results show that the switching rate was not higher among individuals whose gross premiums increased but whose net premiums did not change.

Table 4

Estimated Responsiveness of the County-Level Switching Rate to Changes in the Average and Benchmark Premiums

Percentage point increase in switching rate if gross premium increases by $50 but net premium does not change	-3.2%
Percentage point increase in switching rate if gross and net premiums both increase by $50	7.4%
Average Individual-Level Switching Rate	21.5%

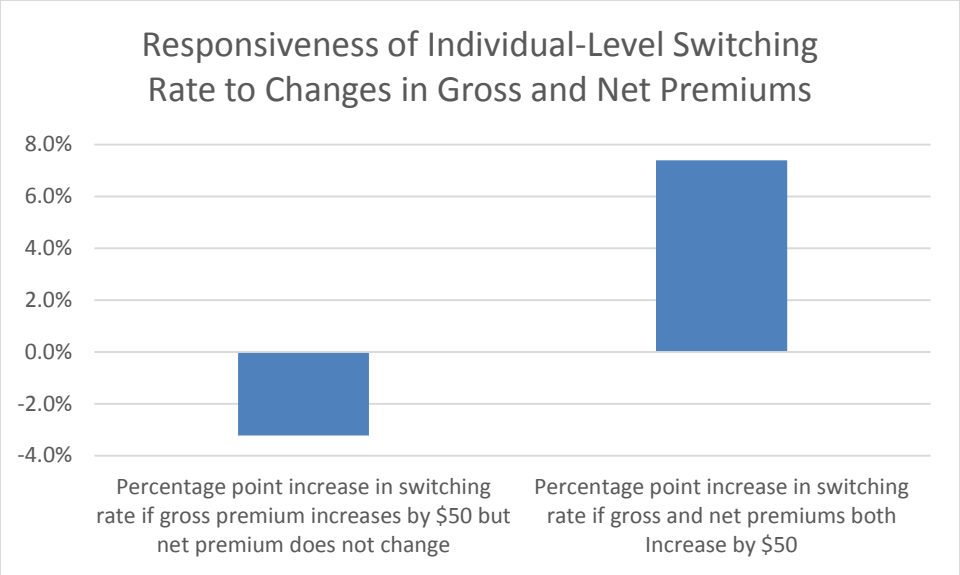
Source: CMS enrollment and premium information from states using the HealthCare.gov platform in 2015 and 2016.

Notes: Estimated by instrumental variables. Robust standard errors clustered at the rating area level are reported in parentheses.

[v] The coefficient from the "first-stage" regression of simulated change in net premiums on the change in net premiums is 1.002 with a standard error of 0.001. The coefficient from the "first-stage" regression of the percent change in simulated net premiums on the percent change in net premiums is 0.138 with a standard error of 0.005.

[vi] These estimates are based on the specification, reported in Appendix Table 2, in which we measure changes in premiums in levels. We once again prefer this specification because premiums net of tax credits are designed to remain constant only if benchmark premiums increase by the same amount, in dollar terms, as the increase in premiums.

Figure 2



The findings presented in Table 4 and in Figure 2, once again, are consistent with consumers being sensitive to the net premium rather than to the gross premium when making health plan choices in 2016.

III. CONCLUSIONS

In this brief, we examine whether there is evidence that consumers responded to gross premiums, rather than to net premiums, when making plan choice decisions in 2016. We find little evidence to support the idea that consumers responded to changes in gross premiums during the 2016 open enrollment period.

In 2017, the increases in average premiums were substantial in many parts of the country and tended to be much larger than in 2016.[vii] However, because benchmark premiums increased substantially as well, we expect that most consumers will see little change in their premiums net of tax credits. The findings presented in this brief suggest that consumers will respond to the change in their net premium, not to changes in the premium without taking into account tax credits.

[vii] "Health Plan Choice and Premiums in the 2017 Health Insurance Marketplace" ASPE Research Brief, October 24, 2016.

Appendix Tables

Appendix Table 1

Effect of Changes in Average and Benchmark Premiums on County-Level Switching Rates

	Level Differences	Percent Differences
Difference in Average Premium, 2015 to 2016	0.0020	0.4418
	(0.0005)	(0.1097)
Difference in Benchmark Premium, 2015 to 2016	-0.0014	-0.2654
	(0.0004)	(0.0898)
Constant	0.2648	0.2621
	(0.0063)	(0.0067)
N	2,597	2,597

Source: CMS enrollment and premium information from states using the HealthCare.gov platform in 2015 and 2016.

Notes: Estimated by linear regression weighted by county-level Marketplace enrollment. Robust standard errors are reported in parentheses.

Appendix Table 2

Effect of Changes in Gross and Net Premiums on Individual-Level Switching Rates

	Level Differences	Percent Differences
Difference in Gross Premium, 2015 to 2016	-0.0006	0.1276
	(0.0005)	(0.0285)
Difference in Net Premium, 2015 to 2016	0.0021	0.0554
	(0.0007)	(0.0092)
Constant	0.2102	0.2191
	(0.0059)	(0.0062)
N	9,862,592	9,862,592

Source: CMS enrollment and premium information from states using the HealthCare.gov platform in 2015 and 2016.
Notes: Estimated by linear regression weighted by county-level Marketplace enrollment. Robust standard errors are reported in parentheses.