WHITE PAPER

Premium Effects on ACA Enrollment

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Introduction

The individual market has experienced an incredible amount of change since the implementation of the Affordable Care Act (ACA). In particular, both enrollment and premium levels have changed dramatically between the initial year of the individual ACA market, 2014, and today. The first few years exhibited a pattern of flat premium growth coupled with enrollment increases; however, in 2017, the individual ACA market experienced large premium increases combined with large enrollment decreases, specifically among unsubsidized[1] enrollees. Beginning in 2018 and continuing to present, the market has begun to level out and many states have experienced a decrease in market premiums, although enrollment drops are still being experienced. This paper will examine how the different groups of members within the individual market,[2] namely subsidized, unsubsidized on-Exchange, and off-Exchange have reacted to premium increases over time.

The first analysis looked simply at the relationship between premium increases and enrollment. Additional analyses were then completed to look at other potential factors driving enrollment changes. Our initial analysis had the following findings:

1. Each group reacted differently to premium increases. In general:
    a. The subsidized enrollees were unaffected by premium increases.[3]
    b. Unsubsidized enrollees (both on- and off-Exchange) reacted negatively to premium increases; average enrollment decreased as premiums increased. However,

[1] Subsidized are those who are eligible to receive advanced premium tax credits (APTCs) to help pay for monthly premiums. This classification refers to subscribers whose total annual income is less than 400 percent of the federal poverty level, are enrolled on-Exchange, and are in a non-catastrophic plan or are American Indians. Unsubsidized members, including all enrollees off-Exchange, are not eligible for these subsidies. The on-Exchange market is made up of unsubsidized and subsidized enrollees.
[2] For purposes of this paper when referring to individual market we will only be referring to ACA enrollees in the individual market.
[3] There is evidence that between 2017 and 2018 silver plan premium increases, due to carriers now needing to fund cost-sharing subsidies (silver-loading), increased subsidized enrollment. This paper did not examine the changes in enrollment as a result of silver-loading.

unsubsidized on-Exchange and unsubsidized off-Exchange reacted at different levels to the change in premiums.

2. Impacts varied across time. The average change in enrollment relative to a given premium increase was very different between 2015 and 2016, 2016 and 2017, and 2017 to 2018. Factors beyond premiums should be understood when projecting enrollment changes.

While some of the findings largely reinforce what is already known through other studies, they also highlight the importance of understanding state specific dynamics. Enrollee behavior differs dramatically state by state and year by year.

Individual Market Consumer Behavior: Expectations

Previous research on individual market behavior has suggested that, generally, total individual market enrollment was not significantly sensitive to premium increases.[4] This is primarily because a significant portion of individual market enrollees receives subsidies and the subsidy structure protects those enrollees from premium increases. Advanced premium tax credits (APTCs) keep eligible individuals' net premiums[5] constant, regardless of the actual cost of the gross premiums; net premiums are a function of income, rather than gross premiums. Put another way, individuals with APTCs, or subsidized members, generally do not have an increase in actual out-of-pocket premiums as gross premiums increase.[6]

However, unsubsidized enrollees are directly impacted by premium increases. A previous analysis by the Council of Economic Advisors[7] summarized data on the individual market to suggest an elasticity (member sensitivity to premiums) of -0.40, or for every 1.00 percent increase in premium there would be a resulting 0.40 percent decrease in the unsubsidized enrollment. Other research has found different elasticities for the individual market. For example, the Congressional Budget Office (CBO) estimated individual market elasticity of approximately -0.57.[8] Aurbach and Ohri estimated an elasticity of -0.59.[9] Generally, the individual market has been estimated to have an elasticity between -.40 and -.60.[10]

In discussing elasticity for a particular state, it is important to understand that member characteristics will greatly influence the number of enrollees affected by premium changes. CBO's analysis of elasticity in the individual market found that individuals below 200 percent of the Federal Poverty Limit (FPR) had an

[4] https://obamawhitehouse.archives.gov/sites/default/files/page/files/201701_individual_health_insurance_market_cea_issue_brief.pdf
[5] Net premiums are equal to gross premiums less APTCs funded by the Federal Government
[6] Subsidized enrollees enrolled in the benchmark plan would not experience premium increases due to gross premium increases. Subsidized enrollees enrolled not in the benchmark plan could face premium increases due to changes in the relative premium of their plan compared to benchmark premium (i.e., if there's compression in premium differences between plans).
[7] ibid
[8] https://www.cbo.gov/sites/default/files/109th-congress-2005-2006/reports/08-24-healthinsurance.pdf
[9] https://journals.sagepub.com/doi/pdf/10.5034/inquiryjrnl_43.2.122
[10] ibid

elasticity of -0.84[11] to premium changes;[12] poorer individuals are much more sensitive to change in price than individuals who are wealthier. This may result in differences between states. For example, if the off-Exchange income distribution differs from the on-Exchange unsubsidized income distribution, and one state has a larger off-Exchange market, the impact of premium increases across all unsubsidized enrollees could differ state by state because their markets have different income distributions of enrollees. Additionally, health differences produce variances in the level of price sensitivity. CBO found that people with poor and fair health had an elasticity of about -.39.[13] Aurbach and Ohri also found that elasticity was lower for individuals in poor and fair health.[14] Consequently, state enrollment reactions to premium changes may differ from average elasticity if their unsubsidized enrollees are relatively less healthy.[15] [16]

One unexplored question is if various segments of the unsubsidized market would react differently to changes in premiums. There are theoretical reasons why the on- and off-Exchange populations may act and respond in a different manner. First, unsubsidized individuals on-Exchange have to undergo certain background checks, for example, demonstrating citizenship or lawful presence in the United States. Given the additional checks, it may be that on-Exchange unsubsidized enrollees may be stickier (less likely to disenroll) relative to individuals off-Exchange that do not have to go through extensive paperwork. Second, off-Exchange enrollees could potentially be more sensitive to premium changes as they may be former pre-ACA individual market enrollees. Often times, pre-ACA plan members were shifted into off-Exchange ACA plans. Such individuals may be more tempted to shift to products that are cheaper and inherently include underwriting, such as short-term limited duration plans or health sharing ministry plans. Third, in terms of absolute numbers, off-Exchange enrollees may shift to the on-Exchange market in the event they are eligible for APTC subsidies. A previous analysis[17] has shown that, during the time period analyzed, there were a substantial number of off-Exchange enrollees with FPLs that would have made them eligible for APTCs if they shifted to the on-Exchange market. Consequently, it may be that lower FPL enrollees in the off-Exchange were more likely to migrate to on-Exchange. This may also explain the increase in the number of subsidized enrollees in many states. In such a world, it may be that on-Exchange attracts, on average, more off-Exchange enrollees as premium increases.

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[11] https://www.cbo.gov/sites/default/files/109th-congress-2005-2006/reports/08-24-healthinsurance.pdf
[12] Note that generally low income individuals (whether because of subsidies or Medicaid) tend not to face premium increases separate from changes in income. However, in instances where they do, there are more sensitive to premium increases than wealthier individuals, ceteris paribus.
[13] ibid
[14] https://journals.sagepub.com/doi/pdf/10.5034/inquiryjrnl_43.2.122
[15] It is important to note that each of the studies relied on a particular set of years with a particular dataset and particular assumptions. Consequently, it is not surprising that the estimates differ. As the paper discusses later, we feel differences in the environment and overall context have an impact on enrollment changes.
[16] It is important to note that by elasticity in the discussion above, we are referring to exiting the individual market rather than simply switching plans. Abraham et al (2017) notes that the elasticity of an individual exiting, i.e. switching, a particular plan in the individual market Exchange is -1.7, far higher than exiting the individual market as denoted in the above literature. For example, instead of forgoing individual market coverage a member may shop for a cheaper plan with the same benefit richness when imposed with a rate increase, or perhaps select to buy down to a plan with less benefits and higher potential cost sharing for the tradeoff of lower premiums.
[17]https://aspe.hhs.gov/pdf-report/people-who-currently-buy-individual-market-coverage-could-be-eligible-aca-subsidies

Another open question is the extent to which take-up of enrollees differs for reasons other than premiums. Extensive research has demonstrated that factors such as outreach,[18] advertising,[19] and even political views[20] affect enrollment decisions. Additionally, it is possible that confusion about the enforcement of the individual mandate affected membership. According to a recent Kaiser Family Foundation survey, a majority of Americans were not aware the mandate penalty had been effectively repealed.[21] Consequently, it is our hypothesis that the relationship between premium increases and enrollment should differ across years, and markets, based on other factors beyond just premium changes.

Given the two outlined questions, two main hypotheses were developed and analyzed:

1. Off-Exchange enrollment decreases at a faster rate than on-Exchange unsubsidized enrollment, given the same premium increase.

2. Premium effects on enrollment differ year to year, as they are attenuated by other factors.

Analysis: Data and Methodology

This analysis focused solely on the individual ACA market, primarily on changes that occurred in 2016, 2017, and 2018.[22] The 2017 to 2018 enrollment and premium effects are considered preliminary, as final data was not available at the time of the analysis. Enrollment and premium data were summarized from various public sources by state and nationwide, and by population segment. The off-Exchange enrollment and premiums were calculated by Wakely. Premiums were also normalized for certain membership mix differences, specifically metal level and age, year over year. Enrollment changes by segment were compared to different premium changes for the on-Exchange market, average benchmark premium, and total market premium.

Based on the enrollment and premium data by group, various regression statistics were calculated to measure the relationship of how the two variables changed year by year and to determine whether any particular patterns could be observed. The movement of premium and enrollment changes were fitted to a line. R-squared and correlation measures were calculated to better understand the relationships and significance of modeling.

For more details on the data and methodology please see the Appendix.

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[18] https://www.mathematica-mpr.com/our-publications-and-findings/publications/impact-of-enroll-america-on-the-number-of-individuals-covered-through-the-federally-facilitated
[19] https://www.healthaffairs.org/doi/10.1377/hlthaff.2017.1507
[20] https://www.cambridge.org/core/journals/american-political-science-review/article/policy-uptake-as-political-behavior-evidence-from-the-affordable-care-act/98F8D71C0336627AE97A357D2F145C27
[21]https://www.kff.org/report-section/kff-health-tracking-poll-november-2018-priorities-for-new-congress-and-the-future-of-the-aca-and-medicaid-expansion-findings/
[22] Enrollment in 2014 and 2015 may be less indicative of long term patterns given the unique operational (difficulties in enrollment due to operational problems) and policy changes (ending of non-ACA plans).

Analysis: Results

Below discusses the results and findings of the analysis for the years of 2015 to 2016 and 2016 to 2017. A follow-up regarding preliminary impacts between 2017 and 2018 is included in the latter part of the results section.

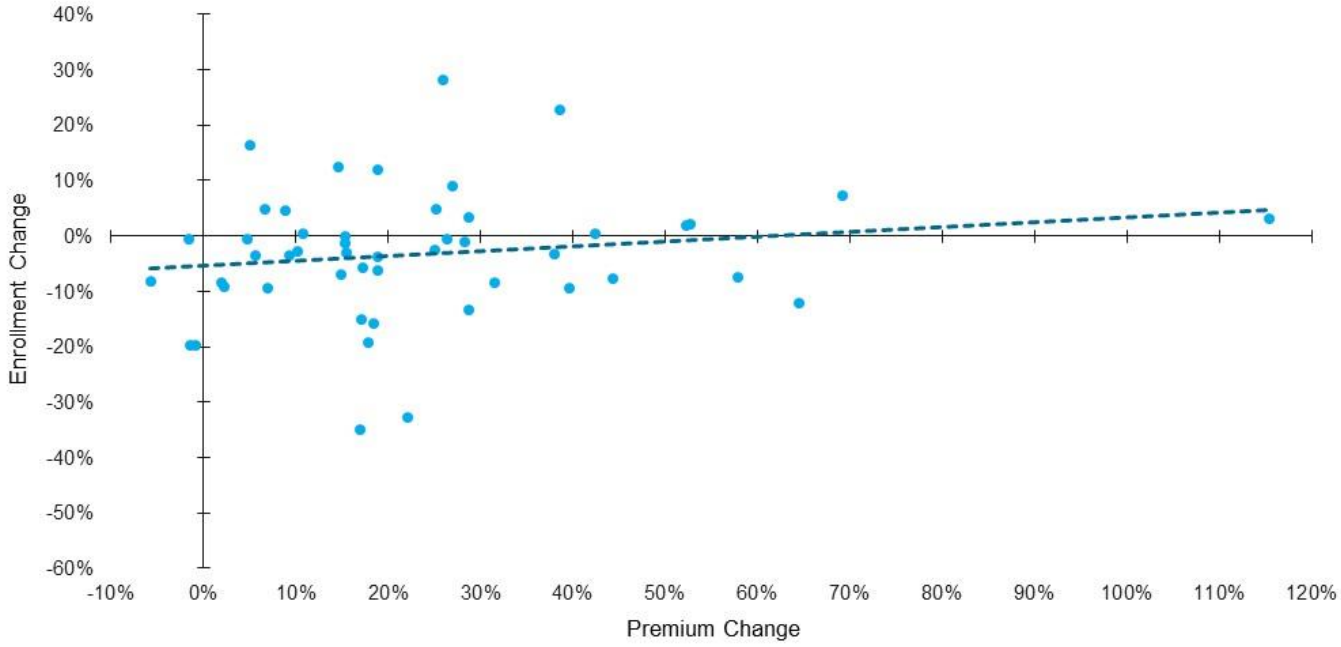
Subsidized population. Subsidized enrollment was generally unaffected by premium increases. One reason is the aforementioned APTC structure. Because the benchmark premium (or second lowest cost silver plan premium) in a market is used to calculate member APTCs, an increase in gross premiums will result in increased premium subsidies and, consequently, no change to net premiums that the member ultimately pays.

The data validates that although premiums increased, on average, in 2016 and 2017, there was no correlation between premium increases and enrollment changes at the state level among the subsidized population. As can be seen in Figure 1, subsidized enrollment declines in some states between 2016 and 2017. However, these declines are uncorrelated to changes in premiums. This is expected as subsidized enrollees, generally, do not see direct premium impacts. The data indicates changes in subsidized enrollment was driven by non-premium factors such as outreach, normative influences, overall economy, etc.

It is also important to note that the lack of correlation between the overall market enrollment and premiums is a key data point. APTC enrollment represents a majority of enrollment in the individual market in most states.[23] APTC enrollees are protected from premium changes given the current structure of the subsidies. With a large portion of the market protected from premium increases, a death spiral is unlikely to occur as a result of premium increases. Figure 1 shows the percent change in the average benchmark premium for each state compared to the subsidized enrollment change from 2016 to 2017. Similar observations were made between 2015 and 2016.

[23] Wakely calculations

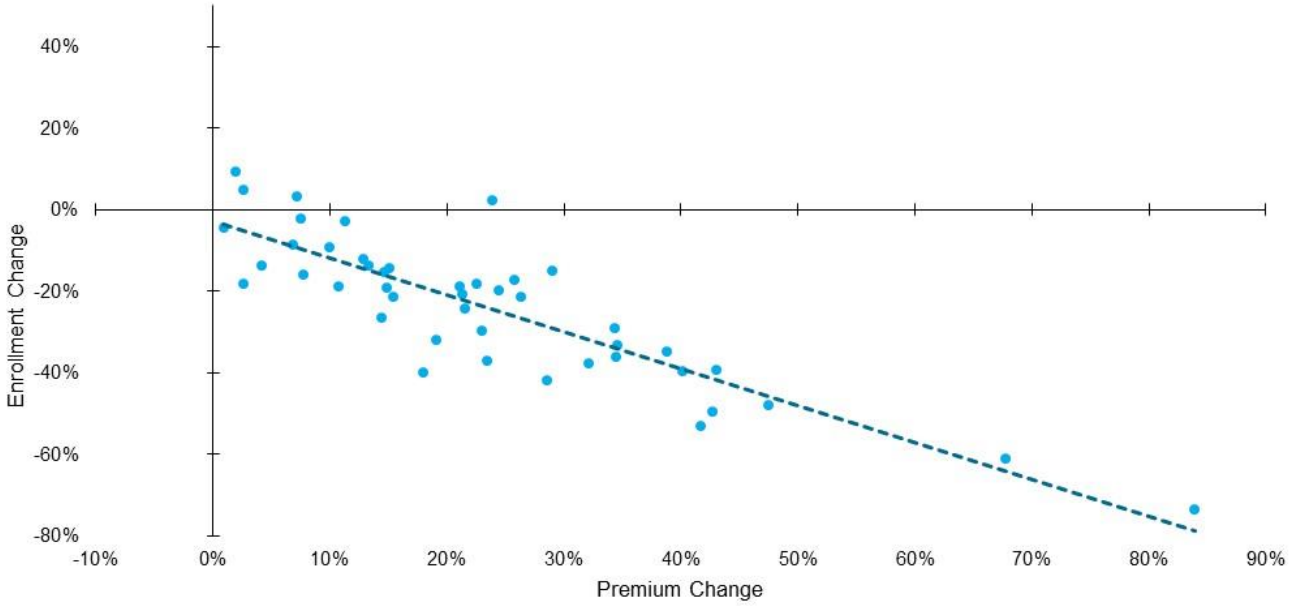
Figure 1: Percent Change in On-Exchange Subsidized Enrollment Compared to Percent Change in Average Benchmark Premiums from 2016 to 2017



Unsubsidized population. The unsubsidized enrollees, on- and off-Exchange, dropped coverage as premiums increased. This was expected, as this population bears the full cost of premium increases contrary to the subsidized enrollees.

As displayed in Figure 2, the individual market had large premium increases, especially in 2017, which resulted in equally sizable decreases in the unsubsidized population across the majority of states. The observed interaction of premium to enrollment changes were highly negatively correlated indicating that members were greatly sensitive to increases in rates. As premiums increase relative to income, individuals are expected to purchase less of the product. Elasticity was much lower compared to the prior referenced study by the Council of Economic Advisors. While not an exact comparison, the data indicated, via linear regression, a coefficient of -0.9, or a 1.0 percent premium increase resulted in an enrollment decrease of 0.9 percent. The modeled linear line proved a relatively good fit (R-squared measure of approximately 0.75), signifying the behavior of the unsubsidized members can be predicted based on the magnitude of a rate change. Figure 2 below shows the percent change in the average total market premium for each state compared to the total unsubsidized enrollment, on- and off-Exchange, from 2016 to 2017.

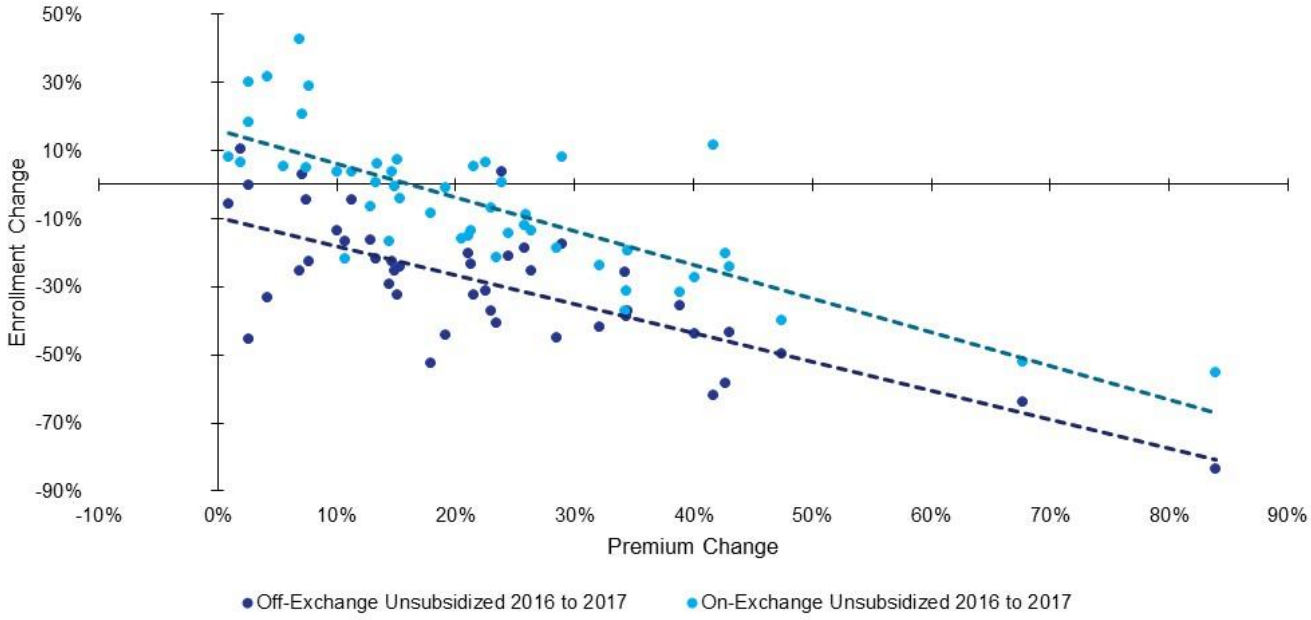
Figure 2: Percent Change in Total Unsubsidized Enrollment Compared to Percent Change in Total Premiums from 2016 to 2017



Unsubsidized off-Exchange vs. on-Exchange populations. As discussed, the unsubsidized population in total decreased as premiums increased. However, when analyzed separately, we observed differences in attrition between the off- and on-Exchange unsubsidized populations when faced with the same premium changes. In 2017, the average national size of the off-Exchange market decreased almost five times more than the on-Exchange unsubsidized market, as a percentage of each respective market-share (approximately 26.0% decrease off-Exchange compared to a 5.5% decrease on-Exchange). Put in other words, approximately 1.2 million enrollees off-Exchange exited the market in 2017 while total enrollment dropped by approximately 1.5 million. While there may be a portion of off-Exchange members migrating to on-Exchange,[24] based on the sheer number and magnitude of the decreasing membership, it is apparent a large share are electing to forgo insurance in the individual market rather than paying higher premiums. This further demonstrates that off-Exchange enrollees react differently and may be more sensitive to premium changes compared to the on-Exchange unsubsidized population. Figure 3 shows the percent change in the average total market premium for each state compared to the unsubsidized enrollment on-Exchange and off-Exchange from 2016 to 2017.

[24] While understanding the exact mechanism for why off-Exchange enrollees differ from the effects of premiums relative to unsubsidized on-Exchange enrollees two potential sources include: 1) off-Exchange unsubsidized could shift to on-Exchange as they become eligible for subsidies due to higher premiums and 2) on-Exchange enrollees have higher stickiness given that their revealed preferences include willingness to subject themselves to higher levels of verification (i.e., citizenship checks).

Figure 3: Percent Change in Unsubsidized on-Exchange and off-Exchange Enrollment Compared to Percent Change in Total Premiums from 2016 to 2017



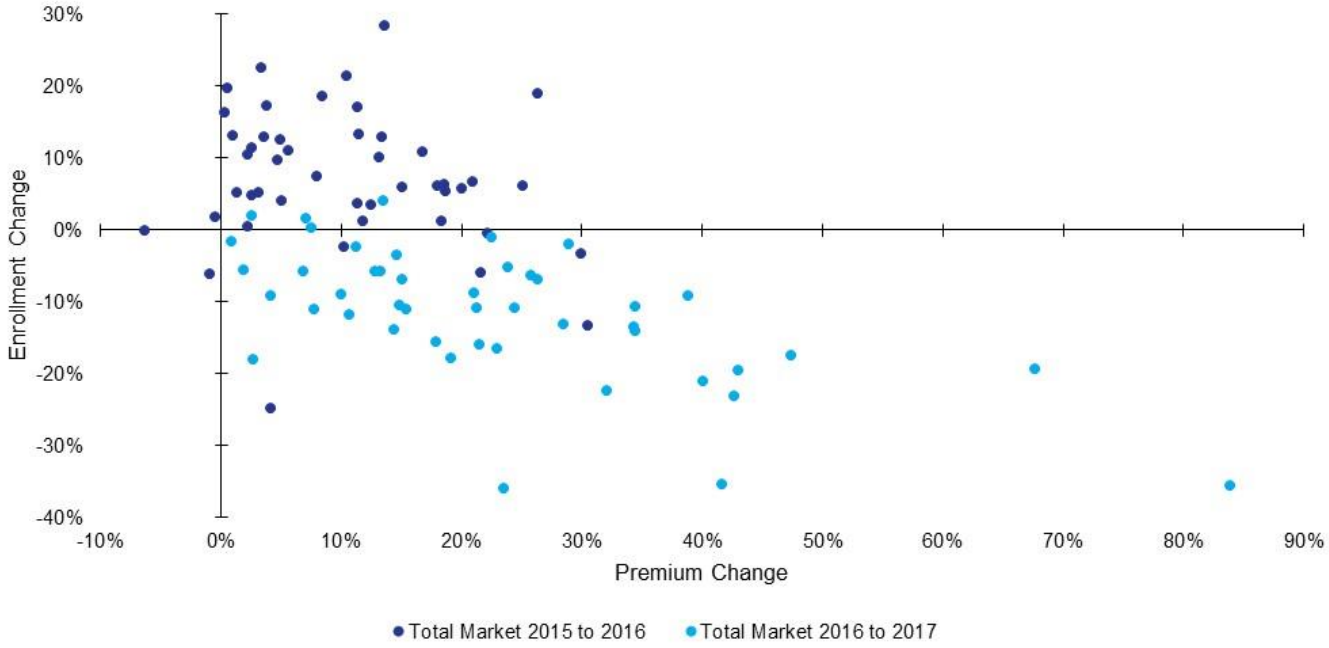
Changes over time. The immense changes within the ACA individual market since 2014 has greatly impacted member behavior. While 2016 to 2017 showed strong correlation between premiums and enrollment for the unsubsidized population, no consistent patterns were observed year over year. The different correlations found when looking at one year rather than another reinforces the fact that other dynamics beyond premiums influence enrollee choices. Certain components that may have contributed to the variances across time, or state, include factors such as changes in advertising and other outreach efforts,[25] state policy decisions,[26] or potential unique factors that include state specific perception factors. As previous sources have shown, for example Baicker et al (2012),[27] individuals in their decision to take up insurance include a number of factors beyond economics. Cognitive biases, preferences, and other psychological factors play a large role in insurance purchase decisions. Another example, Lerman et al (2017), notes that political party identification has a statistically significant role in whether individuals purchase coverage in the individual market.[28]

Nationwide, average premiums in 2016 increased 8% and market enrollment also increased 6% (or almost 0.9 million members). However, in 2017, an average 20% rate increase caused a market-wide

[25] https://www.healthaffairs.org/doi/abs/10.1377/hlthaff.2015.0215
[26] https://www.healthaffairs.org/do/10.1377/hblog20180710.459445/full/
[27] Baicker, Katherine, William Congdon, and Sendhill Mullainathan (2012). "Health Insurance Coverage and Take-Up: Lessons from Behavior Economics" Milbank Quarterly.
[28] Lerman, Amy, Mereith Sadin, and Samuel Trachtman. 2017. "Policy Uptake as Political Behavior: Evidence from the Affordable Care Act". American Journal of Political Science Review. Volume 111 (4)

enrollment drop of -10% (or close to 1.5 million members). As you can see from the scatter plot, there is no statistical significance (or R-squared close to zero) between 2015 and 2016 and other time periods. One would not expect for the market in total to behave similarly, as discussed previously, therefore the non-relationship makes sense. Figure 4 shows the percent change in the average total market premium for each state compared to the total market enrollment from 2015 to 2016 and 2016 to 2017. Unsubsidized enrollment changes in both years has a strong positive correlation to premium changes (with changes between 2016 and 2017 being stronger than changes between 2015 and 2016) , but the magnitude of the decrease is substantially different between the two periods.

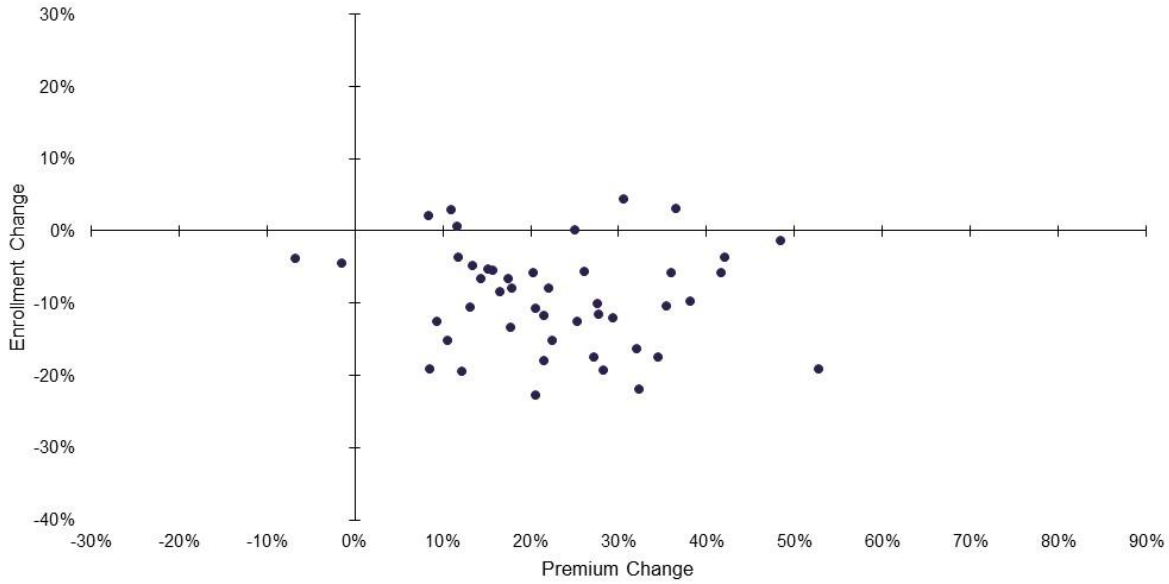
Figure 4: Percent Change in Total Market Enrollment
Compared to Percent Change in Total Premiums from 2015 to 2016 and 2016 to 2017



2018 Analysis

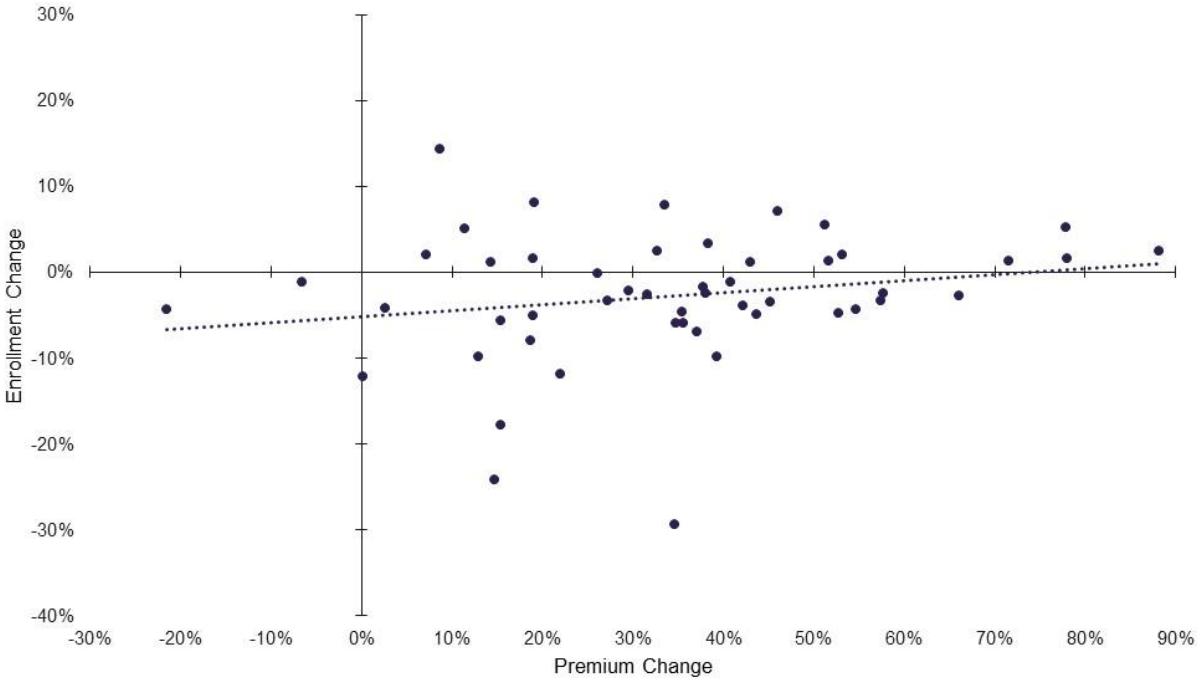
While the final data for 2018 was not available at the time the analysis was completed, we did examine the preliminary data. Premium changes in 2018 were markedly different from 2017 or 2016, as in many states premiums had small increases or even decreases. Despite the differences in premium changes from the prior two time periods, the same findings in 2016 and 2017 replicate themselves in the preliminary 2018 analysis. Figure 5 shows the percent change in the average total market premium for each state compared to the total market enrollment from 2017 to 2018.

Figure 5: Percent Change in Total Market Enrollment
Compared to Percent Change in Total Premiums from 2017 to 2018



Subsidized Enrollment: As can be seen in the below chart, subsidized enrollment changes were unrelated to premium changes.

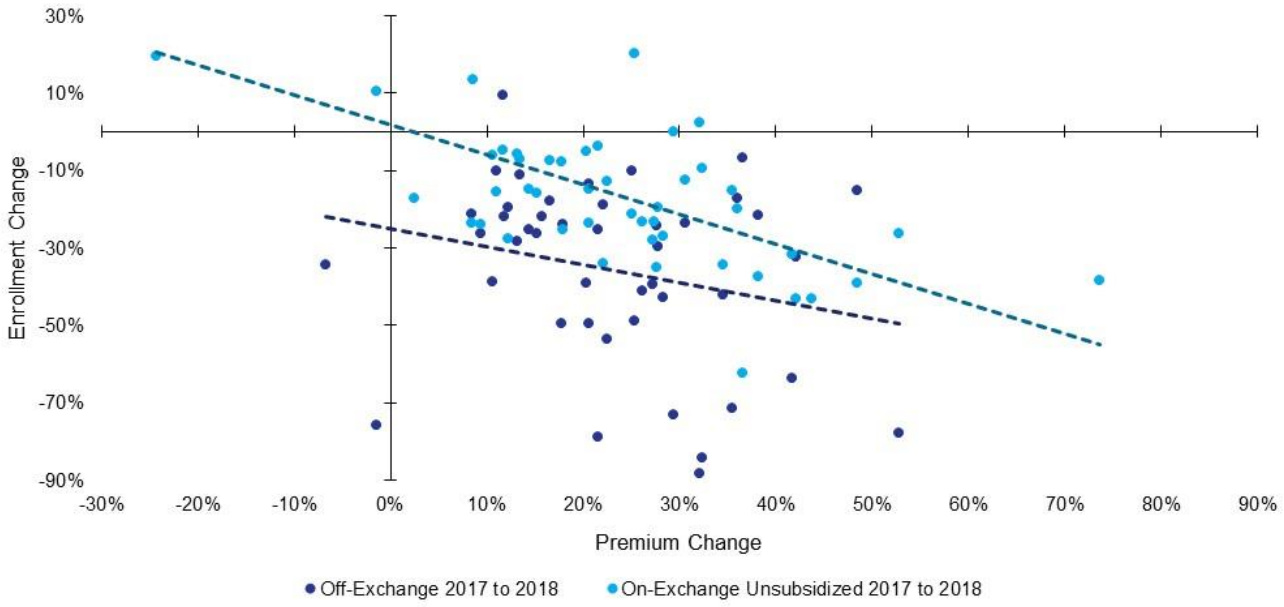
Figure 6: Percent Change in On-Exchange Subsidized Enrollment
Compared to Percent Change in Average Benchmark Premiums from 2017 to 2018



Unsubsidized enrollment: As also can be seen in Figure 7 below, premium changes and unsubsidized enrollment changes were correlated. However, the exact impact of premiums on enrollment was different in 2018 relative to the previous year. Unsubsidized enrollment losses were higher than expected, given premium changes. There are a number of non-premium reasons for this, such as confusion of the mandate repeal, reductions in outreach, and other factors.

Off-Exchange Enrollment: Also, similar to previous years, off-Exchange enrollment losses exceeded on-Exchange unsubsidized enrollment losses, assuming the same premium changes.

Figure 7: Percent Change in Unsubsidized on-Exchange and off-Exchange Enrollment Compared to Percent Change in Total Premiums from 2017 to 2018



Again, while the data is preliminary, the fact that 2018 findings align with the previous analyses strengthens the evidence around our key findings.

Conclusion

The premium effects on subsets of the individual market population are substantially different within a given year, state, and across time. Our analyses proved that the unsubsidized population reacted negatively, and at different levels on- and off-Exchange, to premium increases, while the subsidized population enrollment change was not correlated to premium change in any year of the study. Additionally, we noted that the unsubsidized on-Exchange and unsubsidized off-Exchange reacted differently. Off-Exchange enrollees decreased at a much higher rate than the on-Exchange unsubsidized, assuming the same premium differences. Finally, there were stark differences in enrollment changes

across time as non-premium factors greatly impact member behavior. Our analysis found no statistically significant correlation in the movement of total market membership and premium changes for any of the years analyzed. Additionally, in comparing the dynamics across years, the effect of unsubsidized enrollment changes due premium changes was not constant. As the individual market composition (i.e., a greater proportion of unhealthy enrollees) and regulatory environment continues to change (larger number of alternatives), the impact of premiums on members' decision to enroll will continue to be in flux and will likely vary from historical patterns. Understanding the context and region in question and the environment is crucial to estimating how enrollment may differ year over year.

Please contact Michael Cohen at Michael.Cohen@wakely.com or Michelle Anderson at Michelle.Anderson@wakely.com with any questions or to follow up on any of the concepts presented here.

Appendix: Caveats and Limitations

Public data was relied on for the analyses, thus, the data was reviewed at a high level to determine reasonableness but to the extent this data includes errors, actual results may vary. Observations and conclusions were developed based on national averages. There may be large variances when reviewing results at more granular levels and results may not apply to specific states. The regression results and statistics should not be used for predicting enrollment patterns. Certain outliers were observed in the data, although, excluding these data points does not change the outcome of the analysis.

In general, we did not exclude data points from the analysis for any year, even when outliers were observed. The following data points for the outlined states were deemed necessary to exclude from the analysis:

- AK, IA, NH: Total unsubsidized, off-Exchange, total market. Medicaid members were enrolled within the off-Exchange market skewing results.
- MA, VT: Total unsubsidized, on-Exchange, off-Exchange, total market given their merged market status.
- WA, DC: Total unsubsidized, off-Exchange. Off-Exchange results were deemed unreasonable.
- MI, RI, UT: On-Exchange unsubsidized, total unsubsidized. Data points were excluded due to unexplainable differences when comparing CMS Effectuated Enrollment Snapshots to CMS Open Enrollment Period Public Use Files results.
- IN: Off-Exchange results were excluded due to unreasonable enrollment results.

Appendix: Data and Methodology

This analysis focused solely on the individual ACA market. Enrollment and premium data were summarized from various public sources by state and nationwide, and by population segment for years 2014 through 2019.

The following public data sources were relied on:

- CMS Open Enrollment Period Public Use Files, premiums and enrollment[29]
- KFF Marketplace Enrollment[30]

[29] https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/Marketplace-Products/index.html
[30] https://www.kff.org/health-reform/state-indicator/marketplace-enrollment-2014-2017/

- CMS Effectuated Enrollment Snapshots
- CMS Final Risk Adjustment Report, premiums and enrollment[31] (the Interim report was used for 2018)
- KFF Marketplace Average Benchmark Premiums[32]

When possible, the sources were compared to each other to determine reasonability and identify potential data issues, as outlined in the Caveats and Limitations section.

The on-Exchange population was segmented based on subsidized status. The off-Exchange enrollment and premiums were calculated by Wakely, as that data is not publicly available. Total market, based on CMS Final Risk Adjustment Report figures, and on-Exchange enrollment and premiums were used to back into the off-Exchange market statistics. Note that some assumptions were made to back into 2018 figures. Only a half year of 2018 effectuated enrollment on-Exchange was available, thus we annualized based on 2017 public data sources. Additionally, final market enrollment was based on the CMS Interim Risk Adjustment Report, which typically understates market enrollment compared to final reporting.

Both the changes in the statewide average premium and the marketplace average benchmark premium (or second lowest cost silver plan premium) were used to compare to each population segment enrollment changes. To isolate membership mix differences due to changes in plan selections or age of enrollees between years, premium amounts were adjusted based on average actuarial values, or richness of plan benefits (AV), and age, or allowable rating factor (ARF), from the CMS Risk Adjustment Reports.

The regression statistics were calculated to measure the relationship between the enrollment and premium changes and to determine whether any particular patterns or generalizations could be made. Poor statistical measures were referred to as being not statistically significant.

- The movement of premium and enrollment changes were fitted to both linear and non-linear lines. Linear lines proved to be as statistically significant as non-linear lines.
- R-squared is a statistical measure to indicate how close the data was to the fitted regression line, or measuring goodness-of-fit of the model.
- Correlation is a statistical measure that indicates the extent to which two or more variables fluctuate together and was calculated to understand the relationship between the movements of the two variables.

[31] https://www.cms.gov/CCIIO/Programs-and-Initiatives/Premium-Stabilization-Programs/index.html
[32] https://www.kff.org/health-reform/state-indicator/marketplace-average-benchmark-premiums/