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The Affordable Care Act & Individual Health Insurance Reform:

An Analysis of Insurer Behavior on the Federal Health Insurance Marketplaces since 2014

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ABSTRACT

The Affordable Care Act of 2010 ushered in a new era of the American health system, with such sweeping changes not seen since the dawn of the Medicare and Medicaid programs in the mid-twentieth century. Several provisions of the Affordable Care Act (ACA) have been implemented in the years following enactment, including the launch of Health Insurance Marketplaces (or "exchanges") last year. The exchanges are organizations for health insurance providers to offer plans to those without have employer-sponsored or government-provided insurance.

The great uncertainty surrounding the profitability of the exchanges prompted some insurance providers to not participate in the 2014 marketplace (Leonard, 2014). After the financial outcomes of the exchanges were revealed, participation on the marketplaces increased from 191 insurers in 2014 to 248 insurers in 2015. Therefore, this study aims to compare characteristics of plans offered on the 2014 and the 2015 federally-facilitated marketplaces at the county level, in order to determine the economic factors that may have prompted the expansion of insurer participation in different geographic areas of the United States.

The results of this study indicate that insurers entered more into urban areas by offering consumers more plans per county in almost all pricing and insurance coverage options compared to rural areas over the past two years. The opportunity to sell products to a larger consumer base, which can lead to higher profits, most likely motivated more insurers to expand their businesses into urbanized areas of the United States.

INTRODUCTION

Although the majority of Americans receive health insurance through their employer, the individual health insurance (or "non-group") marketplace plays a crucial role in allowing millions of other individuals to obtain coverage (America's Health Insurance Plans, n.d.) Those without insurance provided through their employer or government programs are able to purchase health insurance coverage in the non-group marketplace. Historically, the marketplace has been criticized for its inability to offer plans that meet the financial and health requirements of most individuals, however (Claxton, Levitt, Pollitz, & Damico, 2013). According to the Commonwealth Fund Biennial Health Insurance Survey, conducted in 2007, roughly three-fourths of people seeking individual health insurance ultimately do not purchase an insurance plan due to three main barriers: (1) unaffordable premiums and deductibles, (2) lack of coverage for needed services, and (3) denial of coverage for certain pre-existing conditions (Doty, Collins, Nicholson, & Rustgi, 2009).

In response, the Affordable Care Act of 2010 establishes policies aimed at improving consumer experiences for those seeking individual health coverage. Many of the law's provisions call specifically for greater regulation on the business practices of health insurers. For example, insurers are barred from varying the premiums they charge based off an individual's occupation, gender, and health status now. They also cannot deny coverage to anyone who desires to purchase an insurance plan, including those with a pre-existing condition (Kaiser Family Foundation, 2012). Additionally, over the past two years, insurers have had the opportunity to sell products on the Health Insurance Marketplaces (or the

"exchanges"), which permit greater transparency of insurance plan information to consumers. Insurers who choose to participate on the exchanges must provide details about the expected monthly premiums, deductibles, out-of-pocket maximums, and cost sharing responsibilities of the plans they sell. For low-income individuals, the amount of government-provided subsidies, which lower the cost of health insurance coverage, are displayed on the Health Insurance Marketplaces, as well. Therefore, consumers have more information to assist them in choosing a health insurance plan in the non-group marketplace.

Now in their second year, the exchanges continue to serve millions of Americans who desire to purchase health insurance coverage for themselves. Compared to 2014, the 2015 exchanges offer consumers a greater number of insurance plans from a greater number of health insurance companies. Gunja and Gee (2014), scholars from the ASPE Office of Health Policy, indicate the amount of insurance providers offering plans on the federally-facilitated marketplaces grew from 191 in 2014 to 248 in 2015—approximately 30%. Although much research focuses on the expanding number of participating firms on the Health Insurance Marketplaces since 2014, questions still remain about the motivation behind such insurer behavior.

Consequently, this study aims to determine the potential factors behind increased insurer participation over the past two years. Since health insurance companies do not relay much information about their enrollment figures to the public, this study concentrates on government-provided data that details plan offerings by insurers on the federally-facilitated marketplaces since 2014. Much

focus of the study centers on identifying trends in the design of plans offered by insurers, such as cost sharing responsibilities and insurance plan type, in order to uncover the economic factors that may have prompted the expansion of insurer participation in 2015. More specifically, this study explores the influence of county population on the amount and design of health plan offerings on the exchanges, allowing for greater understanding of insurers' reasoning to offer plans in different county types.

LITERATURE REVIEW

In an article appearing in *Modern Healthcare*, Paul Demko (2014) provides insight into a few possible factors leading to increased insurer participation on the 2015 exchanges nationally. First, he states that some insurance companies originally refrained from entering the 2014 exchanges because the non-group market traditionally has been a small fraction of their businesses. However, industry experts claim that insurers now recognize the change toward an insurance market more aligned with the interests of individuals rather than those of employers. With rising health insurance premiums negatively affecting their bottom lines, employers nationwide have opted to shift the financial burden of insurance onto their employees by altering or dropping their health benefits altogether. As a result, more people are seeking coverage in the individual health market today. Insurers, consequently, have greater opportunities to sell their products on the exchanges and to expand the portion of their businesses devoted to the non-group market.

Demko also points out that insurers realized that entering the 2015 exchanges could assist them in remaining major actors in the non-group market in the future. By drawing conclusions from past experiences with Medicare Advantage, Medicare Part D, and private insurance plans, industry experts claim that consumers often remain committed to the same health insurance provider over time. In this way, the insurers who postpone entrance into exchanges may miss the opportunity to cultivate stable business relationships with millions of consumers. Therefore, in order to become competitive market forces in an industry expected to grow considerably in the future, several insurers initially reserved to enter the marketplaces began offerings their plans in 2015.

Third, Demko indicates that many publicly traded insurers warily approached the 2014 exchanges due to the unpredictability of the enrollment risk pool. Insurers, uncertain of the age and health statuses of consumers, did not want to risk the financial consequences of covering individuals who typically require the most health services—namely sicker people and the elderly. However, numerous insurers, including UnitedHealth Group, decided to enter the exchanges in 2015 because they expect the enrollment risk pool to balance more between healthier and sicker people in the future. Due to the increasing amount of consumers from all health statuses purchasing plans on the exchanges, UnitedHealth Group and other insurers became more confident in their ability to bear the financial risk of covering their own enrollment risk pools.

Although Demko's insight provides reasoning behind increased insurer participation at the national level, he does not specifically discuss how insurers have

responded in different types of counties across the country. In fact, research on the influence of county population on insurers' motivation to participate in the exchanges is limited, due in part to the unavailability of public information regarding insurers' business decisions. This study, therefore, analyzes government-provided data to investigate insurers' decisions to participate in the exchanges at county level.

STUDY VARIABLES

In order to examine the motivation behind increased insurer participation on the 2015 exchanges in different geographic areas specifically, I focus on the differences between health plans insurers offered on the federally-facilitated marketplaces at the county level. The first variable used for comparing other variables in the study is county population. The US Department of Agriculture uses a certain population threshold to divide counties into either a "metropolitan" ("urban") or "nonmetropolitan" ("rural") classification. Separating counties into different population groups permits investigation into geographic variances related to increased insurer participation on the 2015 exchanges.

Moreover, a second variable examined in this study is "metal" level, along with Catastrophic plans. Four "metal" level plans are offered on the exchanges: Bronze, Silver, Gold, and Platinum. Catastrophic plans are not considered a "metal" level category because they do not carry essential health benefits and do not possess a defined actuarial value (U.S. Centers for Medicare & Medicaid Services, n.d.a; Uccello, 2013). However, they are grouped with the other "metal" level plans in this

study for convenience. According to the Cori Uccello (2013), "metal" levels correspond to different actuarial values, which "measure the relative generosity of benefits covered by a health insurance plan." The breakdown of plans into different "metal" levels allows consumers to view the cost sharing responsibilities split between insurers and themselves. For instance, an insurance company pays about 60% of a consumer's share of medical costs in a Bronze plan, and the consumer pays the remaining 40%. As a general rule, plans that are more generous, i.e., covered more by an insurer, are associated with higher premiums because individuals are less responsible for paying for their medical expenses directly (U.S. Centers for Medicare & Medicaid Services, n.d.c). Table 1 indicates the breakdown of actuarial values of different "metal" levels on the exchanges between insurers and individuals.

Table 1. Actuarial Values of "Metal" Level Plans on the Exchanges

Name	Insurer %	Beneficiary %
Platinum	90	10
Gold	80	20
Silver	70	30
Bronze	60	40
Catastrophic	<60	>40

Notes: Beneficiaries are the individuals enrolled in an insurer's plan. Catastrophic plans are not considered a "metal" level category by the Department of Health and Human Services (HHS). They are grouped with other "metal" level plans in this study for convenience. *Source:* healthcare.gov.

In addition, the third variable analyzed in this study is insurance plan type. Health insurance plans fall into four categories on the exchanges: Exclusive Provider

Organizations (EPOs), Health Maintenance Organizations (HMOs), Point of Service (POS), and Preferred Provider Organizations (PPOs). Each one offers differing out-of-network coverage options, cost sharing responsibilities, and physician access restrictions. For example, HMO plan premiums typically cost less and have lower cost sharing responsibly than those associated with PPO plans, but HMOs are more restrictive in terms of physician access and out-of-network coverage. According to Elizabeth Davis (2015), the highest cost sharing responsibility placed on consumers is typically found in PPO plans; however, PPOs generally offer more generous out-of-network coverage and better access to physicians compared to the other plan types. All in all, evaluating the differences in plan offerings related to insurance plan type and "metal" level on exchanges by county type since 2014 provides insight into the possible motivation behind the expansion of insurer participation.

HYPOTHESES

Reviewing literature about the increased insurer participation on the exchanges aids in the development of a few predictions to test in this study. My expectations first focus on plans across all counties in the United States, regardless of county population characteristics. I predict that the number of plans from all "metal" levels and insurance plan types increased from 2014 to 2015, due to the 30% expansion of insurer participation on the 2015 exchanges. In my view, an increased number of plans implies more insurers competing in markets across the nation.

Next, in nonmetropolitan counties, I predict a greater positive net change of plans per county compared to metropolitan counties over the past two years. Since a larger percentage of the uninsured and the unemployed reside in nonmetropolitan counties, I reason that more health insurers offered more plans on the 2015 exchanges in nonmetropolitan counties to capture consumers in greater need of non-group health coverage (Bowers & Holmes, n.d.). Secondly, I predict a greater net change of both Bronze and Silver plans per county over the past two years compared other "metal" level plans in nonmetropolitan counties. Because Bronze and Silver level plans generally have cheaper premiums than other "metal" level plans, health insurance providers may have offered a greater number of less generous plans to those in nonmetropolitan counties—especially given that median household income levels are lower and poverty rates are higher in these areas (Bowers & Holmes, n.d.; US Department of Agriculture, 2014). Finally, I predict that the number of plans per county from all plan types increased from their 2014 benchmarks in nonmetropolitan counties, due to the expansion of health insurance providers on the exchanges.

Moreover, I anticipate that metropolitan counties likely experienced a lower positive net change of plans per county compared to nonmetropolitan counties over the past two years. Although they have sizable populations, metropolitan counties have more insured individuals residing within them on average, diminishing their attractiveness to health insurance providers seeking to enter open markets (Bowers & Holmes, n.d.). As is the case with nonmetropolitan counties, I believe that plans from all "metal" levels increased in metropolitan counties, due to the expansion of

insurer participation in 2015. Since median household income is larger for those in metropolitan areas, health insurance providers may have offered more generous plans in these counties in 2015 than they did the year before. In this way, Silver and Gold level plans likely experienced the greatest positive net change per county compared to the other "metal" level plans. (US Department of Agriculture, 2014). Lastly, I hypothesize a positive net change of plans per county from each plan type, due in part to the more insurers offering plans on the exchanges over the past two years.

DATA

For this study, I use three main data sources for evaluating trends on the exchanges related to "metal" level plans and insurance type offerings within differing county population categories since 2014. In order to analyze exchange plans by "metal" level and insurance plan types, I examine files on the 2014 and the 2015 Health Insurance Marketplaces for individuals and families. The Department of Health and Human Services (U.S. Centers for Medicare & Medicaid Services, n.d.b) provides access to these files for researchers and other interested members of the public on healthcare.gov, the online location for the federally-facilitated marketplaces. Although the data files are associated with differing years, they both contain information on health insurance plans offered in every county located within a state that utilizes an exchange operated by the federal government.

The Department of Health and Human Services also provides the third data set used in this study. Area Health Resources Files, located on the Health Resources

and Services Administration (n.d.) website, contain details about county characteristics from all states in the nation. The files contain a variable that denotes whether a county is considered metropolitan or nonmetropolitan, based on criteria outlined by the US Department of Agriculture (2015). The variable serves to assess how geographic variances influence characteristics of health plans offered on the exchanges.

METHOD

My research began by appending the file on the 2015 health plan offerings for individuals and families to the 2014 health plan offerings file in Microsoft Excel. This ensured that all variables for both years would align vertically when conducting data analysis. Then, I converted the Excel file into a file in STATA, a statistical software program. I examined general characteristics about total health plan offerings for both years of the exchanges' existence using STATA. Additionally, I determined the number of plans by plan type for each year by following the same procedure.

In order to assess how geographic variances shape offerings by health insurance providers, I merged the STATA file with another STATA file that contained county population data. The combined file was then used to conduct two different analyses. Focusing first on "metal" level, I generated variables in a new STATA file that would indicate the number of plans associated with each "metal" type for all counties and removed all variables in relation to plan type. Secondly, I conducted the same steps to generate variables related to plan type and removed ones related

to “metal” level. However, I had difficulty in extracting meaningful information from the program and resorted to converting the files for both variables back into Microsoft Excel files. In the first Excel file, I constructed numerical charts that centered on county population in relation to the number of plans by “metal” level. The process continued until the total amount of plans from all “metal” levels from both years was calculated. Numerical charts were designed in the second Excel file for plan type, as well. The procedure was identical to the one for completing analysis on “metal” level plans.

To assess trends in plan characteristics on the federally-facilitated marketplaces since 2014, I first subtracted all corresponding values in each variable from one another. (Variables refer to “metal” level plan and insurance plan type.) For example, the number of Bronze plans in metropolitan counties from 2014 was subtracted from the number of Bronze plans in metropolitan counties from 2015, in order to determine the amount of plans added to the exchanges over time. However, I noticed that focusing on the differences between corresponding values did not provide a fair assessment of the trends between county types. On the exchanges, nonmetropolitan counties are 1.75 times more abundant than metropolitan counties. As a result, regardless of any economic motivations, these counties usually have a higher total number of plans offered by insurers for each variable per year compared to metropolitan counties.

In order to circumvent the issue, I divided the yearly values of each variable by the number of counties for each county type. For instance, by dividing the number of HMO plans in nonmetropolitan counties on the 2014 exchanges by the

total number of nonmetropolitan counties, I found the average amount of HMO plans offered to each nonmetropolitan county in 2014. After calculating the number of plans per county for both variables, I also measured the percentage change between corresponding values over the past two years by dividing the number of plan additions per county since 2014 by the number of plans per county initially offered by in 2014.

RESULTS

The outcomes of this study are divided into four sections. First, results concerning the characteristics of plan offerings on the exchanges, regardless of county population, provide background information related to nationwide trends. National outcomes focus on the *total* number of plans offered by insurers. Second, findings about plan offerings in nonmetropolitan counties are detailed, followed by findings in metropolitan counties. Finally, the fourth section compares the outcomes between nonmetropolitan and metropolitan counties. Unlike the information presented on national outcomes, all sections devoted to county-level results focus on trends concerning the average number of plans *per* county. Results within each section include the following information:

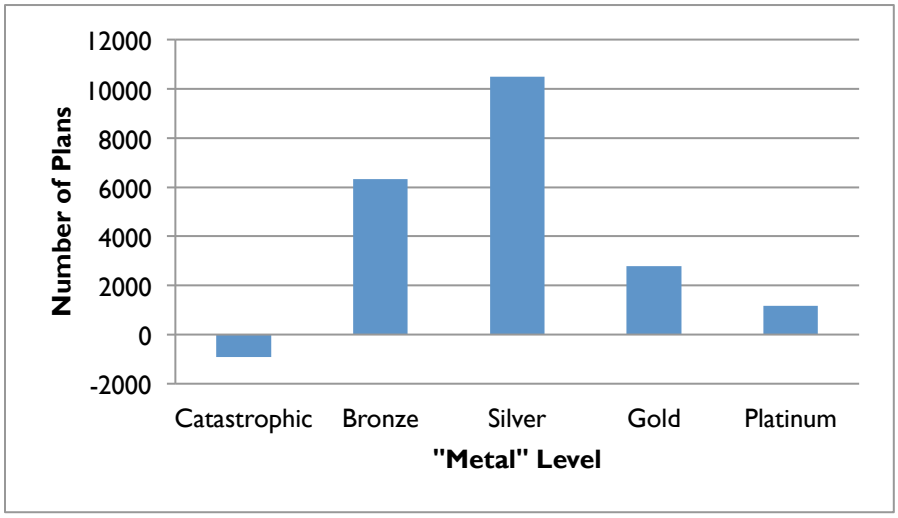
- Ranking order of number of plan additions from 2014-2015 by variable
- Percentage change of plans additions from 2014-2015 by variable
- Percentage change of market share distribution from 2014-2015 by variable
- Market share distribution of plans in 2015 by variable

Section 1: National Outcomes

Across the United States, the total number of plans offered by insurers on the exchanges increased substantially over the past two years. Among the 191 insurers on the 2014 federally-facilitated marketplaces, 78,379 plans were offered to consumers; a year later, following a 30% expansion of insurer participation, 98,252 plans were made available to consumers on the exchanges—equating to 25% increase in the number of plan offerings.

As Figure 1 indicates, the total number of plan offerings from the Silver, Bronze, Gold, and Platinum levels underwent net gains in that order from greatest to least. Catastrophic level plans were the only category to experience a net reduction in offerings. Based off percentage change of plan offerings from 2014 to 2015, Silver plans had the greatest gain of all "metal" levels (40.5%), followed by Platinum (34.8%), Bronze (27.9%), and Gold (13.8%). Catastrophic level plans, however, decreased by 16.9%. The market share structure of plans by "metal" type varied somewhat over the past two years, as well. From 2014 to 2015, Silver, Bronze, and Platinum plans experienced a net growth in market share—approximately 4.0%, 0.6%, and 0.3%, respectively. Over the same time, Catastrophic and Gold plans both fell by 2.5%. Therefore, for the 2015 exchanges, 37.0% of plans were Silver, 29.6% were Bronze, 23.3% were Gold, 5.5% were Catastrophic, and 4.6% were Platinum.

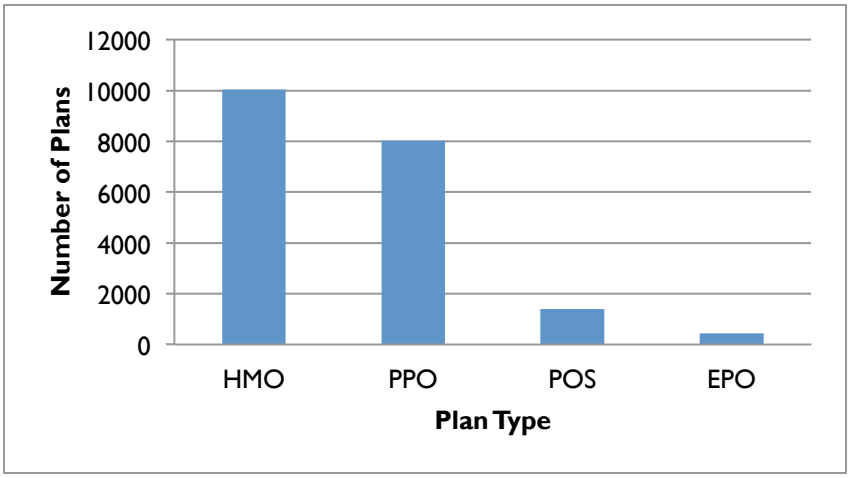
Figure 1. Net Change of Total Plans by "Metal" Level since 2014



Note: National data focuses on change in the total number of plans offered by all insurers between 2014 and 2015.

Moreover, plan offerings by plan type underwent changes on the marketplace since 2014. As Figure 2 demonstrates, every plan type experienced positive net change—with HMO experiencing the greatest number of additions, followed by PPO, POS, and EPO. Based off percentage change of plan offerings over the past two years, HMO increased by 41.6%, leading POS (19.8%), PPO (19.3%), and EPO (7.5%). Similarly to "metal" level, the market share of plans by type varied little from 2014 levels. The only plan type that grew was HMO, undergoing an increase of 4.0%. POS, EPO, and PPO plans decreased by 0.4%, 1.0% and 2.6%, respectively. On the 2015 exchanges, 50.4% of plans were PPO, 34.8% were HMO, 8.6% were POS, and 6.3% were PPO.

Figure 2. Net Change of Total Plans by Insurance Plan Type since 2014



Note: National data focuses on the change in the total number of plans offered by all insurers between 2014 and 2015.

Section 2: Outcomes in Nonmetropolitan Counties

Nonmetropolitan counties mirrored national trends in "metal" level plan alterations on the exchanges. Since 2014, offerings for every "metal" level plan increased per county on average, with the exception of Catastrophic plans. From highest to lowest, the order of the most plans added per county was Silver, Bronze, Gold, and Platinum. In terms of percentage change of plan offerings from 2014 to 2015, Silver plans increased the most (39.0%), followed by Platinum (35.9%), Bronze (27.0%), and Gold (13.1%). Contrastingly, Catastrophic plans decreased by 16.7%. The composition of "metal" level plans on the exchanges varied minutely over time, as well. From 2014 levels, Silver level plans increased in market share by 4.0%, Bronze plans increased by 0.7%, Platinum increased by 0.3%. However, Gold and Catastrophic plans decreased their market share by 2.3% and 2.8%, respectively. As a result, for the 2015 exchanges, 35.0% of plans were Silver, 29.6% were Bronze, 24.8% were Gold, 6.9% were Catastrophic, and 3.7% were Platinum.

In addition, alterations in plan offerings by plan type in nonmetropolitan areas followed national trends. Plans from every plan type increased from 2014 levels, with HMO plans growing the most, followed by PPO, POS, and EPO plans. Based off percentage change of plan offerings over the past two years, HMO plans expanded by 45.2%, trailed by POS (24.6%), PPO (14.6%), and EPO plans (17.2%). Changes in market share for different plan types in nonmetropolitan areas also followed national trends. HMO plans underwent net growth (4.7%), whereas EPO and PPO plans experienced net losses (0.2% and 4.5%, respectively). POS plans remained steady, however, neither increasing nor decreasing in market power. Regarding the 2015 exchanges, 55.4% of plans were PPO, 32.1% were HMO, 8.4% were POS, and 4.1% were EPO.

Section 3: Outcomes in Metropolitan Counties

Metropolitan counties reflected national trends in "metal" level plan modifications on the insurance marketplace from 2014 to 2015. Beside Catastrophic level plans, every "metal" level type increased per county on average over the past two years. Silver level plans were added the most of all "metal" types; the remainder of plans, from the highest to the lowest number of additions on the exchanges, was Bronze, Gold, and Platinum. Regarding percentage change of plans since 2014, Silver plans expanded the most (42.5%), followed by Platinum (33.9%), Bronze (29.1%), and Gold (14.8%). Catastrophic plans, however, decreased by 11.0%. In terms of market share composition from 2014 to 2015, Silver level plans increased the most by 4.0%, followed by Bronze (0.4%) and Platinum (0.3%). Catastrophic and Gold

plans declined in market share by 2.2% and 2.5%, correspondingly. As a result, for the 2015 exchanges, 35.6% of plans were Silver, 29.0% were Bronze, 23.8% were Gold, 6.2% were Catastrophic, and 5.4% were Platinum.

Metropolitan areas closely resembled nationwide data in regard to plan type, as well. HMO plans were added the most over all other plan types from 2014 to 2015. PPO plans closely trailed HMO plans, followed by low but positive growth from POS and EPO plans. In relation to the percentage change of plans over the past two years, HMO plans increased the most by 37.9%, leading PPO (27.9%), POS (14.3%), and EPO plans (2.5%). Although PPO plans retained the most market share between the first two years of the marketplace's existence, HMO plans grew the most in power during that time. Losses from EPO (2.2%) and POS (1.0%) plans enabled increases in HMO (2.9%) and PPO (0.2%) plans. In regard to the 2015 exchanges, 44.0% of plans were PPO, 38.2% were HMO, 9.1% were EPO, and 8.7% were POS.

Section 4: Comparisons between Nonmetropolitan and Metropolitan Counties

Both nonmetropolitan and metropolitan counties followed a similar trend in the number of plan alterations for each "metal" level since 2014. From greatest to least, the average number of plan additions per county for both county types was Silver, Bronze, Gold, and Platinum. The only plans experiencing negative net change in both county types were Catastrophic level plans. Although insurers added a greater number of plans in several "metal" level categories in nonmetropolitan counties, the number of plans added per county were generally higher in

metropolitan counties. As demonstrated in Table 2, Bronze, Silver, Gold, and Platinum plans increased more per county in metropolitan areas, and with the exception of Platinum plans, these "metal" levels had higher percentage gains than they did in nonmetropolitan areas. Table 2 also shows that the number of plans per county in metropolitan areas started out higher in 2014 and ended up higher in 2015 compared to nonmetropolitan areas across all "metal" level categories. Finally, regarding their 2015 market structures, both county types mirrored each other. Silver plans possessed the greatest share of the market, followed by Bronze, Gold, Catastrophic, and Platinum.

Table 2. Comparisons between "Metal" Level Plans per County by County Type

	Metro Counties				Nonmetro Counties			
Name	# '14	# '15	Diff.	Change	# '14	# '15	Diff.	Change
C-stroph	2.8	2.4	-0.4	-11%	2.3	2.0	-0.3	-17%
Bronze	10.6	13.8	3.2	29%	8.1	10.3	2.2	27%
Silver	12.4	17.6	4.6	42%	9.1	12.7	3.6	39%
Gold	9.4	10.8	1.4	15%	7.3	8.2	0.9	13%
Platinum	2.0	2.6	0.6	27%	1.0	1.3	0.3	36%

Notes: Highlighted cells refer to values higher for one county type over the other. The second and sixth columns refer to the average number of plans per county offered in 2014. The third and seventh columns refer to same information for 2015. The fourth and eighth columns refer to the difference between the number of plan offerings per county between 2014 and 2015. "C-stroph" refers to Catastrophic plans.

Similarly, both county types trended together in the number of plans by insurance type offered on the exchanges; from greatest to least, the most plan additions since 2014 were HMO, PPO, POS, and EPO. As is the case with "metal" level plans, insurers added a greater total number of plans in several insurance plan type

categories in nonmetropolitan counties; however, the number of additions per county varied between the county types. Specifically, metropolitan areas had more HMO and PPO plans added per county, whereas nonmetropolitan areas had slightly more EPO and POS plans added per county. As indicated in Table 3, metropolitan counties started and ended with a higher number of plans per county, but they only had a greater percentage increase in PPO plans compared to nonmetropolitan counties. Furthermore, the composition of the market varied somewhat between the county types. In both types, PPO plans comprised the majority of market share on the 2015 exchanges, followed by HMO plans. For the remaining plan types, nonmetropolitan counties had more POS plans than EPO plans by a margin of 4.3%; however, metropolitan counties had more EPO plans than POS plans by a margin of only 0.4%.

Table 3. Comparisons between Insurance Plan Types per County by County Type

	Metro Counties				Nonmetro Counties			
Name	# '14	# '15	Diff.	Change	# '14	# '15	Diff.	Change
EPO	4.2	4.3	0.1	2.6%	1.2	1.4	0.2	17.2%
HMO	13.1	18.0	4.9	37.9%	7.6	11.1	3.5	45.2%
POS	3.6	4.1	0.5	14.3%	2.3	2.9	0.6	24.6%
PPO	16.2	20.7	4.5	28.0%	16.7	19.1	2.4	14.6%

Notes: Highlighted cells refer to values higher for one county type over the other. The second and sixth columns refer to the average number of plans per county offered in 2014. The third and seventh columns refer to same information for 2015. The fourth and eighth columns refer to the difference between the number of plan offerings per county between 2014 and 2015.

DISCUSSION

The purpose of this research is to uncover the economic factors motivating increased insurer participation on the federally-facilitated marketplaces since 2014. However, since health insurance companies do not provide ample information to the public about their business strategies, causation in regard to the outcomes of this study cannot be conclusively determined. Subsequently, the results presented in this research are subject to interpretation.

In my view, the 25% rise of health plan offerings from most "metal" levels and insurance types on the exchanges nationwide is most likely linked to the 30% rise of insurers participating on the exchanges since 2014. First, existing insurance companies have incentive to sustain their amount of plan offerings, since consumers are automatically reenrolled into their last purchased health plan (or one similar to it) if they do not select a different one the following enrollment period (Dickson, 2014). However, insurers withholding entrance into the marketplaces in the exchanges' are able to view the market demand and the financial results of plans offered by existing insurers. Armed with such business insight, new insurers are able to offer plans crafted with characteristics, e.g., monthly premiums, insurance plan type, "metal" level, that directly compete against the offerings of existing insurance companies. As a result, I reason that the combination of existing plans and the increased competition brought about by new insurers results in more plans offerings across almost all "metal" level and insurance plan types on the exchanges.

This study also demonstrates similarities between insurer participation at the county level. First, metropolitan and nonmetropolitan counties follow analogous

trends in insurer offerings related to both variables. In regard to "metal" level, Silver plans are the greatest in number on the exchanges and have been added the most by insurers in both county types since 2014. I reason that insurers compete most heavily on this plan type because the second-lowest cost Silver plan in each state's exchange determines a subsidy amount, a federal tax credit that reduces the costs of health coverage for low-income individuals (Kaiser Family Foundation, 2015). In this way, the insurer is a price setter for all other plans that low-income individuals in a state may purchase with a subsidy. Additionally, Silver plans were the most purchased "metal" level plan on the 2014 exchanges, so insurers, especially those entering the exchanges in 2015, are more apt to sell an insurance plan that has the greatest market demand (ASPE Office of Health Policy, 2014).

Moreover, Bronze plans are second to Silver plans, in terms of the number of plan additions and total offerings by insurers on the exchanges since 2014. This contrasts with my hypothesis that Gold plans would be higher than Bronze plans in metropolitan counties. I conclude that insurers offer a significant amount of Bronze plans because they have the lowest actuarial value of all "metal" level plans (since Catastrophic plans are not designated as a "metal" level plan by the Department of Health and Human Services). The insurance company covers sixty percent of an individual's medical costs, and the individual pays the remaining costs out-of-pocket in a Bronze plan. Therefore, insurers may be more inclined to offer these plans because they bear the lowest financial burden on insurers. In addition, information on the 2014 exchange enrollment indicates that Bronze plans were the second most

purchased “metal” level plan, so consumer demand may play a role in determining insurer participation, as well (ASPE Office of Health Policy, 2014).

Compared to Silver and Bronze plans, insurers do not offer as many Gold, Catastrophic, and Platinum plans on the exchanges in both county types. In general, Gold and Platinum plans are the most expensive to purchase because they offer the most generous coverage on behalf of the insurer (U.S. Centers for Medicare & Medicaid Services, n.d.c). Because the majority of consumers purchase less generous plans due in part to their lower monthly premiums, existing and entering insurers may not have incentive to sell plans that have lower market demand. Furthermore, more cost sharing responsibility rests on insurance companies in Gold and Platinum plans, so insurers may not offer as many of them in order to evade paying 80% to 90% of their enrollees’ medical costs.

Contrastingly, Catastrophic plans are the only plan type removed from exchange offerings since 2014. I reason that insurers have limited interest in selling these plans because they target specific groups—either individuals under age 30 or individuals with a “hardship exemption” (U.S. Centers for Medicare & Medicaid Services, n.d.c). As a result, insurers may not expand into markets with Catastrophic plans because the vast majority of the non-group insurance population does not qualify for them. In addition, low-income individuals are not eligible for subsidies if they purchase a Catastrophic plan. Insurers might also refrain from offering this plan type, since 87% of individuals purchase an exchange plan with the assistance of a subsidy (Levitt & Claxton, 2015).

Both county types also have similar trends relating to insurance plan type offerings. On the exchanges, PPO plans are the most numerous, followed by HMO, POS, and EPO plans. In my view, insurers benefit greatly from PPO plans because they carry the least amount of cost sharing responsibility, as compared to the other insurance types. By shifting medical costs back onto the consumers who use health services, insurance companies are better able to retain money within their businesses by providing consumers PPO plans. However, insurers added more HMO plans in both county types over PPO, POS, and EPO plans since 2014. Because HMO plans typically have some of the lowest monthly premiums, insurers might increase their offerings to appeal to consumers using price as their main purchasing factor (Abelson, 2014).

Although both county types follow similar trends in both variables of this study, insurers offer differing amounts of plans per county in them. In 2014, metropolitan counties had more plans per county in every "metal" level and insurance type category compared to nonmetropolitan counties, with the exception of PPO plans. In the following year, despite nonmetropolitan counties having higher percentage growth in some plan categories, insurers offered a greater total number of plans per county in metropolitan counties in all categories of both variables.

I originally hypothesized that nonmetropolitan areas would have greater insurer participation, i.e., more robust plan offerings, because a greater population of the uninsured and unemployed reside there. However, I now reason that after existing and entering insurers reviewed the financial results of the 2014 exchanges, they decided to enter more into metropolitan areas to maximize their potential

profits. First of all, metropolitan counties that operate on the federally-facilitated marketplaces have nearly 128.5 million more people living within them compared to nonmetropolitan counties. In this way, metropolitan counties are attractive venues in which insurers can market to and obtain a greater population of consumers. Marketing dollars extend farther in these areas, as well, because more individuals will be potentially exposed to insurer advertising.

Second, insurers demonstrate their desire for maximizing profit by offering a greater percentage of Silver, Bronze, and Gold "metal" level plans in metropolitan counties. These plans place more cost sharing responsibility on individuals, allowing insurers to not bear as much of the financial burden when paying for their enrollees' medical costs. Additionally, insurers offer a greater percentage of PPO plans in metropolitan counties compared to nonmetropolitan counties. Since PPO plans are typically associated with high monthly premiums, insurers have the opportunity to greatly enhance their profit margins each month in largely populated markets. PPO plans also usually have high deductibles, which force consumers to cover more of their initial medical costs until a certain dollar amount is reached. As is the case with less generous "metal" level plans, the high deductible of PPO plans enables insurers to bare less financial responsibility on those they cover. As a result, insurers profit by retaining their enrollees' payments within their organization.

CONCLUSION

Before the recent health reform law, the non-group insurance market in the United States was incapable of meeting the financial and health needs of most

consumers. However, several policy initiatives of the Affordable Care Act, including the Health Insurance Marketplaces (or the "exchanges"), have addressed improving consumer experiences for those purchasing individual health coverage. The exchanges not only better inform consumers about their insurance options, but also serve as a business opportunity for many insurers across the nation.

Over the past two years, insurer participation on the federally-facilitated marketplaces has expanded nearly 30% to include 248 companies offering health plans. Since insurers do not provide much information about their business decisions to the public, this study examines trends in plan offerings at the county level to identify factors that have may have motivated insurer behavior since 2014. After analyzing the results of the number of plan additions by all "metal" level and insurance plan categories, I conclude that both existing and entering insurers likely expand more into metropolitan counties because largely populated markets allow insurers the opportunity to attract a larger consumer base, which may lead to higher financial rewards for insurers.

Although this study uncovers possible economic reasons behind increased insurer participation, further research on insurer behavior is required due to the novelty of the Health Insurance Marketplaces. Insurers have had the opportunity to sell health plans on the exchanges only over the past two years; therefore, examining the design characteristics of plan offerings in future enrollment periods may provide clearer insight into insurers' motivations for entering the exchanges—whether nationally or at the county level.

In addition, this study focuses solely on the federally-facilitated marketplaces and does not discuss insurer participation in state-based marketplaces. In 2015, 17 states, including the District of Columbia, operated a state-based marketplace, requiring little to no assistance in the implementation and management of their exchanges by the federal government (Kaiser Family Foundation, 2015a). Therefore, since little research centers on the influence of insurer participation in state-based marketplaces, modifying this study to focus on both exchange types could provide a broader understanding of insurer behavior across the entire United States.

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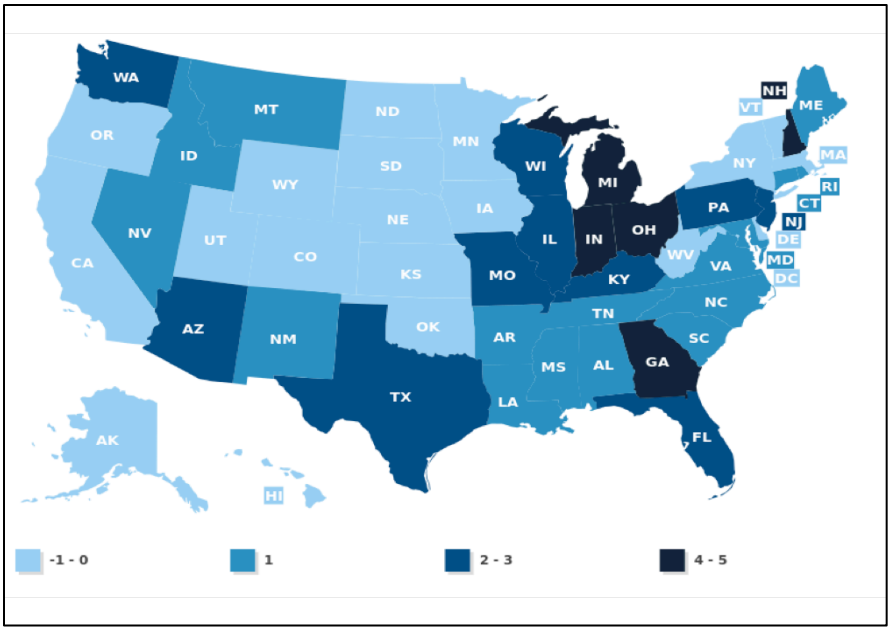
APPENDICES

Appendix A. Map of Net Change of Insurer Participation on the Exchanges since 2014



Source: Kaiser Family Foundation (2015). Retrieved from http://kff.org/other/state-indicator/number-of-issuers-participating-in-the-individual-health-insurance-marketplace/

Appendix B. Total "Metal" Level Plan Offerings in Federally-Facilitated Marketplaces

"Metal" Level Plans in Federally-Facilitated States				
"Metal" Level	**# Plans '14**	**# Plans '15**	**Combined**	**Difference**
Catastrophic	6281	5374	11655	-907
Bronze	22736	29070	51806	6334
Silver	25896	36392	62288	10496
Gold	20119	22903	43022	2784
Platinum	3347	4513	7860	1166
Total	78379	98252	176631	19873

Notes: Catastrophic plans are not considered a "metal" level category by the Department of Health and Human Services (HHS). They are grouped with other "metal" level plans in this study for convenience. The second column refers to the number of plans offered in each category in 2014. The third column refers to the number of plans offered in each category in 2015.

*Table based on data from Healthcare.gov

Appendix C. Total Insurance Plan Type Offerings in Federally-Facilitated Marketplaces

Plan Type in Federally-Facilitated Marketplaces				
Plan Type	**# Plans '14**	**# Plans '15**	**Combined**	**Difference**
HMO	24122	34157	58279	10035
PPO	41486	49503	90989	8017
POS	7031	8422	15453	1391
EPO	5740	6170	11910	430
Total	78379	98252	176631	19873

Notes: The second column refers to the number of plans offered in each category in 2014. The third column refers to the number of plans offered in each category in 2015.

*Table based on data from Healthcare.gov

Appendix D. Total "Metal" Level Plan Offerings in Nonmetropolitan Counties

"Metal" Level Plans in Nonmetropolitan Counties				
"Metal" Level	**# Plans '14**	**# Plans '15**	**Combined**	**Difference**
Catastrophic	3768	3137	6905	-631
Bronze	13038	16552	29590	3514
Silver	14670	20396	35066	5726
Gold	11647	13177	24824	1530
Platinum	1567	2130	3697	563
Total	44690	55392	100082	10702

Notes: Catastrophic plans are not considered a "metal" level category by the Department of Health and Human Services (HHS). They are grouped with other "metal" level plans in this study for convenience. The second column refers to the number of plans offered in each category in 2014. The third column refers to the number of plans offered in each category in 2015.

*Table based on data from Healthcare.gov

Appendix E. Total Insurance Plan Type Offerings in Nonmetropolitan Counties

Plan Type in Nonmetropolitan Counties				
Plan Type	**# Plans '14**	**# Plans '15**	**Combined**	**Difference**
HMO	12247	17786	30033	5539
PPO	26758	30664	57422	3906
POS	3754	4678	8432	924
EPO	1931	2264	4195	333
Total	44690	55392	100082	10702

Notes: The second column refers to the number of plans offered in each category in 2014. The third column refers to the number of plans offered in each category in 2015.

*Table based on data from Healthcare.gov

Appendix F. "Metal" Level Plans in Metropolitan Counties

"Metal" Level Plans in Metropolitan Counties				
"Metal" Level	**# Plans '14**	**# Plans '15**	**Combined**	**Difference**
Catastrophic	2513	2237	4750	-276
Bronze	9698	12518	22216	2820
Silver	11226	15996	27222	4770
Gold	8472	9726	18198	1254
Platinum	1780	2383	4163	603
Total	33689	42860	76549	9171

Notes: Catastrophic plans are not considered a "metal" level category by the Department of Health and Human Services (HHS). They are grouped with other "metal" level plans in this study for convenience. The second column refers to the number of plans offered in each category in 2014. The third column refers to the number of plans offered in each category in 2015.

*Table based on data from Healthcare.gov

Appendix G. Total Insurance Plan Type Offerings in Metropolitan Counties

Plan Types in Metropolitan Counties				
Plan Type	**# Plans '14**	**# Plans '15**	**Combined**	**Difference**
HMO	11875	16371	28246	4496
PPO	14728	18839	33567	4111
POS	3277	3744	7021	467
EPO	3809	3906	7715	97
Total	33689	42860	76549	9171

Notes: The second column refers to the number of plans offered in each category in 2014. The third column refers to the number of plans offered in each category in 2015.

*Table based on data from Healthcare.gov

REFERENCES

Abelson, R. (2014, December 19). H.M.O.s offer lower prices in health care marketplaces. *The New York Times*. Retrieved from http://www.nytimes.com/2014/12/20/upshot/hmos-offer-lower-prices-in-health-care-marketplaces.html?_r=0&abt=0002&abg=0

America's Health Insurance Plans. (n.d.). Individual market health insurance. Retrieved from http://www.ahip.org/Issues/Individual-Market-Health-Insurance.aspx

ASPE Office of Health Policy. (2014, May 1). Health insurance marketplace: Summary enrollment report for the initial annual open enrollment period. *U.S. Department of Health & Human Services*. Retrieved from http://aspe.hhs.gov/health/reports/2014/marketplaceenrollment/apr2014/ib_2014apr_enrollment.pdf

Bowers, L., & Holmes, W. (n.d.). Evaluating metro and non-metro differences in uninsured populations. *U.S. Census Bureau*. Retrieved from http://www.census.gov/did/www/sahie/publications/files/Evaluating Metro and Non-Metro Differences in Uninsured Populations.pdf

Claxton, G., Levitt, L., Pollitz, K., & Damico, A. (2013, February 6). Why premiums will change for people who now have nongroup insurance. *Kaiser Family Foundation*. Retrieved from http://kff.org/health-reform/perspective/why-premiums-will-change-for-people-who-now-have-nongroup-insurance

Davis, E. (2015, April 29). HMO, PPO, EPO & POS - what's the difference? Retrieved from http://healthinsurance.about.com/od/healthinsurancebasics/a/Hmo-Ppo-Epo-and-Pos-whats-The-Difference-and-Which-Is-Best.htm

Demko, P. (2014, October 25). Afraid of getting left behind, big insurers expand exchange participation for 2015. *Modern Healthcare*. Retrieved from http://www.modernhealthcare.com/article/20141025/MAGAZINE/310259980

Dickson, V. (2014, September 4). Reform update: Automatic ACA re-enrollment carries caveats. *Modern Healthcare*. Retrieved from http://www.modernhealthcare.com/article/20140904/NEWS/309049964

Doty, M., Collins, S., Nicholson, J., & Rustgi, S. (2009, July). Failure to protect: why the individual insurance market is not a viable option for most U.S. families. *The Commonwealth Fund*. Retrieved from http://www.commonwealthfund.org/~/media/Files/Publications/IssueBrief/2009/Jul/FailuretoProtect/1300_Doty_failure_to_protect_individual_ins_market_ib_v2.pdf

Gunja, M., & Gee, E. (2014, September 23). Health insurance issuer participation and new entrants in the Health Insurance Marketplace in 2015. *ASPE Office of Health Policy*. Retrieved from aspe.hhs.gov/health/reports/2014/NewEntrants/ib_NewEntrants.pdf

Health Resources and Services Administration. (n.d.). AHRF: area health resource file. *U.S. Department of Health & Human Services*. Retrieved from http://ahrf.hrsa.gov/download.htm

Kaiser Family Foundation. (2012, September). Health insurance market reforms: Pre-existing condition exclusions. *Issue Brief*. Retrieved from https://kaiserfamilyfoundation.files.wordpress.com/2013/01/8356.pdf

Kaiser Family Foundation. (2015). State Health Insurance Marketplace types, 2015. Retrieved from http://kff.org/health-reform/state-indicator/state-health-insurance-marketplace-types/

Kaiser Family Foundation. (2015, February 11). Cost-Sharing Subsidies in Federal Marketplace Plans. Retrieved from http://kff.org/health-costs/issue-brief/cost-sharing-subsidies-in-federal-marketplace-plans/

Leonard, K. (2014, September 25). Health insurers flock and flee Obamacare. *U.S. News & World Report*. Retrieved from http://www.usnews.com/news/articles/2014/09/25/health-insurers-flock-and-flee-obamacare

Levitt, L., & Claxton, G. (2015, February 25). Insurance markets in a post-King world. *Kaiser Family Foundation*. Retrieved from http://kff.org/health-reform/perspective/insurance-markets-in-a-post-king-world/

Uccello, C. (2013, April 1). Actuarial value for health insurance consumers. *American Academy of Actuaries*. Retrieved from http://www.actuary.org/files/Actuarial_value_basics_for_NAIC_040113.pdf

U.S. Centers for Medicare & Medicaid Services. (n.d.). Catastrophic health insurance plans. *Healthcare.gov*. Retrieved from https://www.healthcare.gov/choose-a-plan/catastrophic-plans/

U.S. Centers for Medicare & Medicaid Services. (n.d.). Health and dental plan datasets for researchers and issuers. *Healthcare.gov*. Retrieved from

https://www.healthcare.gov/health-and-dental-plan-datasets-for-researchers-and-issuers/

U.S. Centers for Medicare & Medicaid Services. (n.d.). Marketplace health insurance categories. *Healthcare.gov*. Retrieved from https://www.healthcare.gov/choose-a-plan/plans-categories/

U.S. Department of Agriculture. (2014, October 31). Rural poverty & well-being. Retrieved from http://www.ers.usda.gov/topics/rural-economy-population/rural-poverty-well-being/income.aspx

U.S. Department of Agriculture. (2015, March 16). Rural classifications: what is rural? Retrieved from http://www.ers.usda.gov/topics/rural-economy-population/rural-classifications/what-is-rural.aspx