Before and After the ACA Exchanges-

Comparing the Individual and Employer-Sponsored Insured Populations

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Abstract

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ABSTRACT

Introduction: To properly assess risk, health insurers need information on their insured population. Sociodemographic characteristics and previous utilization patterns are elements of this assessment. With the implementation of the ACA and the establishment of health insurance exchanges, little of this type of information was available to health insurers about new entrants into the individual market through these exchanges. This report compares insurance enrollees through three mechanisms and in two time periods to provide data on how the exchange market population may differ from those with employer-sponsored insurance or individual and family directly purchased insurance.

Methods: Using enrollment and claims data, we describe sociodemographics, clinical risk factors and utilization patterns for enrollees of Kaiser Permanente Washington in 2008-2009 and 2015-2016. Enrollees were divided into those with employer-sponsored insurance, individual and family directly purchased insurance, and individual and family exchange purchased insurance. The exchange enrollees were further examined based on receipt of ACA provided subsidies. We conducted chi-square tests to compare the insurance types between the time periods.

Results: In the 2015-2016 time peiod, the subsidized exchange population was older (35.8% 56-64 years old) compared to the employer-sponsored insurance population (21.8%), and the

unsubsidized exchange population was younger (28.2% 27-35 years old) compared to the employer-sponsored insurance population (18.3%). 70.1% of the unsubsidized exchange population chose a bronze or catastrophic plan. We also observed unadjusted utilization differences. Those with employer-sponsored insurance had the highest rates of utilization in all categories in both time periods, and those with unsubsidized exchange insurance had the lowest rates of utilization in most categories. As an example, 44.5% of those with unsubsidized exchange insurance had a primary care visit compared with 66.2% with employer-sponsored insurance. The subsidized exchange population had high emergency room use (98.7 visits per 1,000 person-years) compared to the unsubsidized exchange population (48.7 visits). Conclusions: We found the subsidized exchange population was older than the other groups, but we did not find the overall high utilization rates in this population that were expected with the initiation of the exchanges. The unsubsidized exchange population was younger than the other groups and more likely to choose lower cost plans with high deductibles, which may explain their lower utilization patterns. The employer-sponsored insurance and the direct purchase markets showed little impact of the ACA implementation in their sociodemographics or utilization rates.

INTRODUCTION

In 2010, the passage of the Patient Protection and Affordable Care Act (ACA) was intended to increase access to health insurance for millions of Americans through the individual market with the creation of state and federal insurance marketplace exchanges (referred to here simply as exchanges). The exchanges are the only places where eligible individuals can purchase health insurance with the full financial benefits provided by the ACA: advanced premium tax credits (APTCs) and cost sharing reduction (CSR) subsidies. APTCs are available to enrollees who earn between 138% and 400% of the adjusted federal poverty level (FPL) in states that expanded Medicaid and cap monthly premium payments to between 2% and 9.5% of household income.[1] During the analysis period of 2015-2016, those eligible for APTCs might also have been eligible for CSR, which lowered out-of-pocket expenses like deductibles, copayments and coinsurance and was available only to those with an income between 100% and 250% of the FPL and who chose a silver plan on an exchange.[2] These subsidies made plans richer, meaning more costs were covered for price the enrollee paid. The performance and value of the exchanges have come under considerable scrutiny and criticism due to rapidly rising premium rates[3] and the withdrawal of some insurers from the individual and family insurance market.[4] In order to assess risk and set premiums accordingly, insurers and policymakers need additional evidence regarding the population characteristics of who is enrolling through the individual markets and how that population is utilizing healthcare services.

For an employer-sponsored insured population, insurers use years of experience and claims data to assess population risk and set premium rates accordingly. The individual market is known to be highly volatile with issues such as high turnover, adverse selection by individuals in high need of healthcare and high administrative loads to process applications and claims individually.[5] In addition, this is a small portion of the entire insurance market. In 2011, just under 10% of the United States population received insurance coverage through the individual

market.[6] The exchanges opened a new avenue for people to enter this market. Health plans selling to them attempted to predict their population clinical risk and set premium prices but had little information regarding the demographics and risk status of potential enrollees to do so.[7, 8]

Sociodemographic characteristics are one element by which health insurers assess population risk when pricing premiums.[9] The Current Population Survey, a monthly survey from the US Census Bureau and Bureau of Labor Statistics of a probability selected sample of representative households,[10] reported that in 2011 the groups with the most uninsured people, and therefore most likely to enroll through the exchanges, were white and under 35 years old.[6] In contrast, the Commonwealth Fund predicted women[11] and people between 50 and 64 years old[12] would enroll through the exchanges in larger numbers as they would be the strongest beneficiaries of the ACA's ban on gender rating and limitation on age-based premium increases. Both women and older adults faced high health insurance costs in the years prior to the ACA, and many went without insurance as a result, as reported in the Commonwealth Fund Biennial Health Insurance Survey.[11, 12] These surveys predicted the potential composition of enrollee populations through different methods; the Current Population Survey looked at sociodemographics of the uninsured population, while the Commonwealth Fund Survey focused on the beneficiaries of the ACA. These different conclusions made it all the harder for insurers to know which to use to estimate risk.

The data presented in this paper is from a single insurance plan's experience in Washington State in the two years after the implementation of the state's Health Benefit Exchange (2015-2016), compared to a two-year period prior to implementation (2008-2009). We chose these specific time periods to isolate the effects of the ACA. The ACA was passed in 2010, so the 2008-2009 period preceded extensive news coverage on the specifics of the legislation that might have influenced utilization behavior. The major legislatively prescribed changes and first offerings through the federal and state exchanges came into effect in 2014.[14]

We chose the 2015-2016 period to avoid the first year of the exchanges, which may have had unusual utilization behavior with both enrollees and insurers adjusting to a new system.

We describe the sociodemographic distribution and the healthcare utilization patterns of the plan's exchange population in comparison to those with employer-sponsored insurance (ESI) or who purchase insurance directly. Based on national reports released since implementation,[15, 16] we hypothesized that the exchange enrollees would be slightly older than ESI enrollees, but otherwise there would be non-meaningful differences in the sociodemographic characteristics between the groups overall.

We hypothesized that utilization patterns in the post-ACA period would be similar among the groups as well, though unsubsidized enrollees through the exchange would have the lowest levels of utilization. The unsubsidized enrollees are not beneficiaries of the same cost reductions as the subsidized enrollees and so will have less utilization given their exposure to relatively high deductibles before insurance begins to cover care. Finally, we expected that there would be little effect of the ACA on the ESI market enrollment between the study time periods, though some were concerned that employers might stop offering coverage once the exchanges opened.[17]

The goal of this project is to inform insurers and policy makers about the evolving characteristics and utilization of the exchange population, both of which continue to be poorly understood. Increased information can contribute to improving individual market stability and insulate the market from continued disruptions. By providing comparative data, we can account for changes affecting health insurance as a whole and temporal changes.

METHODS

Study Design

We conducted a cross-sectional study of enrollees of Kaiser Foundation Health Plan of Washington (KPWA) during 2008-2016 to describe trends in sociodemographic characteristics and healthcare utilization among enrollees in two lines of business: those with ESI and those

who purchased individual or family insurance, which is divided into those purchasing directly from KPWA (I&F direct) or those purchasing KPWA insurance through the Washington Health Benefit Exchange (I&F exchange). Enrollees were included in monthly data set if they, or their employer, paid their monthly premium, which matches the inclusion criteria for enrollment reports on the ACA from Centers for Medicare and Medicaid Services.[18]

Enrollment numbers were not retroactively corrected for inaccuracies from time lags in updating enrollment. For example, some enrollees were not counted in the month their insurance was initiated and some were counted in the month their insurance was cancelled because of delays in processing their enrollment paperwork. We chose this method to match the operational reality within health plans and how data is presented to health insurance executives and risk managers to examine their risk pool.

Site

KPWA (which was Group Health Cooperative prior to February 2017) is a non-profit, mixed-model health system that provides healthcare and health insurance to more than 700,000 enrollees in Washington State. It is the second largest health insurer in Washington, serving 16.2% of the market share.[19] Nearly two-thirds of all enrollees receive care at the core network of KPWA providers and medical centers, though they may also receive services through KPWA's contracted network of providers.

KPWA offered a variety of plans during the time periods analyzed. In 2008-2009, in the I&F direct market, HMO (health maintenance organization) and POS (point-of-service) plans were offered, and in the ESI market, HMO, POS and PPO (preferred provider organization) plans were offered. In 2015, in the I&F direct market, HMO and POS products were offered, and in 2016, HMO and PPO plans were offered. In 2015-2016, in the ESI market, all three products, HMO, POS and PPO, were offered. Only HMO products were offered on the exchange.

Enrollees

We included all KPWA enrollees ages 21 to 64 years who were in the two lines of business. We excluded children, defined for ACA insurance rating purposes as those aged less than 21.[20]

Data sources and elements

The data were derived from the KPWA enterprise data warehouse. Enrollment start and stop dates and insurance product were drawn from KPWA operational data sources. Utilization data were organized using standard pre-assigned service categories (e.g. emergency department visit) and subcategories (e.g. behavioral health) from KPWA databases. KPWA has an electronic outpatient pharmacy data system that we used to calculate ambulatory pharmacy utilization.[21-23] Each pharmacy data point represents one dispensed fill for anywhere between 0-31 days. For example, if an enrollee filled a 90-day prescription, it was counted as three dispensed fills.

We describe the sociodemographic characteristics of the population, including age, race, ethnicity and gender using administrative claims and enrollment data, obtained from the Health Care Systems Research Network Virtual Data Warehouse.[24] People with more than one race were categorized as multiple race.

We reported two variables, obtained from the American Community Survey,[25] for each enrollee as proxies for socioeconomic status: 1) percent of enrollees that lived in a census tract where the median household income was less than $25,000 per year for a family of four (approximately equal to the FPL) and 2) percent of enrollees that lived in a census tract where less than 25% of people in the tract had a college degree. We used enrollees' mailing addresses to determine their census tracts for the purposes of linking to the American Community Survey data.

We report enrollees' clinical risk using resource utilization band (RUB) scores from the Johns Hopkins Adjusted Clinical Groups (ACG) system, which is used to categorically report the clinical risk of populations.[26] RUB scores are based on age and gender and all medical

diagnoses, procedures, visits and prescriptions recorded over a 12-month look back period.[26, 27] Scores range from 0 for no utilization recorded through 5 for high morbidity. We aggregated these categories into three groups: 0, 1-3 (low utilization) and 4-5 (high utilization). We report the first chronologically available RUB score, which may not reflect 12 months of data. This decision does not follow the validated calculation of RUB scores requiring 12 months of data, but does provide a sense of the population clinical risk. New enrollees have a score of 0 until their first episodes of utilization, as do any long-term enrollees who have not had an episode of utilization in the previous 12 months. The RUB scores are based on retroactively corrected enrollment data, so missing scores indicate enrollees who had disenrolled or died in the scored month but were still recorded as active enrollees in our data set.

Information on the exchange APTC and CSR subsidies for 2016 was available from a contracted vendor providing financial management of premium payments for enrollees who enrolled through the Washington exchange.

Population definitions and categories

All insurance products offered between 2008 and 2016 were categorized into I&F direct, I&F exchange, or ESI, which includes both large group employers (over 50 full time equivalent, common-law employees) and small group employers (1-50 full time equivalent, common-law employees). In 2015-2016, the I&F plans were additionally categorized by metal tiers indicating their actuarial value,[28] or richness of the plan, calculated as the percentage of total average costs the plan will cover: gold (80%), silver (70%), bronze (60%) and catastrophic, which is available to people under 30 or those with a hardship exemption. KPWA did not offer platinum plans (90%) during this time. For analytic purposes, the I&F exchange population was further stratified into groups that were unsubsidized or were subsidized, receiving either APTC subsidies alone or APTC and CSR subsidies.

Enrollees were included as part of a product once they effectuated their insurance. Enrollees could move between products month to month. Each two-year time period represented a cross-section of different populations with some potential overlap.

Statistical analysis plan

Person-time began at the month of first observed enrollment and continued until enrollees were censored from the analysis at time of death, disenrollment, becoming insured by Medicare or reaching the age of 65.

We provide descriptive evaluation of sociodemographic and clinical risk characteristics and utilization patterns by insurance products within time periods. For 2008-2009 period, we compared ESI to I&F direct. For 2015-2016, we compare ESI, I&F direct, I&F exchange (total population) and I&F exchange divided into subsidized and unsubsidized populations.

We conducted chi-square tests comparing sociodemographic and clinical risk characteristics by insurance products between time periods. We compared 1) 2008-2009 ESI to 2015-2016 ESI, 2) 2008-2009 I&F direct to 2015-2016 I&F direct, and 3) 2008-2009 I&F direct to 2015-2016 total I&F exchange. We used SAS 9.4 software[29] for all analyses. We received institutional review board approval for this analysis from KPWA.

RESULTS

As illustrated in Table 1 and Figure 1, in the 2008-2009 time period, the ESI group had 432,270 enrollees who contributed 604,192 person-years of time, and the I&F direct group had 46,373 enrollees who contributed 44,983 person-years of time. In the 2015-2016 time period, the ESI group had 490,168 enrollees who contributed 646,928 person-years of time, the I&F direct group had 39,723 enrollees who contributed 44,233 person-years of time, and the total I&F exchange group had 51,575 enrollees, who contributed 48,112 person-years of time. The I&F exchange group was stratified into a subsidized group, which had 39,698 enrollees and 39,162 person-years of time, and an unsubsidized group, which had 12,877 enrollees and 8,950 person-years of time.

Analytic comparisons

Table 1 describes the sociodemographic and clinical risk characteristics of the lines of business and time periods.

Within time periods

In the 2008-2009 time period, individuals with I&F direct plans were older (29.2% aged 56-64) than individuals with ESI (20.9%) and more likely to be white (86.3%) than individuals with ESI (78.7%). I&F direct enrollees were less likely (7.3%) to live in a census tract where 25% or less of the households had someone with a college degree than those with ESI (13.0%). We did not see these same differences in living in a census tract that had a median household income of less than or equal to $25,000 per year for a family of four (I&F direct 1.2%, ESI 1.4%).

During the 2015-2016 time period, there were differences in age between the unsubsidized and subsidized groups. The unsubsidized I&F exchange group had 28.2% of its population in the 27-35 age group, compared to 16.7% of the subsidized I&F exchange population. The unsubsidized I&F exchange group had 20.1% of its population in the 56-64 age group, compared to 35.8% of the subsidized I&F exchange group. Though there was a substantial proportion of missing data on race, the I&F direct segment had the highest proportion of white enrollees (82.3%) of all the plans, while the subsidized I&F exchange segment had the lowest proportion whites (76.7% white).

There were differences in socioeconomic status of the census tracts that enrollees lived in. The I&F direct (7.0%) and unsubsidized I&F exchange enrollees (8.0%) were less likely to live in a census tract where less than 25% of the population had a college degree compared to ESI enrollees (13.2%).

Regarding clinical risk, the unsubsidized I&F exchange group had the greatest proportion (60.2%) with a 0 RUB score, indicating no recorded utilization in the past 12 months. 42.8% of the ESI group had a 0 RUB score.

Between time periods

Comparing the ESI enrollees between time periods and the I&F direct enrollees between time periods, we did not see any meaningful differences in the sociodemographic composition of the two groups over time, though there were statistically significant differences, such as the 21-26 age group among the ESI enrollees changed from 16.0% in the 2008-2009 time period to 18.0% in the 2015-2016 time period (p-value for age <0.0001).

The only differences not statistically significant were gender (ESI p-value=0.06; I&F direct p-value=0.08) and living in a census tract with less than 25% of the population has a college degree (ESI p-value=0.08). The advent of the exchanges did not appear to be associated with a change in the age, gender, race, SES or clinical risk for ESI or I&F direct enrollees.

Exchange population

Table 2 describes the plan choices and subsidies received by enrollees who purchased their insurance in 2015-2016 through the individual market where plans are offered by metal tiers. Over two-thirds of exchange enrollees who were unsubsidized chose a lower-cost, less benefit-rich plan; 48.8% of the unsubsidized exchange group chose bronze plans and another 21.3% chose catastrophic coverage.

Most enrollees (64.9%) eligible for subsidies chose silver plans. Of those with subsidies, 50.2% received additional support via CSR, which requires choosing a silver plan. In 2016, the average APTC was $220.41 per month, and the average CSR was $92.52 per month.

Utilization

Table 3 describes the utilization rates of the lines of business and time periods. Not surprisingly, ESI enrollees, who have richer benefits on average, had higher rates of utilization in all categories in comparison to the other products during both time periods, though the population's utilization did decrease over the interval. As an example, 30-day pharmacy fills per 1,000 person-years in 2008-2009 was 17,417.3 for the ESI group and 13,086.6 for the I&F direct group. In 2015-2016, fills were 14,499.3 for the ESI group, 12,816.2 for the I&F direct

group, and 12,625.5 for the total I&F exchange group. Average length of stay for those admitted to inpatient hospital was the same across time and products (range 4.2 to 4.8 days).

In the 2015-2016 time period, the I&F direct, I&F total and I&F subsidized groups had similar utilization patterns. The differences between groups showed in emergency room visits per 1,000 person-years and behavioral health visits per 1,000 person-years. Subsidized I&F exchange enrollees had 98.7 emergency room visits per 1,000 person-years compared to I&F direct enrollees with 71.3 visits per 1,000 person-years, and subsidized I&F exchange enrollees had 406.9 behavioral health visits per 1,000 person-years compared to I&F direct enrollees with 462.3 visits per 1,000 person-years.

The unsubsidized group had the lowest rates of utilization across all categories, most noticeably in their percent with a primary care visit. 44.5% had a visit compared to 66.2% in the ESI group.

DISCUSSION

Subsidies

We found that most enrollees eligible for subsidies chose a silver plan, which indicates that the marketplace was able to translate the subsidy calculation into a clear cost reduction when enrollees shopped on the exchange. Through APTCs and CSR, enrollees were able to purchase a silver plan and get richer benefits, closer to a gold actuarial valued plan, by reducing their premiums with APTCs and their out of pocket costs with CSR.

Selection and risk

Looking across time periods to assess the implementation of the ACA, we found no significant sociodemographic change and, in general, reduced utilization rates in both the I&F direct market and in the ESI group, which confirms previous analyses.[17 30] Our data does not show that employers have stopped providing coverage after the exchange market was implemented in Washington, nor that there has been a siphoning off of high risk people into the

exchange markets or a consolidation of low risk people in the I&F direct markets; any of which would be highly disruptive to the entire health insurance market.

Examining age, one suggestion in the current debate to address high premium costs is to allow people to "buy-in" to Medicare at age 50 or 55, removing them from the I&F market risk pool as they are thought to drive up premiums.[31] Our data showed a higher proportion of enrollees in the 55-64 age group purchasing insurance through the individual market than enrolling through ESI, particularly in the subsidized group. These are likely the early retirees who were formerly shut out of the individual market due to having pre-existing conditions that allowed insurers to deny them coverage or for whom premiums were unaffordable.[32]

In this same 55-64 age group in the individual market, we saw steady use in all utilization categories, except for behavioral health, between time periods. These results for sociodemographics and utilization support early buy-in to Medicare as a feasible option as there is a large population of this age already purchasing their own insurance and that their utilization is not so large as to be financially disruptive to Medicare. Our data does not allow us to comment on the impact this could have on the risk pool of the I&F market.

One of the most popular aspects of the ACA is the provision which allows parents to keep their dependents on their insurance through age 26.[33] Our data shows only a small post-ACA increase in enrollees in the 21-26 age group for ESI, and we were not able to determine which portion of those enrollees were covered under someone else's plan. We observed a jump in I&F enrollment across both direct and exchange in the 27-35 year age range, particularly in the unsubsidized population, which was more than double the percent in that age group in the 2008-2009 I&F market. This jump suggested that a number of people lost coverage through their parents and purchased coverage independently that was largely unsubsidized.

Utilization

Of the populations compared in our study, the unsubsidized population had the lowest rates of utilization. This result supports two inferences about the unsubsidized market. One is

that this population included the “young invincibles”[34, 35] - people who are healthy and feel they are not at risk for health problems, so they do not make physician visits. Our data support that this group was younger than enrollees of all other products. Their RUB clinical risk score was more likely to be 0, an indication that they were not using services, which was supported by their low utilization rates in all categories. The other inference partially supported by the decreased utilization pattern of the unsubsidized population is that people in this group are able to afford their insurance premiums but are not able to afford to use their insurance because of high co-pays and deductibles.[36] This group had a higher proportion with catastrophic or bronze plans, both of which have lower actuarial value (lower monthly premiums, but higher cost sharing). However, the lack of utilization may not indicate untreated disease; their average length of stay once admitted to the hospital was in line with the other groups, possibly indicating they were not delaying care until a serious illness forms. This population may have felt compelled to purchase insurance as they were mandated to have coverage or pay a penalty (the ACA individual mandate) and may be the same group who will drop coverage when enforcement of the mandate ceases in 2019.

The exchange population did not show high utilization patterns, particularly among the subsidized population, a fear at the opening of the exchanges based on anticipated unmet need.[37, 38] Our data showed that utilization rates by exchange enrollees was very much in line with the I&F direct group and lower than the ESI group. This finding contradicts other industry reports. Blue Cross Blue Shield looked at national medical claims data among those enrolled in individual coverage before and after the implementation of the ACA and found post-ACA individual coverage enrollees used more medical services in all care settings compared to both those with I&F direct coverage prior to the ACA and those with ESI.[39] In 2016, Express Scripts found a 14% increase in total prescription drug spending in the exchange population alone,[40] compared to an increase of 3.8% in their ESI population.[41] One prediction made about the subsidized population that is borne out in our data is that this population uses the emergency

room more than other populations. The assumption has been that the emergency room is their usual source of care and that they would continue to use it as such after acquiring health insurance,[42, 43] though other studies have not found this result.[44] Emergency room use is of particularly interest to insurers because it is a very expensive setting to get care.

Generalizability

That our results differ from other studies may reflect unique circumstances in Washington, where the pre-ACA regulatory environment may have provided a better baseline for Washington insurers to estimate risk in the individual market, including the exchange population. Since 1993, the state has had some form of community rating, which limits how much insurers can vary their rates based on age, gender, health status, and other characteristics,[45, 46] and guaranteed issue, which requires insurers to accept for enrollment any state resident regardless of characteristics, for the individual market.[47] From 2008 until the ACA implementation in 2014, adjusted community rating was in effect, and guaranteed issue was assured for all except for high risk individuals (the top 8% of the population) who were eligible for the state's high risk pool.[48] These healthcare insurance regulations did not impact the uninsured rate in the lead-up to the ACA implementation; in 2012, the uninsured rate was 13.9% in Washington[49] compared to 15.4% in the United States.[50]

A comparison of KPWA, Washington and the United States showed some differences that would indicate that Washington has a different exchange market from other state or federal exchanges. 60.0% of the KPWA I&F exchange population chose silver plans compared to 56% of the 2015 Washington population,[51] and 71% of 2016 United States population.[52] The proportion eligible for a subsidy for KPWA insurance (77.0%) was very similar to the proportion among Washington enrollees in September 2015 (79%),[51] though different from the United States population as of February 2016 (85.0%).[52] The average APTC was $221 for KPWA, $238 for Washington and $291 for the United States in March 2016.[53] Though there are

differences between these three exchanges, they are not such that would make the analysis presented here ungeneralizable to the broader national context.

LIMITATIONS

Though missing race and ethnicity data is not uncommon among commercial plans,[54] the level of missing data in our analytic data set makes conclusions and comparisons around this characteristic difficult.

We chose to report RUB scores for all enrollees despite not having a fully validated 12 months of data collection, because we thought a clinical risk index was important to understand the health status of these populations even to a limited degree. We were unable to tell if a 0 score was because an enrollee enrolled for 12 months did not utilize care or because an enrollee enrolled for less than 12 months had not yet utilized care. Therefore, we cannot make conclusions about whether the larger number of 0 scores in the unsubsidized population reflects concerns about out of pocket costs.

CONCLUSION

This study adds to the existing literature on the characteristics of populations entering the health insurance market after the ACA and their utilization patterns. We show that, though there are some interesting differences between the populations, overall the exchange population is not very different from the insured population prior to the ACA nor to populations insured directly or through their employers after the ACA. This alone is an important piece of evidence to inform risk assessment and premium setting by insurers. When combined with other studies that have and have not reached similar findings, it is clear that there is much more to explore about the long-term implications of the ACA's expansion of the health insurance market and explore where these markets are more accurately assessing risk and replicating those circumstances.

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Table 1. Characteristics of enrollees in five insurance plans, years 2008-2009 and 2015-2016

	2008-2009		2015-2016				
	ESI[a]	I&F Direct[b]	ESI[a]	I&F Direct[b]	I&F Exchange[c]		
					Total	Subsidized[d]	Unsubsidized
Total person-years	604,192	44,983	646,928	44,233	48,112	39,162	8,950
Total N in plan	432,270	46,373	490,168	39,723	51,575	39,698	12,877
	% (N)	% (N)	% (N)	% (N)	% (N)	% (N)	% (N)
Age							
21-26	16.0 (69,219)	13.5 (6,249)	18.0 (88,096)	10.7 (4,261)	12.5 (6,491)	10.6 (4,093)	18.1 (2,326)
27-35	16.3 (70,312)	12.1 (5,624)	18.3 (89,571)	16.1 (6,308)	19.6 (10,101)	16.7 (6,469)	28.2 (3,632)
36-45	21.5 (92,831)	19.1 (8,843)	20.1 (98,729)	19.7 (7,840)	16.9 (8,688)	16.5 (6,397)	17.8 (2,291)
46-55	25.4 (109,684)	26.1 (12,117)	21.8 (106,863)	23.5 (9,337)	19.2 (9,904)	20.3 (7,868)	15.8 (2,036)
56-64	20.9 (90,224)	29.2 (13,540)	21.8 (106,909)	30.0 (11,905)	31.9 (16,463)	35.8 (13,871)	20.1 (2,592)
Gender							
Female	53.8 (232,615)	54.5 (25,259)	53.8 (263,920)	53.8 (21,379)	55.0 (28,381)	51.3 (6,606)	56.3 (21,775)
Race							
Missing	49.1 (212,157)	48.5 (22,486)	42.6 (208,962)	44.1 (17,522)	51.5 (26,545)	52.7 (20,398)	47.9 (6,164)
Asian	8.4 (18,564)	7.9 (1,894)	10.0 (28,118)	10.3 (2,283)	12.5 (3,113)	12.9 (2,346)	11.2 (749)
Black	5.0 (11,029)	1.4 (323)	5.7 (16,049)	1.5 (340)	2.5 (616)	2.7 (497)	1.8 (119)
Hawaiian/Pacific Islander	1.0 (2,230)	0.3 (66)	1.3 (3,530)	0.4 (96)	0.7 (174)	0.7 (130)	0.7 (44)
Multiple	2.9 (6,408)	2.1 (494)	3.4 (9,495)	2.6 (567)	2.8 (699)	2.7 (501)	3.0 (198)
Native American	1.0 (2,267)	0.4 (84)	1.0 (2,829)	0.4 (77)	0.6 (159)	0.7 (124)	0.5 (35)
Other	2.8 (6,200)	1.7 (401)	4.2 (11,757)	2.5 (559)	3.5 (877)	3.6 (650)	3.4 (227)
White	78.8 (173,415)	86.3 (20,625)	74.5 (209,428)	82.3 (18,279)	77.5 (19,375)	76.7 (14,034)	79.6 (5,341)
Hispanic ethnicity							
Missing	49.0 (211,666)	48.4 (22,434)	42.7 (209,329)	44.3 (17,583)	51.6 (26,586)	52.7 (20,403)	48.0 (6,183)
Yes	5.2 (11,503)	3.3 (798)	6.6 (18,520)	3.9 (856)	4.8 (1,193)	4.9 (888)	4.6 (305)
Census tract characteristics							
Missing	1.7 (7,397)	1.4 (644)	0.5 (2,201)	0.4 (148)	0.4 (202)	0.4 (163)	0.3 (39)

Table 1. Characteristics of enrollees in five insurance plans, years 2008-2009 and 2015-2016

	2008-2009		2015-2016				
	ESI[a]	I&F Direct[b]	ESI[a]	I&F Direct[b]	I&F Exchange[c]		
					Total	Subsidized[d]	Unsubsidized
<25% with college degree	13.0 (55,285)	7.3 (3,343)	13.2 (64,462)	7.0 (2,772)	11.5 (5,917)	12.7 (4,897)	8.0 (1,020)
Median household income <$25K	1.4 (5,998)	1.2 (540)	13.0 (6,467)	1.0 (380)	2.0 (1,039)	2.1 (811)	1.8 (228)
Clinical risk (RUB score)[e]							
Missing	1.0 (4,375)	2.7 (1,244)	1.0 (4,764)	4.7 (1,846)	2.0 (1,043)	1.7 (648)	3.1 (395)
Scores 0	35.5 (152,091)	49.7 (22,545)	42.8 (207,664)	47.4 (17,940)	57.5 (29,046)	56.6 (21,538)	60.2 (7,508)
Scores 1-3	56.8 (243,198)	45.2 (20,378)	49.3 (207,664)	47.4 (17,940)	37.8 (19,091)	28.4 (14,598)	36.0 (4,493)
Scores 4-5	7.6 (32,606)	5.2 (2,326)	5.8 (2,190)	7.9 (38,499)	4.7 (2,394)	5.0 (1,914)	3.9 (481)

[a] Employer sponsored insurance

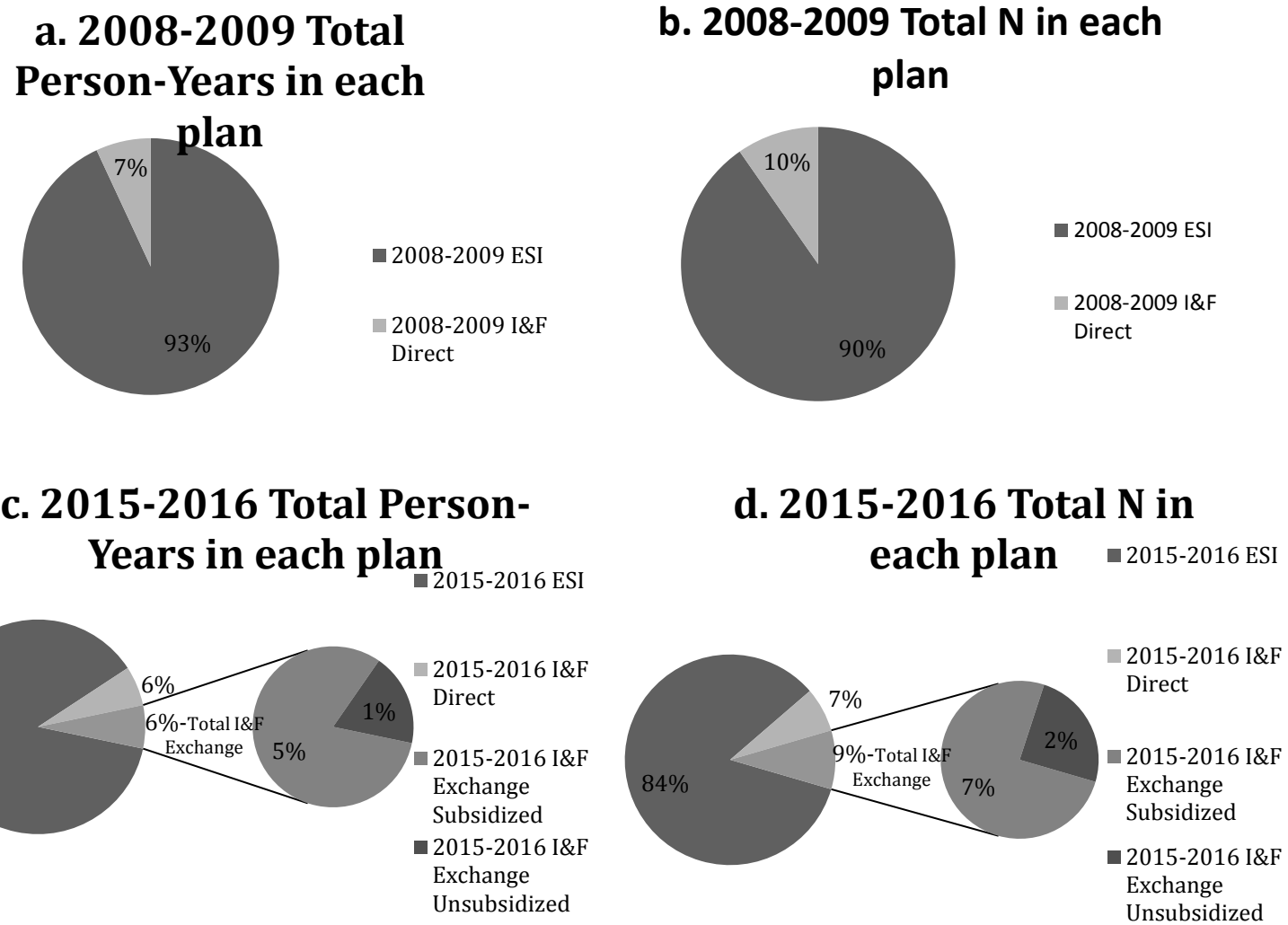
[b]those who purchased individual or family insurance directly from KPWA

[c]those who purchased individual or family insurance through the Washington Health Benefit Exchange

[d]those who receive advanced premium tax credits (APTCs) or cost sharing reduction (CSR) subsidies

[e]RUBS is based on retro data. All other variables are based on non-retro, first available score

Figure 1. Total person-years and total number in each plan, years 2008-2009 (a and b) and 2015-2016 (c and d)



ESI- Employer-sponsor insurance
I&F individual and family

Table 2. Plan choices of individual and family plan enrollees 2015-2016

	I&F Direct[a]	I&F Exchange[b]		
		Total	Subsidized[c]	Unsubsidized
Total N in plan	39,723	51,575	39,698	12,877
	% (N)	% (N)	% (N)	% (N)
Metal tier				
Catastrophic plan		5.3 (2,738)		21.3 (2,738)
Gold	15.9 (6,307)	7.5 (3,643)	5.7 (2,168)	14.4 (1,457)
Bronze	51.5 (20,435)	32.6 (15,907)	30.2 (11,673)	41.8 (4,234)
Silver	32.7 (12,979)	60.0 (29,287)	64.2 (24,839)	43.9 (4,448)
Cost share reduction[d]		38.7 (19,938)	50.2 (19,938)	
94% Actuarial Value (100-150% FPL[e])		7.3 (3,780)	9.8 (3,780)	
87% Actuarial Value (150-200% FPL[e])		21.0 (10,822)	28.0 (10,822)	
73% Actuarial Value (200-250% FPL[e])		10.4 (5,336)	13.8 (5,336)	

[a]those who purchased individual or family insurance directly from KPWA

[b]those who purchased individual or family insurance through the Washington Health Benefit Exchange

[c]those who receive advanced premium tax credits (APTCs) or cost sharing reduction (CSR) subsidies

[d] available only to those who purchase a silver plan

[d] Federal Poverty Level

Table 3. Utilization by enrollees in five insurance plans, years 2008-09 and 2015-16

	2008-2009		2015-2016				
	ESI	I&F Direct	ESI	I&F Direct	I&F Exchange		
					Total	Subsidized	Unsubsidized
Total N in plan	432,270	46,373	490,168	39,723	47,667	39,698	12,877
Total Person-Years	604,192	44,983	646,928	44,233	48,112	39,162	8,950
Primary care							
Visits: 1000 person-years	2,891.9	2,329.7	2,249.4	1,783.7	2,019.0	2,088.3	1,715.6
% with a visit during time period	75.6	60.3	66.2	59.7	59.6	61.0	44.5
Pharmacy							
30-day fills: 1000 person-years	17,417.3	13,086.6	14,499.3	12,816.2	12,625.5	13,431.9	9,096.9
Specialty care							
Visits: 1000 person-years	3,645.7	2,697.8	3,385.8	2,658.3	2,461.3	2,593.1	1,884.8
Behavioral Health visits: 1000 person-years	507.3	298.9	576.4	462.3	381.5	406.9	270.5
Emergency care							
Visits: 1000 person-years	130.2	87.8	131.9	71.3	89.6	98.7	49.8
Hospital inpatient							
Admissions: 1000 person-years	66.4	48.1	53.8	54.3	43.9	42.8	48.7
Average length of stay in days of those admitted	4.2	4.2	4.4	4.4	4.8	4.8	4.6