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# Marketplace Health Plan Options for People with HIV Under the ACA: An approach to more comprehensive cost assessment

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## Executive Summary

The Affordable Care Act (ACA) has expanded access to health coverage for millions of individuals, including people with HIV.[1] One key expansion is the availability of new private insurance coverage through health insurance marketplaces in every state. As individuals shop for private insurance coverage in the marketplace, multiple factors go into selecting a health plan. While these factors include clinical considerations, the cost of coverage, particularly that relating to premiums, is driving much of consumer decision-making. For people with HIV, cost considerations take on added importance given their reliance on expensive antiretroviral prescription medications and the fact that cost may present a barrier to maintaining health coverage, which could adversely affect their health. Assessing premiums alone, however, may not provide an accurate measure of plan affordability and enrollees may find that they face unexpected or higher costs if premiums are used to guide plan selection in isolation. A more comprehensive assessment of the cost of coverage includes factors beyond just premiums, such as deductibles, drug costs, and out-of-pocket (OOP) maximums. Considering broader health plan costs is not only important for individuals with HIV but also for third party payers, such as the Ryan White HIV/AIDS Program, the nation's safety net program for HIV care and treatment, which in many cases assists lower income clients with costs related to insurance coverage.[2]

This analysis provides estimates of the costs HIV positive individuals might expect to face when enrolled in marketplace health plans and describes the characteristics of plans that might offer the greatest value.

Altogether, costs in 300 different enrollment scenarios are examined, looking at 5 plans in each of five states for two enrollee types across various incomes. The enrollee types consist of one HIV positive individual with well managed HIV disease and no other chronic health needs and one HIV positive individual with significant HIV care needs and comorbidities. Costs are examined using two measures:

1. Expected health costs: The total costs an HIV positive enrollee would anticipate facing in order to meet known drug treatment and care needs within a plan year, along with the cost of premiums.
2. Total OOP liability: The greatest amount an individual would have to pay out-of-pocket, essentially the financial risk, within a given plan year, including both total annual premium amount and the plan's out-of-pocket maximum.[3]

Key findings include:

- If an enrollee or third party payer's main objective is keeping costs low, assessing premiums alone may not be sufficient. The plans with the lowest premiums examined here were not, in most cases, the most cost-effective plan option based on either of the cost measures used in this analysis.
- This analysis suggests that enrollees at the lowest income levels, who have the greatest access to cost-sharing reduction (CSR) subsidies, could find the lowest expected costs in silver level plans, at least based on the scenarios here. Thus looking at both plan metal level and enrollee income may be helpful in making enrollment decisions. However, for those with higher income levels, including those with access to some level of subsidies, the metal tier plan offering the best value was highly variable.
- In looking across the scenarios in this report, those at the lowest income level generally paid a greater share of their income towards health care costs compared to those at the highest income level. However, if enrolled in the more cost-effective silver level plans, this could be minimized
- Commonly, silver plans provide the least liability for those at lower incomes while platinum plans provided the least liability for those with higher incomes, suggesting the importance of enrolling in a high actuarial value plan when limiting financial risk is a goal.
- Overall, the plan that would offer an enrollee the lowest expected health costs aligned with the plan providing the least OOP liability about half the time, enabling enrollees to both minimize expected costs and OOP liability. However, when this alignment does not occur, decisions are more complicated and enrollees or third party payers must assess the trade-off between reducing overall liability by paying more up front in known costs compared with paying less in known costs but having higher liability should unexpected costs arise.
- The plan an enrollee selects has significant consequences for their expected health costs. On average there was a $4,054 difference between what an enrollee could expect to pay annually if enrolled in the plan with the lowest expected health costs compared to the plan with the highest. There was a $3,914 difference in liability between what an enrollee could expect to face annually if enrolled in the plan with the lowest liability compared to the plan with the highest, on average.
- While on average cost those with higher health needs could expect to pay an additional $400 to meet known health costs compared to those with lower health needs, this amount ranged substantially at the individual level. For example, the amount of additional spending faced by a high utilizer enrollee (compared to the low utilizer enrollee in the same plan) ranged from nothing at all to $1,693. In 37 scenarios (12% of the time) the high utilizer enrollee faced more than $800 in additional expected health costs compared with the low utilizer enrollee.

While it is important for HIV positive enrollees and third party payers, including Ryan White grantees, to include other considerations in plan selection (such as whether drug regimens are covered -and at what level and with what utilization management requirements- whether specialty providers are in-network, and the role of the deductible in plan benefit design), it is reasonable to expect costs considerations to continue to drive some decision making. Overall, this analysis suggests that there is significant importance in making more comprehensive assessments of costs, beyond that of premiums alone, when making enrollment decisions.

# Introduction

The Affordable Care Act (ACA) has expanded access to health insurance coverage for millions of individuals, including people with HIV.[4] One key expansion is the availability of new private insurance coverage through health insurance marketplaces in every state. Marketplaces offer a choice of different health plans, certifying plans that participate and providing information to help consumers better understand their options.

As individuals shop for private insurance coverage in the marketplace, multiple factors go into selecting a health plan. While these factors include clinical considerations, such as whether a certain provider is in-network or a particular drug is covered, the cost of coverage, particularly that relating to premiums, appears to be a significant driver of consumer decision-making. Indeed, according to a recent poll, nearly 40% of those shopping for an individual plan in 2015 (both on and off the marketplace) cited the cost of monthly premiums as an extremely important factor in their plan selection.[5] In addition, data released by HHS indicate that most consumers across the country enrolling in marketplace plans selected the lowest or second lowest premium silver plan.[6, 7]

For people with HIV, out-of-pocket (OOP) cost considerations take on added importance given their reliance on expensive antiretroviral prescription medications and the fact that cost may present a barrier to maintaining health coverage, which could adversely affect their health. In particular, given that adherence is negatively associated with increases in cost-sharing, understanding the full range of potential costs an enrollee might face before selecting a plan is critical.[8] An additional reason assessing plan costs is especially important for this population is that many people with HIV live on relatively low incomes with an estimated 44% of those in HIV care living at or below the poverty line, a rate even higher among Ryan White clients.[9,10] However, the cost of premiums alone may not provide an accurate measure of plan affordability and enrollees may find that they face unexpected or higher costs if premiums are used to guide plan selection in isolation. A more comprehensive assessment of the cost of coverage includes factors beyond just premiums, such as deductibles, drug costs, and out-of-pocket maximums. Considering these costs is not only important for people with HIV but also for third party payers, such as the Ryan White HIV/AIDS Program (Ryan White), the nation's safety net program for HIV care and treatment which in many cases assists low income HIV positive clients with the costs related to insurance coverage in the marketplace.[11] As such, limited Ryan White Program dollars could stretch further to assist clients if costs are more fully accounted for.

This analysis provides estimates of the costs HIV positive enrollees might expect to face when enrolled in marketplace health plans and describes the characteristics of plans that might offer the greatest value. Altogether, costs in 300 different enrollment scenarios are examined, looking at 5 plans in each of five states for two enrollee types across various incomes. The enrollee types consist of one HIV positive individual with well managed HIV disease and no other chronic health needs and one HIV positive individual with significant HIV care needs and comorbidities. Costs are examined using two measures:

1) Expected health costs: Defined as the total costs (total annual premium amount and other cost-sharing such as co-payments and co-insurance) an HIV positive enrollee would anticipate facing in order to meet known drug treatment and care needs within a plan year, assuming all costs are incurred in-network. This measure assumes no care or treatment is accessed beyond these anticipated costs.

2) Total OOP liability: Defined as the greatest amount an individual would have to pay out-of-pocket, essentially the financial risk, within a given plan year, including both total annual premium amount and the plan's out-of-pocket maximum.[12] This measure also assumes all costs are incurred in-network. This cost-estimate provides a worst-case scenario in terms of possible health costs.

The first part of this analysis looks at all 300 scenarios, providing an overall range of what expected costs might look like for HIV positive enrollees selecting low premium marketplace plans. Expected costs are examined by income, state, plan metal level and by enrollee health status. Second, average overall liability in plans across the data set is examined by income, state and metal level. Third, this analysis looks at which plans might offer the best value based on the two cost-measures assessed here. Finally, the analysis identifies whether and when enrollees are able to find a plan that offers both low costs and low liability.

# Background

As of June 2015, nearly 10 million individuals have enrolled in and paid premiums for health plans through the marketplaces.[13] While data on the number of HIV positive individuals who have enrolled in health plans are not available, as of December 2014, nearly 50,000 Ryan White clients have received assistance with ACA era private insurance costs.[14] ACA compliant individual plans are grouped into four tiers or categories named after different metals: bronze, silver, gold, and platinum, with the value of the metal aligning with the generosity of plan benefits (or their actuarial value) so that platinum level plans offer the most generous benefits, on average, and bronze plans offer the least generous benefits, on average. Actuarial value is the share of costs a plan will cover for a typical population with average healthcare utilization. The actuarial value associated with each metal tier is defined in the ACA and described below (See Table 1).

**Table 1. Metal Tier and Actuarial Value Under the ACA**

| Metal Tier | Actuarial Value |
|---|---|
| Platinum | 90% |
| Gold | 80% |
| Silver | 70% (with some variation depending on enrollee income, also see Table 2) |
| Bronze | 60% |

As a result of the more robust coverage, platinum plans tend to have the most expensive premiums but the least out-of-pocket costs while bronze level plans typically have the least costly premiums but highest out-of-pocket costs. Gold and silver plans fall in between, accordingly. In addition, the ACA provides subsidized coverage for marketplace enrollees with low and moderate incomes through both reduced premiums and cost sharing reduction (CSR) subsidies. While reduced premiums, subsided through premium tax credits, are available to marketplace enrollees with incomes between 100% and 400% of the federal poverty level (FPL) enrolling in a health plan of any metal tier, CSR subsidies are available only to those with incomes between 100% and 250% FPL who enroll in silver plans. Both types of subsidies become increasingly generous as income levels decrease. Premium tax credits lower the cost of the monthly premium. CSRs increase average generosity (or actuarial value) of health plans by decreasing other types of cost-sharing (e.g. deductibles, out-of-pocket maximums, co-payments, and co-insurance). Table 2 depicts the adjusted actuarial value in silver level plans for individuals eligible for CSRs.

| Table 2. Actuarial Value in Silver Plans and Impact of Cost-sharing Reductions | |
|---|---|
| **Income Level** | **Actuarial Value of Silver Plan** |
| Above 250% FPL | 70% (not impacted by CSRs) |
| 200–250% FPL | 73% |
| 150–200% FPL | 87% |
| 100–150% FPL | 93% |
| Below 100% FPL | 70% (not impacted by CSRs) |

Federal data released regarding both the first and second open-enrollment periods suggest that most enrollees are selecting silver plans.[15] That CSRs are only available to low income individuals in silver plans could be one reason for this trend; as of March 2015, 57% of all marketplace enrollees were receiving CSRs.[16] In addition, as a result of CSR access being limited to those enrolling in silver plans, during the first open-enrollment period in particular, some grantees and sub-grantees of the Ryan White Programs offering premium assistance required participating clients to enroll in silver plans.[17] In other cases however, individuals and Ryan White Programs have assumed that platinum level plans will provide the greatest value and targeted enrollment activities into these plans. Whether and for whom silver and platinum plans provide the greatest value for people with HIV and Ryan White Programs remains a question that is explored in this analysis.

## Methodology

This analysis projects out-of-pocket costs associated with expected health care usage and total OOP liability, for two types of hypothetical HIV positive enrollees with differing medical needs at a range of income levels in various locations across the United States. To assess expected health costs the amount, duration, and scope of benefits expected to be used within a plan year was estimated and then measured against the cost to access those services and treatments under various plan benefit designs. Total OOP liability was also estimated and defined to include the plan's out-of-pocket maximum along with the total annual premium amount (the monthly premium x 12).

The two hypothetical HIV positive enrollees included in this analysis are a low utilizer enrollee, defined as an enrollee that does not have chronic health needs beyond HIV care and treatment (and has their HIV well controlled) and a high utilizer enrollee, defined as an enrollee with more frequent HIV care needs and a high level of medical need beyond HIV (including diabetes, hypertension, hyperlipidemia, and depression). Both enrollee profiles and associated care and treatment needs were developed in consultation with national HIV experts and in accordance with the U.S. Department of Health and Human Services National HIV Treatment Guidelines.[18] Costs associated with care and treatment are examined for both enrollee types in plans from the most populous zip codes in 5 urban centers heavily burdened by the HIV epidemic (Los Angeles, CA; Dallas, TX; Miami, FL; Atlanta, GA, and New York City, NY) at six income points that trigger different levels of federal subsidies through the marketplaces (ranging from $16,500 To $50,000 annually). Costs for each enrollee are examined across five 2015 marketplace plans in each region: the silver plans with the lowest and second lowest-premium and the lowest premium plans from the other metal tiers (platinum, gold, and bronze). This sample of plans allows us to examine the plans enrollees most commonly select (the two lowest premium silver plans) against the low premium plans from the other metal tiers. In sum, 300 plan scenarios are examined for 60 enrollee scenarios (5 plan offerings for each of 2 enrollee types in 5 states across 6 income levels). (See Table

3.) Details about enrollee health profiles and more in-depth methodology can be found in Appendix A and Appendix B.

Findings are limited to the plans observed and trends discussed may not be representative of all markets and all health plans. In addition, findings are limited to the individual enrollee profiles constructed. Costs actual enrollees can expect to face will vary significantly by individual factors such as age and health care utilization. A more detailed discussion of limitations can be found in Appendix B.

**Table 3. Sample Details**

| Enrollee Type/Enrollee Health Status | Plan Region/Zip Code | Income | Plans | Total Scenarios |
|---|---|---|---|---|
| | Los Angeles, CA (90011) | $50,000 | Lowest Premium Silver | |
| | Miami, FL (33125) | $40,000 | 2nd Lowest Premium Silver | |
| Low Utilizer HIV+ Enrollee | Atlanta, GA (30331) | $32,000 | Lowest Premium Platinum | |
| High Utilizer HIV+ Enrollee | New York City, NY (10025) | $25,000 | Lowest Premium Gold | |
| | Dallas, TX (75217) | $20,000 | Lowest Premium Bronze | |
| | | $16,500 | | |
| **(2)** | **(5)** | **(6)** | **(5)** | **(2x5x6x5 = 300)** |

# Findings

This analysis examines the five plan options available to each of the 60 enrollees (2 enrollee types in 5 states at 6 income levels) profiled in order to assess which options provide the most affordable coverage based on two cost-measures. First though, costs trends looking across the full data set of 300 scenarios are described. Observing trends across the full data set provides an overall sense of potential costs in low premium marketplace plans for HIV positive enrollees.

Because the averages in this analysis include enrollment scenarios in plans that provide both poor and good relative value to an enrollee, and include enrolling low income enrollees in high metal level coverage (which may not be representative of what actually occurs in the marketplace) they potentially obscure the fact that average costs in the real world would be considerably lower if enrollees selected cost-effective plans.

## Expected Health Costs

Assessing expected health costs helps in determining the affordability of a health plan based on known care and treatment needs. Looking at all 300 scenarios (the 5 plan options available in each of 60 enrollee scenarios), expected spending for HIV positive enrollees ranged dramatically, from $508 in a silver plan in California for a low utilizer enrollee to $9,816 in a silver plan in Texas for both a low and high utilizer enrollee (at the $50,000 and $40,000 income levels). This significant range is driven largely by income of enrollees and associated access to cost-sharing subsides (see income section below). While the range was wide, and indeed some enrollees had relatively low costs, high levels of expected health costs were common. Across the 300 scenarios, expected health costs exceeded $5,000 about half of the time (141 scenarios), $6,000 in more than a third of all cases (107 scenarios) and $8,000 in 48 scenarios. On 67 occasions, expected health costs were significantly lower, below $3,000 including premiums, but never for enrollees above the $25,000 income level.

**Income:** As a result of access to subsidies at the lower levels, income dramatically impacted the expected health costs faced by an enrollee. Looking across all plans, the average expected health spending was $2,801 for enrollees at the $16,500 income level compared to $6,734 for enrollees at the $50,000 level. While in dollar terms enrollees at the lowest income level had on average the lowest expected costs, the share of household income consumed by health spending was in fact greater compared to the highest income enrollees. On average, for those at lowest income levels, expected health costs consumed 17% of their income, compared to 13% for those at the $50,000 income level. (See Table 4.) As mentioned above and demonstrated later, average costs by income (and share of income absorbed) could be dramatically lower if enrollees select plans that are more cost-effective. The averages displayed here represent all enrollees in the dataset which includes enrollees in plans that provide very poor value.

**Table 4. Average Expected Health Costs, by Income level (all plan scenarios, both enrollee types)**

| Income level | Average Expected Health Costs (Cost range) | Average Expected Health Costs as a Share of Income |
|---|---|---|
| $50,000 | $6,734 ($3,864–$9,816) | 13% |
| $40,000 | $6,606 ($3,864–$9,816) | 17% |
| $32,000 | $6,206 ($3,684–$9,432) | 19% |
| $25,000 | $4,837 ($2,410–$7,834) | 19% |
| $20,000 | $3,445 ($1,152–$7,126) | 17% |
| $16,500 | $2,801 ($508–$6,706) | 17% |

In examining average expected cost differences across variables, especially for those factors other than income, it is important to remember that averages obscure detail and expected costs an individual might face will differ based on income and other factors. Rather examining average costs for variables such as state and metal level, are useful for comparison purposes within these categories (e.g. for average costs in gold vs. bronze plans or average costs in New York vs. Florida).

**Metal Level:** Looking across metal levels, average expected health costs for all enrollees (both the high and low utilizer profiles in all states and at all income levels) ranged from $4,410 in the Platinum plans to $6,990 in the Bronze plans. Expected out-of-pocket costs were similar at the gold and silver level hovering around $4,700. (See Table 5)

| Table 5. Average Expected Health Costs, by Metal Tier (all plan scenarios, both enrollee types) | |
|---|---|
| **Metal Level** | **Average Expected Health Costs (Cost Range)** |
| Platinum | $4,410 ($1,464-$7,300) |
| Gold | $4,723 ($1,540- $9,058) |
| Silver1 | $4,602 ($508-$9,444) |
| Silver2 | $4,798 ($652-$9,816) |
| Bronze | $6,990 ($1,728-$9,068) |

*Silver1= silver plan with 1st lowest premiums; Silver2=silver plan with 2nd lowest premiums

**State:** Looking at costs across states in this analysis, expected health costs were, on average, lowest in California (at $3,991) and highest in Georgia (at $6,587) where they were 65% greater. Expected costs in other states hovered around $5,000. (See Table 6).

| Table 6. Average Expected Health Costs, by State (all plan scenarios, both enrollee types) | |
|---|---|
| **State** | **Average Expected Health Costs (Cost Range)** |
| California | $3,991 ($508-$8,674) |
| New York | $4,618 ($684-$8,860) |
| Florida | $5,036 ($704-$9,068) |
| Georgia | $6,587 ($1,076-$9,444) |
| Texas | $5,290 ($1,076-$9,816) |

**Enrollee Health Status:** On 124 occasions (or in 41% of the scenarios) a plan's out-of-pocket maximum was hit for both the high and low utilizer. In these cases, expected costs were the same for both enrollee types. In the remaining scenarios, costs were always lower for the low utilizer enrollee. Among these scenarios, the high utilizer enrollee's expected health costs, including premiums, averaged $5,315 (with a range of $668 to $9,816) compared to an average of $4,894 (with a range of $508 to $9,816) for the low utilizer. On average, the high utilizer enrollee in these scenarios could expect to pay $421 more in expected health costs than the low needs enrollee when enrolled in the same plan, but there was significant variation at the individual level. For instance, the additional amount of spending the high utilizer enrollee faced (compared to the low utilizer enrollee in the same plan) in these scenarios ranged from nothing at all to $1,693. High levels of additional cost for the enrollee with greater health needs were not uncommon. On 37 occasions, the high utilizer enrollee faced more than $800 in additional expected health costs compared with the low utilizer enrollee in the same plan. On 10 occasions, that amount was over $1,000 (occurring at the bronze and silver level and across various income levels).

Looking across states, the difference between the costs a low utilizer and high utilizer would expect to pay was the smallest in Georgia because both enrollees hit the out-of-pocket maximum in all scenarios and thus had the same costs. The difference in costs was the largest in New York, where on average there was an $841 difference

between the costs faced by a high utilizer compared to a low utilizer. Average costs differences in other states ranged from $306-$634. The income of an enrollee did not seem to have a great impact on the costs faced by low or high utilizing enrollees, especially at the three highest income levels where the average cost difference was the same ($467). At the three lowest incomes, the differences in costs between the low and high utilizing enrollees ranged from $313-$459, with the smallest differences occurring at the lowest income ranges. While these cost differences were similar across income ranges, their impact would likely be felt most keenly by those with limited assets. Looking across metal levels, on average there was the greatest difference in costs between high and low utilizers in bronze level plans and the least difference, based on utilization, in platinum coverage.

Table 7 displays detailed data on the average expected costs for enrollees across the variables used in this data set, highlighting the difference between high and low utilizing enrollees. In some cases ranges of expected costs found in the data set are also provided.

| Table 7. Expected Costs, by Enrollee Type/Health Status, State, Metal Level and Income | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Florida | Georgia | Texas | New York | California | Avg Expected Costs, All plans (Range) | Platinum | Gold | Silver1 | Silver2 | Bronze |
| **$50,000** | | | | | | **$6,734** | | | | | |
| High Utilizer Enrollee | $6,654 | $8,189 | $7,007 | $7,477 | $5,509 | **$6,967 ($4,224-$9,816)** | $5,777 | $6,241 | $7,071 | $7,315 | $8,432 |
| Low Utilizer Enrollee | $6,314 | $8,189 | $6,613 | $6,606 | $4,779 | **$6,500 ($3,864-$9,816)** | $5,502 | $5,671 | $6,490 | $6,851 | $7,987 |
| ***Difference in average costs between enrollee types*** | | | | | | **$467** | | | | | |
| **$40,000** | | | | | | **$6,606** | | | | | |
| High Utilizer Enrollee | $6,654 | $8,189 | $7,007 | $6,841 | $5,509 | **$6,840 ($4,224-$9,816)** | $5,650 | $6,114 | $6,943 | $7,188 | $8,305 |
| Low Utilizer Enrollee | $6,314 | $8,189 | $6,613 | $5,970 | $4,779 | **$6,373 ($3,864-$9,816)** | $5,375 | $5,544 | $6,362 | $6,724 | $7,859 |
| ***Difference in average costs between enrollee types*** | | | | | | **$467** | | | | | |
| **$32,000** | | | | | | **$6,206** | | | | | |
| High Utilizer Enrollee | $6,332 | $8,079 | $6,623 | $5,833 | $5,329 | **$6,439 ($4,044-$9,432)** | $5,252 | $5,711 | $6,543 | $6,787 | $7,904 |
| Low Utilizer Enrollee | $5,992 | $8,079 | $6,229 | $4,962 | $4,599 | **$5,972 ($3,684-$9,432)** | $4,976 | $5,140 | $5,962 | $6,323 | $7,459 |
| ***Difference in average costs between enrollee types*** | | | | | | **$467** | | | | | |
| **$25,000** | | | | | | **$4,837** | | | | | |
| High Utilizer Enrollee | $4,986 | $6,492 | $5,235 | $4,483 | $4,133 | **$5,066 ($2,952-$7,834)** | $4,148 | $4,603 | $4,803 | $4,973 | $6,802 |
| Low Utilizer Enrollee | $4,646 | $6,492 | $4,841 | $3,639 | $3,419 | **$4,607 ($2,410-$7,834)** | $3,872 | $4,032 | $4,278 | $4,497 | $6,357 |
| ***Difference in average costs between enrollee types*** | | | | | | **$459** | | | | | |
| **$20,000** | | | | | | **$3,445** | | | | | |
| High Utilizer Enrollee | $2,881 | $4,664 | $3,716 | $3,128 | $2,969 | **$3,621 ($1,462-$7,126)** | $3,440 | $3,901 | $2,333 | $2,335 | $6,094 |
| Low Utilizer Enrollee | $2,684 | $4,664 | $3,534 | $2,303 | $2,491 | **$3,268 ($1,152-$7,126)** | $3,164 | $3,331 | $2,157 | $2,041 | $5,649 |
| ***Difference in average costs between enrollee types*** | | | | | | **$353** | | | | | |
| **$16,500** | | | | | | **$2,801** | | | | | |
| High Utilizer Enrollee | $3,626 | $3,910 | $3,123 | $2,473 | $2,400 | **$2,957 ($668-$6,706)** | $3,017 | $3,481 | $1,193 | $1,356 | $5,739 |
| Low Utilizer Enrollee | $3,350 | $3,910 | $2,941 | $1,707 | $1,981 | **$2,644 ($508-$6,706)** | $2,742 | $2,908 | $1,088 | $1,191 | $5,294 |
| ***Difference in average costs between enrollee types*** | | | | | | **$313** | | | | | |
| **Overall Average, both enrollee types** | **$5,036** | **$6,587** | **$5,290** | **$4,618** | **$3,991** | **$5,105** | **$4,410** | **$4,723** | **$4,602** | **$4,798** | **$6,990** |
| ***High Utilizer Enrollee (Range)*** | ***$5,189 ($868-$9,068)*** | ***$6,587 ($1,076-$9,444)*** | ***$5,452 ($1,076-$9,816)*** | ***$5,039 ($1,184-$8,860)*** | ***$4,308 ($668-$8,674)*** | ***$5,315 ($668-$9,816)*** | ***$4,547 ($1,824-$7,300)*** | ***$5,008 ($2,408-$9,058)*** | ***$4,814 ($668-$9,444)*** | ***$4,992 ($812-$9,816)*** | ***$7,213 ($3,421-$9,068)*** |
| ***Low Utilizer Enrollee (Range)*** | ***$4,883 ($704-$9,068)*** | ***$6,587 ($1,076-$9,444)*** | ***$5,128 ($1,076-$9,816)*** | ***$4,198 ($684-$8,360)*** | ***$3,674 ($508-$8,141)*** | ***$4,894 ($508-$9,816)*** | ***$4,272 ($1,464-$6,680)*** | ***$4,438 ($1,540-$9,058)*** | ***$4,389 ($508-$9,444)*** | ***$4,604 ($652-$9,816)*** | ***$6,767 ($1,728-$9,068)*** |
| ***Difference in average costs between enrollee types*** | ***$306*** | ***$0*** | ***$324*** | ***$841*** | ***$634*** | ***$421*** | ***$275*** | ***$570*** | ***$425*** | ***$388*** | ***$446*** |

## Potential Liability

Observing OOP liability within a plan provides another way of assessing affordability and looks beyond the costs an enrollee is expected to face. It identifies the maximum amount of health spending an enrollee might encounter within a particular plan. For this assessment it was assumed that all services were rendered in-network. Since the maximum possible spending within a plan is examined, whether an enrollee has high or low utilization needs is without consequence since both types of enrollees would reach the same maximum OOP liability. Thus, for this component of the analysis, 150 scenarios are examined representing 30 enrollee scenarios.

Across these 150 scenarios (1 enrollee type across 5 plans in 5 states at and 6 income levels), potential OOP liability ranged from a low of $1,076 (occurring on three occasions in silver level plans in Texas, Georgia and Florida at the $16,500 income level) to a high of $10,308 (occurring in a gold plan in Texas at both the $40,000 income level and $50,000 income level). In 34 scenarios, OOP liability was over $9,000 and in 5 cases, over $10,000. In 31 scenarios, maximum liability was lower, below $5,000.

As with expected costs, average liability by income (and share of income absorbed) could be dramatically lower if enrollees select plans that are more cost-effective. The averages displayed here represent all enrollees in the dataset which includes enrollees in plans that provide very poor value.

**Income:** Average maximum liability among all plan scenarios included in the analysis ranged dramatically by income with enrollees in these scenarios at the $50,000 income level seeing average potential liability more than twice as high as those at the $16,500 income level ($4,182 vs $8,717). Subsidies had a clear impact on pushing down maximum liability at a graduated level for enrollees in the bottom three income tiers, as intended under the law. However, enrollees with lower incomes would spend a greater share of their income on costs associated with health coverage when hitting the maximum OOP liability in a plan. On average, total liability swallowed 25% of income for those at $16,500 level compared to only 17% of income for those at the $50,000 level. (See Table 8).

**Table 8. Average Maximum Liability by Income**

| Income Level | Average Potential Liability (Liability Range) | Average Liability as a Share of Income |
|---|---|---|
| $50,000 | $8,717 ($5,652–$10,308) | 17% |
| $40,000 | $8,590 ($5,652–$10,308) | 21% |
| $32,000 | $8,189 ($5,268–$9,924) | 26% |
| $25,000 | $6,672 ($4,680–$8,800) | 27% |
| $20,000 | $4,810 ($2,404–$8,112) | 24% |
| $16,500 | $4,182 ($1,076–$7,692) | 25% |

As with examining average cost differences, in examining average liability across other variables it is important to remember that averages obscure detail and the liability an individual might face will depend on factors such as their income which will impact premiums. Rather examining average liability across variables such as state

and metal level, are useful for comparison purposes within these categories (e.g. for average liability in gold vs. bronze plans or average liability in New York vs. Florida).

**Metal Level:** Despite CSRs having driven average potential liability down in silver level plans, platinum level plans, on average, provided the least liability when looking across metal tiers (see Table 9). Average potential liability was $5,404 in platinum plans, about $1,000 less than the average liability among both silver plans with the first and second lowest premiums, despite those plans benefitting from CSRs for some enrollees. While actuarial value was lowest at the bronze level, it was gold level plans that on average had the greatest potential liability at $8,417.

**Table 9. Average Maximum Liability by Metal Tier**

| Metal Tier | Average Potential Liability (Liability Range) |
|---|---|
| Platinum | $5,404 ($3,024-$8,180) |
| Gold | $8,417 ($5,344-$10,308) |
| Silver1 | $6,321 ($1,076-$9,964) |
| Silver2 | $6,359 ($1,076-$9,816) |
| Bronze | $7,798 ($6,000-$10,046) |

**State:** Average liability among these plans did not appear to vary dramatically by state. In these scenarios, the average potential liability ranged by region from $6,587 in Georgia to $7,220 in California where it was about 10% greater. Notably, while plans in California had the lowest average estimated costs for enrollees, they had the greatest average liability (see Table 10).

**Table 10. Average Maximum Liability by State**

| State | Average Potential Liability (Liability Range) |
|---|---|
| California | $7,220 ($2,682-$9,430) |
| New York | $6,674 ($1,184- $10,046) |
| Florida | $6,947 ($1,076-$10,224) |
| Georgia | $6,587 ($1,076-$9,444) |
| Texas | $6,872 ($1,076-$10,308) |

## Assessing Enrollee Plan Options

Examining the costs associated with the five plan options available to each of 60 enrollees in these scenarios allows us to investigate the impact that plan selection has health costs and potential OOP liability. Key observations follow:

## Cost Variation Among Plan options

**Depending on the plan selected, there was significant variation with respect to the costs an enrollee could expect to face.** Among the 60 scenarios examined, on average there was a $4,054 difference between the costs an enrollee could expect to pay in the plan that would offer the lowest expected health costs compared with the plan with the highest costs. Moreover, because this analysis only looks at the lowest premium plans, in a real life scenario, where an enrollee could select from the full set of plans on the marketplace, this range would likely be even greater.

- On average, low and high utilizing enrollees saw similar differences in expected health costs depending on the plan selected with a spread of $4,205 and $3,903 respectively between the plan with the lowest and highest expected health costs.
- Enrollees at the lowest two income levels, with the greatest access to subsidies, saw the largest average cost difference between the plans with the lowest and highest expected health costs, meaning that plan selection could have the greatest impact on expected spending for those with the greatest access to subsidies. (see Table 11.)

**Table 11. Average Difference Between Plan with Lowest and Highest Expected Health Costs, by Income**

| Income Level | Average Difference Between Plan with Lowest and Highest Expected Health Costs |
|---|---|
| $50,000 | $3,965 |
| $40,000 | $3,965 |
| $32,000 | $3,965 |
| $25,000 | $3,965 |
| $20,000 | $4,090 |
| $16,500 | $4,774 |

- The costs differences between the plan with the lowest health costs and highest was lowest in New York at $2,143. It was much larger in the other states examined (The difference was $4,162 in Georgia, $4,390 in Texas, $4,681 in California, and $4,894 in Florida.)

**There was also significant variation in the potential OOP liability an enrollee would face.** Among the 30 liability scenarios (1 enrollee type across 5 plans at 6 income levels) there was, on average, a $3,914 difference between the plan with the least potential OOP liability and the plan with the greatest OOP liability. (Since, the OOP maximum is hit in every scenario when examining liability, there were no cost differences by utilization level.)

- As was the case when looking at expected health costs, the average ranges in liability among plans available were most dramatic for enrollees at the lowest two income levels where individuals selecting silver plans could access the most generous subsidies, resulting in greater savings. (See Table 12.)

| Table 12. Average Difference Between Plan with Lowest and Highest Liability, by Income | |
|---|---|
| **Income Level** | **Average Difference Between Plan with Lowest and Highest Liability** |
| $50,000 | $3,257 |
| $40,000 | $3,257 |
| $32,000 | $3,254 |
| $25,000 | $3,177 |
| $20,000 | $4,867 |
| $16,500 | $5,670 |

- The difference in potential liability between the plan with the least liability and the greatest was lowest in California and New York, both states where some or all of plans are required to confirm to a standard benefit design, at $2,693 and $2,793 respectively, and highest in Texas ($5,1737) and Florida ($4,771). In Georgia, the difference in potential liability between the plan with the least liability and the greatest was $4,162.

## Low Premium Plans

**In most cases, for enrollees in these scenarios, the plan option with the lowest premium would not be the most cost-effective based on either of the cost measures used in this analysis.** If plans were selected based on cost of premiums alone, enrollees in these scenarios typically would not enroll in the plan with the lowest expected health costs or the least liability. Therefore, assessing expected health costs and potential liability, over exclusively looking at premiums, could provide a more comprehensive way to assess plan affordability.

- In the vast majority of cases a plan with the lowest premium (often a bronze plan) would not provide an enrollee with the lowest expected costs after taking into account both anticipated health care expenses and premiums. In fact, in some cases, the projected costs in the lowest premium plans would be considerably higher than costs associated with other options. A plan with the lowest premium provide enrollees in these scenarios with the lowest expected health costs on only 4 occasions, compared to other options assessed. These four occasions occurred only in New York for low utilizer enrollees at the highest four income levels, in other words, in very limited circumstances. In some instances significantly lower overall costs could be found when an enrollee selected a higher premium plan, a trend not limited to enrollees with access to subsidies. (Two examples are identified below but similar instances were found across income levels, states, and enrollee types across the data set.)

Examples from the Data

Example 1: If choosing a plan based on low premium pricing alone, the higher needs HIV positive enrollee at the $16,500 income level in California would select a bronze plan with a $2 monthly premium. Expected health costs to meet care and treatment needs in this plan would come to an additional $6,250 bringing the total amount of health spending, including premiums to $6,274. If the same enrollee selected the lowest premium silver plan, they would face higher premiums at $36 per month (18x the cost of the bronze plan) but other health spending would

amount to just $668, bringing total spending, including premiums to just $1,100. By choosing the plan with a higher monthly premium, this enrollee could expect to save over $5,000 (equaling about 1/3 of their annual income) in expected health costs.

Example 2: Looking at both the higher and lower needs enrollee in Georgia at the $50,000 income level, the platinum plan had the highest monthly premium (at $347 per month) but the lowest expected overall annual costs at $5,664 while the bronze plan, which had the lowest premiums (at $196 per month), had expected health costs of nearly $9,000. This higher income enrollee could save over $3,000 by enrolling in low premium platinum coverage rather than in the bronze plan that had the lowest premium overall.

- While the plan with the lowest premium provided the lowest expected health costs on only a few occasions, the plan with the highest premium (a platinum in every scenario) provided enrollees with the lowest expected costs more often, on 15 occasions (in one quarter of the scenarios) but only in Georgia and in California at the highest four income levels.
- On no occasion did a plan with the lowest premiums offer an enrollee the least liability. However, on 19 (out of 30) occasions of the plans examined here, a plan with the highest premiums offered an enrollee the option with the least liability. In each of these occasions this was a platinum metal level plan, where actuarial value is greatest.

## Metal Level and Impact on Costs

**Looking at both enrollee income and metal level may be helpful in making cost-based enrollment decisions.** While silver metal level plans most commonly offered enrollees the lowest expected health costs, this was not always the case. A plan from each of the four metal tiers provided the lowest expected health costs in at least a few scenarios (see Table 13). This variation suggests that if obtaining a plan where affordability of expected costs is the main objective, selecting by default a plan based on it being from a particular metal tier, such as silver or platinum, may not be the best approach. However, when looking by income, those with the lowest income levels, and access to subsidies, saw the lowest costs by enrolling in silver plans.

- Silver plans would most commonly offer enrollees the lowest cost option based on projected use. In 31 out of the 60 scenarios (52% of the time), silver level plans provided the lowest expected health spending.[19] Additionally, while platinum plans have the highest actuarial value (at least for those without access to CSRs), they did not always provide enrollees with the lowest expected costs based on anticipated utilization.
- In the remaining 29 scenarios, about half the time, a diverse group of non-silver plans provided the lowest expected health costs. Platinum level plans provided enrollees with the lowest expected costs second most commonly (after silver), on 15 occasions. Gold level plans followed, having the lowest expected costs on 10 occasions. Despite commonly having the lowest premiums, bronze level plans most infrequently (4 times) had the lowest expected health costs associated with them and this only occurred in New York.
- In all cases, enrollees at the two lowest income levels found the least expected costs in silver tiered plans suggesting that for those who have access to the most generous CSRs, it may be beneficial in terms of

limiting expected spending to enroll in silver coverage. However, at income levels above $20,000, silver level plans did not uniformly provide the lowest expected health costs.

- Above the $20,000 income level there was significant variation as to which metal level plans would provide enrollees with the lowest expected costs, including at the $25,000 income level, where an enrollee would be eligible for (the least generous tier of) CSRs. Therefore eligibility for CSRs alone, especially at the 73% actuarial value level, is not a good predictor of whether a low premium silver tier plan would offer the lowest expected health costs.
- The utilization level of the enrollee had some impact on which plan metal level would provide the lowest expected health costs. For high utilizer enrollees above the lowest two income levels, only gold and platinum plans provided the lowest costs. In these situations, enrollees with greater health needs benefited from enrolling in plans with higher actuarial value. Low utilizer enrollees more commonly found that silver level plans would provide the lowest expected costs in these scenarios (on 19 vs 12 occasions) but also saw some variability. Only high utilizer enrollees found the lowest expected health costs in gold plans (on 10 occasions) and only low utilizer enrollees found the lowest costs in bronze plans (on only 4 occasions).
- Compared to the averages presented above, looking across the full data set, low income enrollees would find lower costs if selecting silver coverage and thus more cost-effective plans. Indeed, if enrollees at the lowest two income levels, with the greatest CSRs, only selected the silver plan that provided the lowest expected cost, average expected health spending would have plummeted from $2,801 – across all enrollment scenarios and metal tiers- to $892 for enrollees at the $16,500 income level and from$4,445 to $1,964 for the enrollee at the $20,000 income level. Similarly, the share of income swallowed by health costs would fall dramatically from 17% to 5% and 10%, respectively.

**Table 13. Metal Tier with Lowest Expected Health Costs, by State, Income, and Enrollee Type**

| | Florida | | Georgia | | Texas | | New York | | California | |
|---|---|---|---|---|---|---|---|---|---|---|
| *Enrollee Type/ Health Status* | *Low Utilizer* | *High Utilizer* | *Low Utilizer* | *High Utilizer* | *Low Utilizer* | *High Utilizer* | *Low Utilizer* | *High Utilizer* | *Low Utilizer* | *High Utilizer* |
| $50,000 | Silver2 | Gold | Platinum | Platinum | Silver1 | Gold | Bronze | Gold | Platinum | Platinum |
| $40,000 | Silver2 | Gold | Platinum | Platinum | Silver1 | Gold | Bronze | Gold | Platinum | Platinum |
| $32,000 | Silver2 | Gold | Platinum | Platinum | Silver1 | Gold | Bronze | Gold | Platinum | Platinum |
| $25,000 | Silver2 | Silver2 | Platinum | Platinum | Silver1 | Gold | Bronze | Silver1 | Silver1 | Platinum |
| $20,000 | Silver2 | Silver2 | Silver2 | Silver2 | Silver1 | Silver1 | Silver1 | Silver1 | Silver1 | Silver1 |
| $16,500 | Silver2 | Silver2 | Silver2 | Silver2 | Silver1 | Silver1 | Silver2 | Silver2 | Silver1 | Silver1 |

**Silver1= silver plan with 1st lowest premiums; Silver2=silver plan with 2nd lowest premiums*

## Metal Level and Liability

**Among the scenarios here, only silver and platinum tier plans offered enrollees the lowest liability. Again, looking at income and metal level, those at the lowest two income levels found the least liability in silver coverage.** Yet eligibility for CSRs alone was not consistently a predictor that a silver plan would provide the least liability. While they have the most generous actuarial value for those without access to CSRs, platinum plans did not uniformly provide the least liability and while silver plans most commonly had the lowest expected health costs, they did not most often provide the least liability, despite being over represented in the sample.

- Platinum level plans provided enrollees with the lowest liability most frequently, in 19 out of 30 scenarios, in all instances but one for scenarios with enrollees at or above the $25,000 income level.
- In the remaining 11 (out of 30) scenarios a silver plan provided enrollees with the least liability. Silver metal level plans provide the enrollees in the scenarios examined here with the least liability consistently across the lowest two income levels where CSRs are most generous, and in one additional scenario, at the $25,000 level.[20]
- As might be expected, what appears to be key in reducing liability is enrollment in a plan with high actuarial value. In some cases this meant forgoing a CSR in a silver plan. In all instances, where an enrollee is ineligible for CSRs, platinum level plans provide the highest actuarial value and would also provide the least liability. For those enrollees eligible for CSRs at the two most generous levels (94% and 87% actuarial value) the least liability was found in a silver level plan, where they could benefit from this subsidy. Except in one instance, enrollees with access to the least generous level CSRs (83% actuarial value) were able to find a lower liability plan by enrolling in the higher actuarial value platinum coverage, thereby forgoing the cost-sharing subsidy available at the silver level.[21]

- As with expected costs, compared to the averages presented in the first part of this discussion, looking across the full data set, low income enrollees would find lower liability on average if selecting silver coverage. If enrollees at the lowest two income levels only selected the silver plan that provided the lowest OOP liability, average liability would have plummeted (from $4,182 to $1,419 for enrollees at the $16,500 income level and from$4,810 to $2,606 for the enrollee at the $20,000 income level) as would the share of income swallowed.

**Table 14. Lowest Liability Metal by State and Income Level**

| Income Level | Florida | Georgia | Texas | New York | California |
|---|---|---|---|---|---|
| $50,000 | Platinum | Platinum | Platinum | Platinum | Platinum |
| $40,000 | Platinum | Platinum | Platinum | Platinum | Platinum |
| $32,000 | Platinum | Platinum | Platinum | Platinum | Platinum |
| $25,000 | Platinum | Platinum | Platinum | Silver2 | Platinum |
| $20,000 | Silver1 | Silver2 | Silver1 | Silver2 | Silver1 |
| $16,500 | Silver1 | Silver2 | Silver1 | Silver2 | Silver1 |

**Silver1= silver plan with 1st lowest premiums; Silver2=silver plan with 2nd lowest premiums*

## Alignment of Plans with Lowest Expected Health Costs and Lowest Potential Liability

**Overall, the plan that would offer an enrollee the lowest expected health costs aligned with the plan providing the least OOP liability about half the time, occurring only among platinum and silver tier plans**. As discussed in the introduction, there are different ways that an enrollee might consider costs when selecting a plan, including looking at expected costs and assessing overall OOP liability. Indeed, an enrollee might consider both factors and in some cases an individual may find in a plan where both expected costs and total liability are minimized.

- The plan providing enrollees in these scenarios with the lowest expected health costs aligned with the plan providing the least liability about half the time (in 29 out of 60 scenarios), occurring only among silver (on 14

occasions) and platinum plans (on 15 occasions). In the other 31 scenarios the plan that would provide an enrollee with the least liability, was not the same plan that would provide the lowest expected costs. This trend was about evenly represented in the low and high enrollee utilization scenarios. (See Table 15)

- The plan with the lowest expected health costs aligned with the plan with the least potential liability most commonly at the lowest two income levels, occurring only among silver plans where enrollees had access to the two more generous levels of CSRs. In the remaining 15 occasions, at higher income levels, only platinum level plans provided opportunities where enrollees could select a plan with both the lowest expected spending the least potential liability. In all occasions where the plan with the lowest expected health costs aligned with the plan with the least potential liability it was with a plan with high actuarial value, either because it was a platinum plan or because it was a silver plan with actuarial value inflated with more generous CSRs.

**Table 15. Alignment of Plans with Lowest Expected Health Costs and Least Liability**

| | Florida | | Georgia | | Texas | | New York | | California | |
|---|---|---|---|---|---|---|---|---|---|---|
| Enrollee Type | *Low Utilizer* | *High Utilizer* | *Low Utilizer* | *High Utilizer* | *Low Utilizer* | *High Utilizer* | *Low Utilizer* | *High Utilizer* | *Low Utilizer* | *High Utilizer* |
| $50,000 | | | Platinum | Platinum | | | | | Platinum | Platinum |
| $40,000 | | | Platinum | Platinum | | | | | Platinum | Platinum |
| $32,000 | | | Platinum | Platinum | | | | | Platinum | Platinum |
| $25,000 | | | Platinum | Platinum | | | | | | Platinum |
| $20,000 | | | Silver2 | Silver2 | Silver1 | Silver1 | | | Silver1 | Silver1 |
| $16,500 | | | Silver2 | Silver2 | Silver1 | Silver1 | Silver2 | Silver2 | Silver1 | Silver1 |

In cases where the plan with the lowest expected health costs does not align with the plan with the least liability, which occurred here about half the time, an enrollee might ask: What is the value in selecting a plan that has more costs up front in expected spending in order to reduce overall liability? And is selecting such a plan affordable? These questions are especially important to consider given that even moderate increases in out-of-pocket costs could make a plan unaffordable for some, especially given many with HIV live on low incomes, and because it has been shown that even small increases in health costs are negatively associated with adherence.[22,23] In addition, while absorbing additional costs upfront to obtain less liability overall might be unaffordable for some individual enrollees, Ryan White Programs engaged in insurance purchasing might consider how purchasing plans with less liability could impact the overall cost-effectiveness of insurance purchasing programs in the aggregate.

Among the scenarios here, in some instances, relatively moderate increases in known health costs lead to a dramatic reduction in liability. However, in other cases, it would take substantial increase in known costs to enroll in a plan that had the lowest liability. (See the text box below for examples highlighting these two possible scenarios).

Examples from the Data

Example 1: Compared to the plan with the lowest expected health costs, a high needs enrollee at the $32,000 income level in Texas, would pay an additional $239 over the course of the year in known costs to enroll in the lowest liability plan but in doing so would reduce their potential liability by $4,656. For a relatively modest amount, this enrollee would be able enroll in coverage with substantially lower liability overall.

Example 2: Compared to the plan with the lowest expected costs, a low needs enrollee at the $25,000 income level in Florida, would pay an additional $2,204 over the course of the year towards known health costs for coverage in the lowest liability plan. While this would reduce liability by $2,236 (from $6,916 to $4,680), whether it is affordable or desirable to spend so much more in known costs to reduce liability is something an enrollee or third party payer would have to consider.

## Implications for Ryan White Programs

Ryan White grantees have been permitted to use program funds to assist clients with the cost of insurance since the enactment of the program but doing so has become increasingly common practice under the ACA.[24] While Ryan White grantees rightfully include other factors in their plan assessments, such as network and formulary adequacy, assessing costs is instrumental for meeting grant requirements and in terms of maximizing program funds. Any grantee using program funds to purchase insurance for clients is required to ensure that the coverage purchased is cost-effective to the program (compared to providing direct medical and drug assistance).[25] Programs doing insurance purchasing, like individual enrollees, need to decide whether costs are going to be assessed based on meeting known HIV care and treatment needs or based on the liability in the plan or both. Part of that assessment will likely depend on whether particular Ryan White grantee provides cost-sharing assistance for HIV care and treatment needs (and potentially other costs) versus a program that is more limited or strictly provides premium assistance. In addition, and as mentioned earlier, Ryan White Programs may be in a better position than low income individual enrollees to assume higher costs on the front end in expected health costs in order to limit liability overall. One finding that has come out of this analysis is that uniformly requiring enrollment in plans based on a particular mental tier is not likely to be the most cost-effective approach to moving clients into health plans based on either cost-measure assessed here. Rather a more nuanced approach, taking into account client income, could be useful, especially if a program's primary concern is addressing known health needs rather than minimizing total OOP liability. If a program is more concerned about limiting liability, for the plans assessed here at least, it appears that limiting enrollment to high actuarial value coverage (into either silver or platinum plans) based on income might be a reasonable approach.

While operationalizing such assessments is complex, having now cycled through three open enrollment periods, it may be possible for some Ryan White grantees or sub-grantees to conduct a chart review of those previously enrolled in marketplace plans to gain an understanding of what actual service utilization and associated costs looks like. While time consuming, this would allow grantees to better understand utilization patterns which may help guide how to best approach plan selection and cost-calculations going forward (i.e. answering questions such as: are clients hitting OOP limits? Are they only using plans for expected costs?).

# Conclusion

In analyzing the 300 plans available to enrollees in the 60 scenarios here, both expected costs and OOP liability ranged dramatically among available options. This substantial variation highlights the importance of making informed health plan selections, and taking into account the full breadth of health costs, especially when cost containment is a priority. In particular, this analysis found that assessing plan affordability based on premiums alone is not likely to be a sufficient measure of costs. Enrollees and third party payers, including Ryan White Program grantees, may benefit from considering more complete cost measures, including what an enrollee could expect to pay to meet known health needs as well as total OOP liability within a plan. In addition, this analysis raises questions about whether it makes sense for Ryan White or other enrollment programs to direct all enrollees to a particular metal tier, especially without also considering enrollee income. For instance, it was found that for low income individuals with access to the most generous CSRs in these scenarios, silver plans provided the lowest cost, but for enrollees above those income levels, including for those with access to the least generous CSRs, the plan metal tier offering the lowest expected costs was highly variable. Additionally and not surprisingly, it was found that only plans with high actuarial value provided enrollees in these scenarios with the least liability. Further, it might be most useful for enrollees and other payers to consider these two cost measures in concert. In cases where these measures align, an enrollee would find a plan that offers both low expected costs and low liability. However, when this does not occur, cost related plan selection decisions are more complicated. In these latter situations, whether it's worth paying more up front in known costs to reduce overall liability will need to be considered, which is something that is potentially more feasible for a third party payer then for a low-income individual with limited fewer resources.

Overall, this analysis suggests that there is significant importance in making more comprehensive assessments of costs, beyond that of premiums alone, when making enrollment decisions. At the same time, there are additional considerations not addressed in this report that are also important to note. Some of these other considerations are especially important for people with HIV and could determine whether an individual is able to stay in care and on treatment, such as whether drug regimens are covered (and at what level and with what utilization management requirements), whether specialty providers are in-network, and the role of the deductible (which could require spending a significant amount OOP upfront. Additionally, it worth remembering that the cost estimates in this report are based on hypothetical enrollee scenarios and the actual costs any given individual might face will depend on their unique circumstances.

# Appendix A

## Enrollee Health Profiles

Along with what is determined by plan benefit design, actual costs within a plan may vary for an individual based on degree of health needs and associated level of health care utilization. This analysis compares two enrollee types with differing health needs, a low utilizer scenario and a high utilizer scenario:

- In the "low utilizer" scenario, the enrollee is HIV positive with well managed disease and an undetectable viral load. This enrollee is on a once daily combination antiretroviral treatment and has biannual checkups with a specialist, along with routine laboratory monitoring. Beyond this no additional health care usage is anticipated.
- In the "high utilizer" scenario, the enrollee is HIV positive but has a more complex disease state along with multiple comorbidities common among people with HIV (diabetes, high cholesterol, hyperlipidemia, and depression) and is being treated for each condition. More frequent provider visits (four times annually) and routine laboratory monitoring are also included in the scenario.

These two enrollee health profiles provide a contrast in health spending related to just two possible utilization patterns for analytic purposes. Trends and averages found are not representative of what can be expected from all HIV positive enrollees. Actual plan costs for HIV positive enrollees will vary based on care and treatment and other individual factors.

In both scenarios, for purpose of identifying premium costs, which vary by age, the individual is assumed to be 35 years old and, in order to assess income as a percent of the FPL, have a family size of 1. The enrollee in all scenarios was assumed to be a non-tobacco user, which also has an impact on premiums in some states. Care and treatment regimens in both scenarios were constructed in consultation with HIV providers and based on the U.S. Department of Health and Human Services National HIV Treatment Guidelines.[26] (More details available in Appendix B).

***Profile: Lower-need enrollee***

Condition: HIV
*Treatment: Atripla*
Frequency of specialist visits: 2x annually, spaced six months apart
Frequency of labs: 2x annually, spaced six months apart
Labs: Basic Chemistry/Comprehensive Metabolic Profile; CBC w/ Differential; Fasting Lipid Profile; Urinalysis; Viral Load (HIV-1 RNA); CD4 (CD4:CD8 profile); HbAlc (Glycosylated Hemoglobin).

***Profile: Higher-need enrollee***

Condition: HIV
*Treatment: Atripla*
Condition: Depression
*Treatment: Sertraline (Zoloft), 50mg*
Condition: Hyperlipidemia
*Treatment: Atorvastatin (Lipitor), 40mg*
Condition: Hypertension
*Treatment: Hydrochlorothiazide (Microzide), 25mg and Lisinopril (Prinivil, Zestril) , 25mg*
Condition: Diabetes

*Treatment: Metformin (Glucophage), 1000,g*
Frequency of specialist visits: 4x annually, spaced three months apart
Frequency of labs: 4x annually, spaced three months apart
Labs: Basic Chemistry/Comprehensive Metabolic Profile; CBC w/ Differential; Fasting Lipid Profile; Urinalysis; Viral Load (HIV-1 RNA); CD4 (CD4:CD8 profile); HbAlc (Glycosated Hemoglobin).

## Site Selection

Plans in this analysis were drawn from the most populous zip code in the following sites: Los Angeles, California; New York City, New York; Miami, Florida; Atlanta, Georgia; and Dallas, Texas. These sites were chosen for several reasons. Together the states account for about 50% of the HIV national epidemic, with these urban areas alone account for one third (32%) of those with diagnosed HIV in the United States.[27] In addition, these states have made different decisions regarding their insurance marketplaces with California and New York running their own state-based marketplace and Florida, Georgia, and Texas using the federally facilitated marketplace.

## Plan Selection

Potential out-of-pocket costs for each enrollee scenario were examined in five plans in each of the five zip codes identified above: the two silver plans with the lowest premiums and, for comparison, the platinum, gold, and bronze plans with the lowest premiums. In sum, 25 plans were assessed (5 plans each in 5 states). Plans were identified using either the state or federally facilitated marketplace, as appropriate. In order to conduct the analysis, plan documents were collected from the marketplace websites and directly from the issuer website.

## Enrollee Income

As a result of graduated subsidies available to those between 100%-400% FPL, QHP enrollee costs vary both by plan selection and household income. To assess the role of income, and subsidy eligibility on the cost measures explored in this analysis, costs associated with the types are examined at six different annual income levels in each location: $50,000, $40,000, $32,000, $25,000, $20,000, and $16,500. This range of incomes captures an enrollee at each eligibility level for subsidies, considering both reduced premiums and cost-sharing reductions (see Table 1). The $50,000 income level enrollee is eligible for neither subsidy and thus effectively represents costs for enrollees above 400% FPL and below 100%FPL.

**Table 1. Income Scenarios in Analysis**

| Income Levels in Plan Analysis | % FPL* | Eligible for Premium Tax Credit | Eligible for Cost-sharing Reduction |
|---|---|---|---|
| $50,000 | 428% | NO | NO |
| $40,000 | 343% | Yes | NO |
| $32,000 | 274% | Yes | NO |
| $25,000 | 214% | Yes | Yes (73% AV) |
| $20,000 | 171% | Yes | Yes (87% AV) |
| $16,500 | 141% | Yes | Yes (94% AV) |

** Based on 2014 Federal Poverty Guidelines which determined subsidies in 2015 plans*

# Appendix B: Methodology

## Establishing Costs

In order to assess estimated health costs in the plans analyzed, the cost of obtaining a predetermined set of services and treatments (described in Appendix A) was measured against individual plan benefit designs. The annual premium amount was then added to this cost estimate. In order to identify maximum (in-network) liability, a plan's out-of-pocket maximum was added to the annual cost of premiums.

All plan data were collected from federal and state marketplaces, as appropriate, in early 2015 (for the 2015 plan year). For each of the 5 states, the plan with the lowest premium in each metal tier was selected. In addition, the second lowest cost silver plan was also included in the sample. If the first and second lowest premium silver plans had premiums of the same amount, the plan that was listed first on the marketplace was selected and then the plan that had the next lowest, but different, premium was also selected. Premium and imbedded subsidy amounts were generated by the marketplaces and were based on select enrollee characteristics detailed in Appendix A (i.e. age, family size, smoking status and location).

Plan design and associated cost-sharing were identified based on plan documents found on the marketplaces and issuer websites (e.g. summaries of benefits and coverage, plan brochures and more detailed plan documents). If necessary, calls to the issuer consumer numbers were made to gain greater detail or clarity regarding benefit benefits and coverage. When plan information was gathered through calls to the issuer, repeat calls were made to ensure that identical information about plan design was relayed during the second call as a way to improve reliability of the information. In some cases more than two calls were made to confirm benefit details. Most calls to the issuer were made to determine when deductibles applied (e.g. could an enrollee access medications before meeting the deductible) rather than to clarify costs associated with a particular service.

While calculation of total liability was fairly straightforward, calculation of expected health costs was somewhat more complicated. Drug and treatment needs for high and low utilizer enrollee profiles were developed in consultation with HIV specialists and in accordance with the U.S. Department of Health and Human Services National HIV Treatment Guidelines.[28] The profiles include the frequency and type of provider visits, labs, and medications necessary to maintain good health. Costs to access this care were than mapped onto each plan scenario for the two types of enrollees.

While costs associated with care were straightforward to calculate when a copayment applied and when there was no deductible (or the deductible had been met), a baseline price for services had to be established in order to calculate costs when a coinsurance applied or before a deductible was reached. Identifying the actual cost to access medical care and prescription drugs in each plan would be near impossible given the proprietary nature of pricing for these services. While actual costs vary by issuer, plan, and provider, this analysis necessitated identification of proxy costs for services that could be used across the plan scenarios. Pricing data from publically available websites aimed at price transparency for cash paying consumers was used to identify these proxy costs. While this is an imperfect solution, a range of stakeholders in the HIV medical and prescription drug fields corroborated that this methodology provided reasonable cost estimates.

Medical costs (provider visits and lab fees) were obtained from the website Healthcare Bluebook (*https://healthcarebluebook.com/*). The CPT code for a Level 4 established patient visit was used for a provider visits based on research that found that at the median, HIV providers spend 30 minutes with established patients.[29] For this analysis a Level 4 provider visit was priced at $223. The plan costs associated with specialist visits were used in this analysis (over primary care) given the specialty nature of many HIV providers. Labs used in the profiles of this analysis and the associated costs are below (see Table 2).

**Table 2. Labs and Associated Costs Used in Analysis**

| Laboratory Test | Bluebook Cost (as of Feb. 2015) | Annual Frequency Low Utilizer | Annual Frequency High Utilizer |
|---|---|---|---|
| Basic Chemistry (Comprehensive Metabolic Profile w/ Creatine Kinase)* | $27 | Test performed every 6 months | Test performed every 3 months |
| CBC w/ Differential | $20 | | |
| Fasting Lipid Profile | $35 | | |
| Urinalysis (1) | $6 | | |
| Viral Load (HIV-1 RNA) | $221 | | |
| CD4 (CD4:CD8 profile) | $122 | | |
| HbAlc (Glycosated Hemoglobin) | $25 (only high utilizer) | | |
| TOTAL (low/high utilizer) | $431/$456 | | |

** Incl.: Serum Na, K, HCO3, Cl, BUN, creatinine, fasting glucose, phosphorus, CrCl, ALT, AST, T. Bilirubin, Glucose (does not include HCO3 but Al says that is probably fine)*

As with, medical costs, the cost to access prescription drugs before reaching a deductible and to establish coinsurance, had to be identified. Proxy costs were established using the website GoodRx (*GoodRx.com*), a consumer website that displays cash prices for drugs at pharmacies by zip code. GoodRx also acts as a mediator of drug prices in certain cases, negotiating deals with pharmacies to provide drugs at lower than cash prices, offering consumers a coupon. Assuming that if GoodRx is able to negotiate a lower price, issuers are as well, the mean coupon price at 5 nationally known pharmacies was taken from the same zip code used for plan selection.[30] Again stakeholders, including those in the prescription drug field, were consulted about this methodology and while it is not an exact assessment of potential out-of-pocket costs, is thought to be a reasonable proxy. The drugs identified in the profiles and the proxy costs used for this analysis are below (see Table 3). The generic version of the drug was selected in all cases for treatment of non-HIV comorbidities. The HIV drug selected was Atripla, the most commonly prescribed antiretroviral, and as a generic equivalent is not available, the brand pricing was used.[31] In the case of Atripla, the cost identified using the above methodology with GoodRx pricing is comparable to the Wholesale Acquisition Cost (WAC) which is frequently used in similar types of analysis of brand drugs. Drugs were assumed to have been obtained through a brick and mortar pharmacy rather than online, which in some cases would offer additional discounts to the enrollee.

| Table 3. Prescription Drugs and Associated Monthly Costs Used in this Analysis | |
|---|---|
| **Condition: Drug** | **Monthly Rx Cost** |
| Depression: Sertraline, 50mg | $11 |
| Hyperlipidemia: Atorvastatin, 40mg | $22 |
| Hypertension: Hydrochlorothiazide, 25mg and Lisinopril, 25mg | $10 |
| Diabetes: Metformin, 1000mg | $8 |
| HIV: Atripla | $2,182 |
| *Monthly Total (low/high utilizer)* | *$2,182/$2,233* |
| | |

With baseline costs for services and treatments established, these costs were mapped onto plan benefit designs according to each of the two enrollee profiles across the various plan scenarios. Whether a deductible applied to each service or treatment was taken into account. This process was repeated twice and when the resulting costs identified differed, was repeated a third time, to improve reliability. Once costs were established for each of 300 enrollee scenarios, additional analysis was performed.

## LIMITATIONS

There are several limitations to this analysis. This analysis identifies costs for enrollees that fit two different medical profiles. While health status will not impact liability within a plan, the degree of individual health need could have a significant impact on expected OOP costs, especially if an enrollee had multiple comorbidities requiring expensive brand name treatments. The enrollees profiled here with more complex medical needs were able to access relatively inexpensive treatment for non-HIV needs as the drugs used in this analysis were available in generic form. Actual costs an individual would face might be much higher depending on medical need, cost of treatment, and cost of prescription drugs, especially if generic treatments are not available. More broadly, costs an individual might face in a health plan will vary significantly based on a number of individual factors such as age, family size, smoking status and income. Therefore these findings should not be considered to be the actual costs any specific individual would face in marketplace plans. Rather they represent the costs of the hypothetical individuals profiled.

Another limitation is that only those plans with the lowest premiums in each metal tier were examined in this analysis so findings are limited to these products, which include the plans that have seen the highest level of enrollment. It is certainly possible that lower costs or lower liability could be found in plans with higher premiums which were excluded from this sample. Additionally, as mentioned above, standardized pricing was used to compare benefits across plans. This approach potentially masked the actual cost differences an enrollee would find within these products. In addition, as discussed in the report, this analysis assumed that all services were received in-network and that prescription drugs were received from in-network brick and mortar pharmacies. Yet, it has been shown that health plan enrollees often inadvertently access out-of-network care and thus associated costs maybe higher and may not count towards an out-of-pocket maximum.[32] Generally, staying in-network maybe especially challenging for enrollees in narrow network plans which have become increasingly common in the ACA era. Also, this analysis looked at plan costs in urban areas but people in more rural regions could have fewer plan choices which may drive higher premiums, and therefore these findings are not necessarily applicable to those living in rural areas.

It should be noted that expected costs in this analysis were examined in the aggregate across a year so do not show where a deducible made the first part of a year very costly (before plan benefits kicked in) but the later part of year more affordable (after the deductible had been met). A plan identified here as the option with the lowest potential costs could conceivably have had high initial upfront costs, especially if a deductible applied to HIV treatment costs. This would likely be significant barrier to staying engaged in care and treatment for an individual paying those costs out-of-pocket but might be something that was manageable for a third party payer covering cost-sharing, especially if it meant longer term savings.

Finally, it is worth noting that a limitation for individuals, researchers, third party payers, or enrollee entities conducting similar assessments going forward is the difficulty that exists in obtaining these data. While efforts were made to confirm details about plan design, especially when that information was gained verbally from plan representatives, plan design information used to conduct this analysis is only as good as what was provided by the issuer and was sometimes very difficult to find. In addition, the process of establishing costs of drugs and services was challenging and inexact as a result of the lack of cost transparency (resulting from the proprietary nature of the data) and there was a definite lack of clarity as to how to some plan benefit designs worked, particularly with respect to when a deductible applied. This latter challenge required intensive searching for additional plan documents and lengthy and multiple calls and wait times to issuers. Working through these challenges is a barrier to future research and to making informed enrollment decisions.

# Endnotes

[1] Kates, J., et al. (2014.) *Assessing the Impact of the Affordable Care Act on Health Insurance Coverage of People with HIV*. Washington, DC. Available at: http://kff.org/hivaids/issue-brief/assessing-the-impact-of-the-affordable-care-act-on-health-insurance-coverage-of-people-with-hiv/view/footnotes/

[2]Dawson, L. and Kates, J. (2015.) *The Ryan White Program and Insurance Purchasing in the ACA Era: An Early Look at Five States*. Kaiser Family Foundation. *Available at: http://kff.org/hivaids/issue-brief/the-ryan-white-program-and-insurance-purchasing-in-the-aca-era/*.

[3] Marketplace plans have an out-of-pocket limit capped at $6,850 (for an individual) in 2016 but plans may opt to set that cap at a lower level.

[4] Kates, J., et al. (2014.) *Assessing the Impact of the Affordable Care Act on Health Insurance Coverage of People with HIV*. Washington, DC. Available at: http://kff.org/hivaids/issue-brief/assessing-the-impact-of-the-affordable-care-act-on-health-insurance-coverage-of-people-with-hiv/view/footnotes/

[5] Hamel, L., et al. (2015) *Survey of Non-Group Health Insurance Enrollees, Wave 2*. Kaiser Family Foundation. Washington, DC. Available at: http://kff.org/health-reform/poll-finding/survey-of-non-group-health-insurance-enrollees-wave-2/

[6] U.S. Department of Health and Human Service (HHS), Office of the Assistant Secretary for Planning and Evaluation (ASPE). *Premium Affordability, Competition, and Choice in the Health Insurance Marketplace*. (2014.) Available at http://aspe.hhs.gov/health/reports/2014/premiums/2014mktplaceprembrf.pdf and HHS, ASPE. *Health Insurance Marketplace: Summary Enrollment Report for the Initial Annual Open Enrollment Period*. (2014.) Available at: http://aspe.hhs.gov/health/reports/2014/marketplaceenrollment/apr2014/ib_2014apr_enrollment.pdf

[7] Identical statistics were not readily available for California and New York, operating State-Based-Marketplaces. However, in New York 55% of those who enrolled in marketplace plans in the first open-enrollment period, did so through silver plans. (See: *NY State of Health: The Official Health Plan Marketplace 2014 Open Enrollment Report* (2014.) Available at: http://info.nystateofhealth.ny.gov/sites/default/files/NYSOH%202014%20Open%20Enrollment%20Report_0.pdf.) In California, 62% of enrollees did so. (See, *Covered California Open Enrollment 2013–2014: Lessons Learned*. (2014.) Available at https://www.coveredca.com/PDFs/10-14-2014-Lessons-Learned-final.pdf.)

[8] See for example, Eaddy, M., et al. (2012) *How Patient Cost-Sharing Trends Affect Adherence and Outcomes: A Literature Review*.

Pharmacy and Therapeutics. 37(1): 45–55.

[9] Centers for Disease Control and Prevention. (2015.) HIV Surveillance Report- Special Report: *Behavioral and Clinical Characteristics of Persons Receiving Medical Care for HIV Infection Medical Monitoring Project United States, 2012*. No. 12. Available at: http://www.cdc.gov/hiv/pdf/library/reports/surveillance/cdc-hiv-HSSR_MMP_2012.pdf.

[10] 67% of Ryan white clients are at or below the poverty level. Source: *Ryan White HIV/AIDS Program 2012 State Profiles*. Available at: http://hab.hrsa.gov/stateprofiles/Client-Characteristics.aspx#chart6).

[11] While grantees of the program have been permitted to use funds to help clients with the cost of purchasing coverage since the program's enactment in 1990, under the ACA this practice has become increasingly common with grantees being "strongly encouraged" by the federal government to adopt such a program (See: Health Resources and Services Administration, HIV/AIDS Bureau. Clarifications Regarding Clients Eligible for Private Health Insurance and Coverage of Services by Ryan White HIV/AIDS Program. Policy notice: 13-04. Revised 6/6/14. Available at: http://hab.hrsa.gov/manageyourgrant/pinspals/pcn1304privateinsurance.pdf and Dawson, L. and Kates, J. (2015.) *The Ryan White Program and Insurance Purchasing in the ACA Era: An Early Look at Five States*. Kaiser Family Foundation. *Available at: http://kff.org/hivaids/issue-brief/the-ryan-white-program-and-insurance-purchasing-in-the-aca-era/*).

[12] Marketplace plans have an out-of-pocket limit capped at $6,850 (for an individual) in 2016 but plans may opt to set that cap at a lower level.

[13] CMS, June 30, 2015 Effectuated Enrollment Snapshot, accessed September 8, 2015. Available at http://kff.org/health-reform/state-indicator/total-marketplace-enrollment-and-financial-assistance/

[14] National Association of State and Territorial AIDS Directors. (2015.) *ADAP Supports Expanded Access to Care*. Available at https://www.nastad.org/sites/default/files/ADAP-Supports-Access-to-Care-July-2015.pdf

[15] U.S. Department of Health and Human Service (HHS), Office of the Assistant Secretary for Planning and Evaluation (ASPE). *Premium Affordability, Competition, and Choice in the Health Insurance Marketplace*. (2014.) Available at http://aspe.hhs.gov/health/reports/2014/premiums/2014mktplaceprembrf.pdf and HHS, ASPE. *Health Insurance Marketplace: Summary Enrollment Report for the Initial Annual Open Enrollment Period*. (2014.) Available at: http://aspe.hhs.gov/health/reports/2014/marketplaceenrollment/apr2014/ib_2014apr_enrollment.pdf

[16] Center for Medicare and Medicaid Services. (2015.) *March 31, 2015 Effectuated Enrollment Snapshot. Available at:* https://www.cms.gov/Newsroom/MediaReleaseDatabase/Fact-sheets/2015-Fact-sheets-items/2015-06-02.html

[17] Department of Health and Human Service, Health Resources Services Administration. FY 2015 Congressional Budget Justification. Available at http://www.hrsa.gov/about/budget/budgetjustification2015.pdf

[18] Panel on Antiretroviral Guidelines for Adults and Adolescents. Guidelines for the use of antiretroviral agents in HIV-1-infected adults and adolescents. Department of Health and Human Services. Available at http://aidsinfo.nih.gov/contentfiles/lvguidelines/AdultandAdolescentGL.pdf. Accessed 12/17/15.

[19] Among silver plans providing the lowest expected health costs, about half the time that plan was the lowest premium silver plan (16 out of 31 times) and about half the time (15 out of the 31 times) the silver plan with the second lowest cost premiums would provide the lowest expected health expenses. While silver plans were over represented in this sample, if the silver plans with the second lowest cost premiums had been excluded, on each occasion where the 2nd lowest premium silver plan provided the lowest cost, the silver plan with the lowest premium provided the next lowest costs. Therefore, the overall frequency of silver plans having the lowest OOP costs would be the same.

[20] If the silver plans with the second lowest premiums had been excluded from this analysis, in all but one case the silver plan with the lowest premium would then have had the least liability. In the case of the New York City, the plan with the least liability at the $25,000 income level, would have been found in the platinum plan.

[21] In 6 of 11 occasions the silver plan with the least liability for a potential enrollee, was the silver plan with the lowest premiums. In 5 of 11 occasions, the silver plan with the lowest liability was plan with the second lowest cost premiums. In all but one case, (NY at the $25,000 income level), if the silver plan with the second lowest premium had been excluded, the silver level plan with lowest premium would have provided the least liability.

[22] HIV Surveillance Report- Special Report: *Behavioral and Clinical Characteristics of Persons Receiving Medical Care for HIV Infection Medical Monitoring Project United States, 2012*. No. 12. Available at: http://www.cdc.gov/hiv/pdf/library/reports/surveillance/cdc-hiv-HSSR_MMP_2012.pdf

[23] See for example, Eaddy, M., et al. (2012) *How Patient Cost-Sharing Trends Affect Adherence and Outcomes: A Literature Review*.

Pharmacy and Therapeutics. 37(1): 45–55.

[24] Dawson, L. and Kates, J. (2015.) *The Ryan White Program and Insurance Purchasing in the ACA Era: An Early Look at Five States*. Kaiser Family Foundation. *Available at: http://kff.org/hivaids/issue-brief/the-ryan-white-program-and-insurance-purchasing-in-the-aca-era/*).

[25] Health Resources and Services Administration, HIV/AIDS Bureau. (2014.) Clarifications Regarding Clients Eligible for Private Health Insurance and Coverage of Services by Ryan White HIV/AIDS Program. Policy notice: 13-04. Available at: http://hab.hrsa.gov/manageyourgrant/pinspals/pcn1304privateinsurance.pdf

[26] Panel on Antiretroviral Guidelines for Adults and Adolescents. Guidelines for the use of antiretroviral agents in HIV-1-infected adults and adolescents. Department of Health and Human Services. Available at http://aidsinfo.nih.gov/contentfiles/lvguidelines/AdultandAdolescentGL.pdf. Accessed 12/17/15.

[27] Centers for Disease Control and Prevention. *HIV Surveillance Report, 2014; vol. 26* November 2015. http://www.cdc.gov/hiv/pdf/library/reports/surveillance/cdc-hiv-surveillance-report-us.pdf

[28] Panel on Antiretroviral Guidelines for Adults and Adolescents. Guidelines for the use of antiretroviral agents in HIV-1-infected adults and adolescents. Department of Health and Human Services. Available at http://aidsinfo.nih.gov/contentfiles/lvguidelines/AdultandAdolescentGL.pdf. Accessed 12/17/15.

[29] Hauschild BC1, Weddle A2, Lubinski C2, Tegelvik JT1, Miller V1, & Saag MS3. HIV Clinic Capacity and Medical Workforce Challenges: Results of a Survey of Ryan White Part C-funded Programs. *Ann Forum Collab HIV Res*. Volume (13): 2011; 1-9.

[30] Prices in the average were excluded when a membership program is required. Prices of flat generic rate of $4 or $5 offered exclusively through a big box store (e.g. Walmart) were also excluded. Extreme outliers are also not included in averages. Warehouse pricing was also excluded (e.g. Costco).

[31] Gilead Sciences. (2015). Presentation from, *Third Quarter 2015, Gilead Sciences Earnings Conference Call*. Call held October 27, 2015. Presentation accessed 1/1/16, available at: http://investors.gilead.com/phoenix.zhtml?c=69964&p=irol-earnings.

[32] Pollitz, K. (2016.) Surprise Medical Bills. Kaiser Family Foundation. Available at: http://kff.org/private-insurance/issue-brief/surprise-medical-bills/