

# MEASURING HEALTH INSURANCE LITERACY IN CONNECTICUT



**VOLUME 1**

April 2017

Health Disparities Institute

## **HEALTH INSURANCE LITERACY SURVEY REPORT**

A summary of the results of the first study to measure health insurance literacy among Connecticut residents enrolled in private health insurance plans under the Affordable Care Act.

**UConn  
HEALTH**

# ABOUT THE HEALTH DISPARITIES INSTITUTE

## STATUTORY AUTHORITY

Connecticut General Statutes Sections 10a-109b (2011): UConn Health and UConn John Dempsey Hospital are to advance health care, education, and economic development in the state by supporting the development of a health disparities institute sponsored by the University of Connecticut that will enhance research and the delivery of care to minority and medically underserved populations of the state.

## VISION

Everyone in Connecticut will have an opportunity to enjoy good health and well-being.

## MISSION

To reduce disparities by turning ideas shown to work into policies and actions.

HDI will establish UConn Health as a leader in health equity by creating a collaborative environment that brings together different perspectives to look at root causes and potential solutions to health disparities.

The Institute's work features community based participatory research methods, interdisciplinary collaboration models, and university-community partnership approaches with a translational impact on health outcomes.

## LEADERSHIP

Dr. Judith Fifield is the Director of HDI and Dr. Victor Villagra is the Associate Director.

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# THE HEALTH DISPARITIES INSTITUTE HEALTH INSURANCE LITERACY/WELLBEING SURVEY

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## BACKGROUND

With the implementation of health insurance exchanges established by the Affordable Care Act (ACA) approximately 20 million Americans gained access to health insurance. Of those, about 12.7 million enrolled in commercial health plans (Qualified Health Plans or QHPs), 37% for the first time <sup>1</sup>. In doing so, the newly insured entered a complex system of rules, exceptions, limitations, exclusions and terminology that in the context of health insurance (HI) have a different meaning than the same language used in everyday life (e.g.: “network”, “formulary”, “premium”, etc.). In 2011 a Health Insurance Literacy (HIL) roundtable coined the following working definition of health insurance literacy: Health insurance literacy measures the degree to which individuals have the knowledge, ability, and confidence to find and evaluate information about health plans, select the best plan for their own (or their family’s) financial and health circumstances, and use the plan once enrolled. <sup>2</sup>

Health insurance literacy must be viewed as a unique skill without which consumers may not be able to realize the full value of their HI <sup>3</sup>. Several national studies have shown that consumers have difficulty choosing and using their HI <sup>4</sup> and that HIL levels vary widely across population groups. Racial/ethnic minorities, young adults and those with limited English language proficiency are especially disadvantaged <sup>5</sup>. Other studies have shown that HIL is often lacking even among highly educated consumers. The consequences of deficient HIL include poor working knowledge of covered benefits, inappropriate use of or avoidance of the healthcare system due to uncertainty; all greatly diminishing the value of HI.

Poor HIL is compounded by the high complexity of plan designs<sup>6, 7</sup>. This combination creates conditions that can potentially widen health and well-being disparities especially in minority populations.

In 2013 Connecticut launched its health insurance exchange, Access Health Connecticut (AHCT). An extensive consumer outreach campaign resulted in a significant reduction in the state's uninsured rate from 8% to 3.8%. Consumer messaging focused almost exclusively on enrolling eligible persons in "the right plan". At that time, little to no attention was given to consumer HIL education or to practical help on how to use health insurance. For two consecutive years after the first open enrollment AHCT surveys of QHP enrollees revealed that many new enrollees had not used the system. More strikingly, racial/ethnic disparities became apparent; 40% of Blacks and 44% of Hispanics compared to 34% of Whites had not used the system and 46% of Blacks and 52% of Hispanics compared to 19% of Whites did not have a PCP.

## GOALS AND OBJECTIVES OF THE GRANT

The HIL survey was developed by UConn's Health Disparities Institute to achieve the second milestone of its Health Insurance Advance (HIA) initiative. The goal of the HIA initiative is to enhance the value of health insurance among underserved CT citizens and in doing so improve their health and wellbeing. Achieving this goal will require improvements in health insurance literacy, a more robust infrastructure for delivery system navigation support and access to simpler, more consumer-friendly health insurance plans.

The principal goal of the HIL survey was to establish a statewide (CT) baseline among current, non-Medicaid beneficiaries enrolled in Qualified Health Plans (QHP) through Access Health CT. Due to the marked differences in plan design between Medicaid and QHPs, the survey excluded Medicaid beneficiaries.

## SURVEY SAMPLE

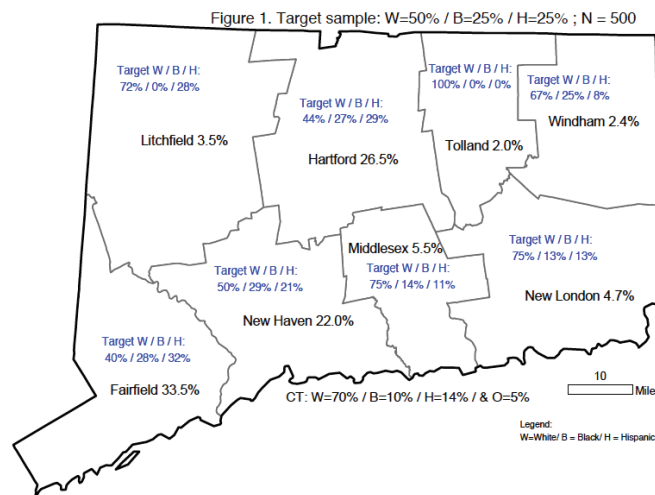
The survey sample was extracted from a list of over 66,000 currently insured AHCT QHP enrollees inclusive of the 2015 open enrollment period. Potential interviewees were obtained using AHCT primary subscriber sample lists, landline and cell phone numbers. Interviews were conducted in English or Spanish based on enrollee preference. Respondents were screened to verify that they currently had health insurance with a QHP allowing them to proceed to answer the 25-minute survey. Participants were offered a \$5.00 gift card for their participation. Acturus,

an independent survey company conducted the survey under a contract with AHCT. The survey was fielded from July 13, 2016 to July 29, 2016.

The target sample size was 500 enrollees. Based on the results of previous national level survey that showed a disproportionate impact of HIL on racial/ethnic minorities, the HIL survey oversampled African-American and Hispanic QHP enrollees. This sampling method was designed to enhance the statistical power to detect potential R/E disparities in the sample population. Oversampling was defined as a preponderance of people of color compared to the frequency in the general population using the 2010 CT census as a reference. We also used the demographic distribution by R/E of the AHCT membership as a secondary reference even though we were aware that AHCT had incomplete R/E and language preference data. AHCT membership demographics includes 65.8% White, 17.2% Hispanic, 9.4% Blacks and 3.3% Asian/other.

Recruitment targets for regional samples were 50% White (vs. 70% census), 25% Blacks (vs. 10% census) and 25% Hispanics (vs. 14% census).

A stratified sample of current QHP enrollees was drawn from eight (8) geographic regions. The percent contribution of each region to the total population of survey enrollees by race and ethnicity is shown in [Figure 1](#). These proportions exceed the distribution of those minority groups in each separate region.



## SURVEY METHODOLOGY

The HIL survey consisted of 13 questions. The HDI survey was constructed to facilitate comparisons with national data. Nine (9) questions were identical or similar to the Kaiser 2014 national survey. We used 9 of the 10 questions

from the Kaiser HIL survey<sup>9</sup> and the remaining 4 questions were modifications of the AIR HIL questionnaire<sup>8</sup>. All 13 questions were translated from English to Spanish by a bilingual native Spanish speaker and independently back translated into English by a second bilingual native Spanish speaker for accuracy. Discrepancies were resolved by consensus. (English and Spanish survey versions are provided in separate attachments)

## **DATA SOURCES**

Two sources of data were used: The first was the de-identified enrollee answers to the survey and the second was non-PHI containing data from AHCT enrollment files (The AHCT variable list is provided in separate attachment ). All data used in the analysis were de-identified.

## **STATISTICAL ANALYSIS**

We used descriptive statistics throughout to convey the principal survey findings. Statistical tests were the chi square for categorical or ordinal variables, and univariate analysis of variance (Anova) for continuous outcomes. Bivariate Pearson correlations between continuous outcomes were analyzed, as well as regression models for the HIL scores, both in the entire random sample, as well as in each racial-ethnic group. Analyses were done in SPSS, Stata and R.

The original Kaiser and AIR health insurance knowledge questions were evaluated by the project team for relevance, wording, content area and ease, and 13 questions were retained. The Cronbach's alpha of the 13-item set of questions was .718.

## **IRB**

The University of Connecticut Institutional Review Board reviewed the study protocol. The study was exempted because only de-identified data was used in the analysis.

## **OVERALL HIL RESULTS**

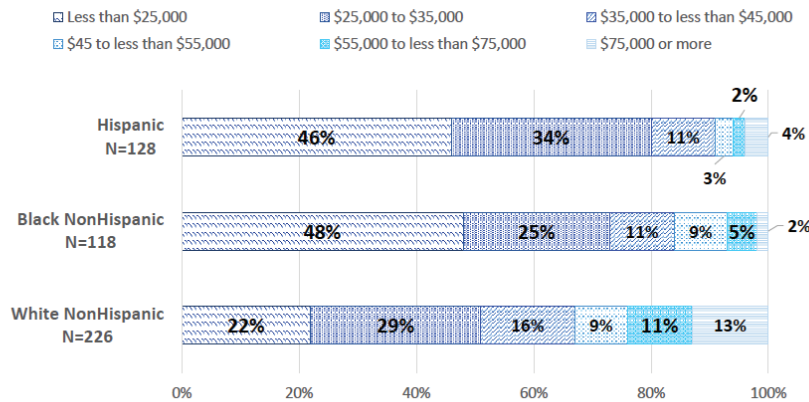
Based on the 13-item HIL survey QHP enrollees answered 62% of the questions correctly. When the results were segregated by race, ethnicity and language preference significant disparities became evident. The HIL score was 53% among Blacks and 50% among Hispanics compared to 74% among Whites. These differences are highly statistically significant. After adjusting for income and educational level HIL differences between Blacks vs. Whites and Hispanics vs. Whites remained statistically significant. Differences between Blacks and Hispanics were not significant.

## DEMOGRAPHICS AND GEOGRAPHIC DISTRIBUTION:

A total of 516 surveys were completed. Respondents were 49% White non-Hispanics (Whites), 27% Hispanics and 24% Black, non-Hispanics (Blacks); 40% were male and 60% female and 71% were between the ages of 45 and 74.

Eighteen (18%) percent or 93 enrollees answered the survey in Spanish. Sixty-five (65%) percent had individual income levels of ≤ \$35,000. The distribution of income by race/ethnicity showed a statistically significant higher income among White enrollees (Figure 2).

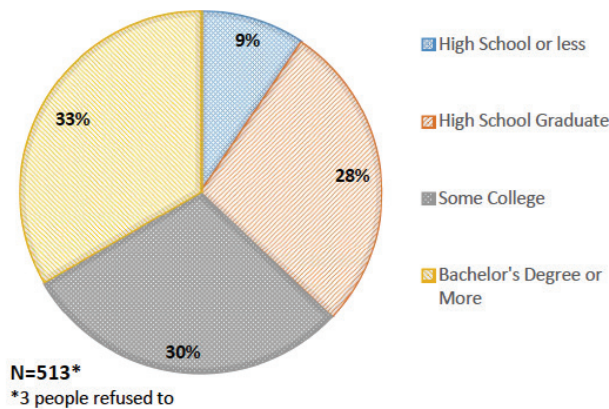
Figure 2: Income Breakdown by Race/Ethnicity



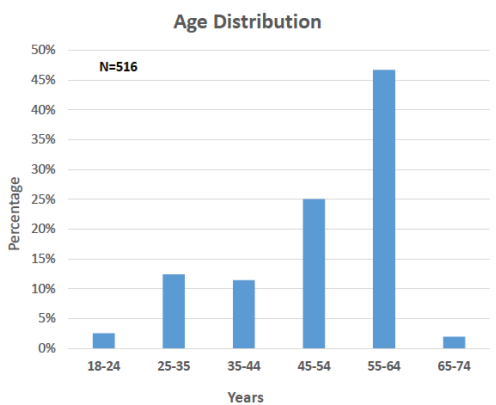
All but one of the 94 participants who choose Spanish as their preferred language identified themselves as Hispanic.

The 8 sampling regions were collapsed into 4 because in some regions the number of responders was too low for robust statistical analysis. Most respondents were in Litchfield, Hartford (30%), Fairfield (35%) counties and Middlesex-New Heaven (25%) and 10% in New London. Sixty-three percent of participants had some college education or beyond while the remaining 37% had either completed or had some high school education (Figure 3a). Income and age distributions are shown in Figures 3b and 3c.

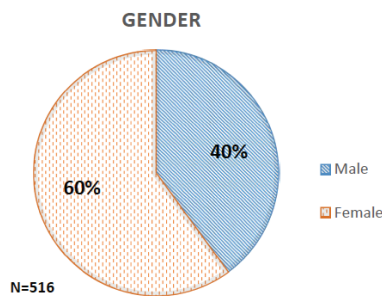
# Figure 3a: Education



## Figure 3b & 3c: Age & Gender



Approximately 71% are between the ages of 45 and 74 years.



More than half participants were female

## HEALTH INSURANCE LITERACY

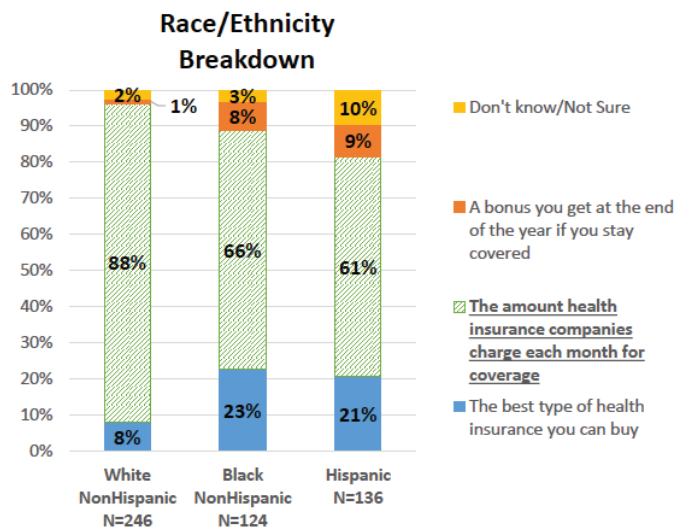
AIR developed and validated a HIL instrument that divides HIL into 4 categories: Knowledge, information seeking, document literacy and cognitive skills<sup>8</sup>. The Kaiser HIL survey consists of 10 equally weighted question focused on knowledge and use of HI vocabulary<sup>9</sup>. To restrict the survey to 25 minutes or less we limited the number of questions to 13. We omitted document literacy because the telephonic survey method is not ideally suited to evaluate that skill. The survey probed into the most commonly used HI vocabulary. Familiarity with these terms and ability to use them correctly is indispensable when selecting and using a plan.

**Question #1:** Which of the following is the best definition of the term “health insurance premium”?



Overall, the majority (75%) of enrollees could identify the best definition of “health insurance premium”. When parsed by income or geographic region there were no significant differences in the number of correct answers; however, differences by race/ethnicity were significant with people of color (Hispanics 61% and Blacks 66%) showing lower scores than Whites, 88% (Figure 4). **Correct answers are underlined in the keys and shown in green patterns in the graphs**

**Figure 4: Best Definition of Health Insurance Premium by Race/Ethnicity**



Among the 190 enrollees with a high-school education or less 24% of respondents identified premium as “The best type of health insurance you can buy” (incorrect answer) and 7% chose “A bonus you get at the end of the year if you stay covered” (also an incorrect answer). Among people who took the survey in Spanish 56% had the correct answer compared to 80% who took it in English (data not shown).

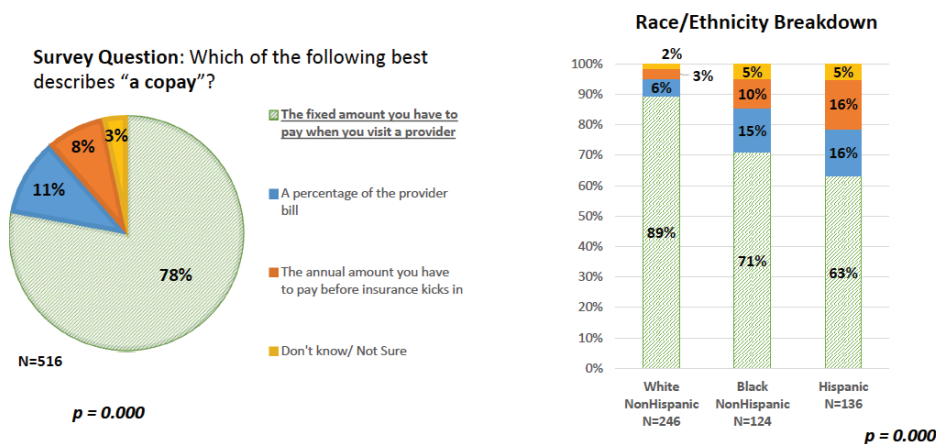
**Question #2:** Is a health insurance premium something you **must pay every month**, regardless of whether you use health care services, or do you **only have to pay your health insurance premium during the months when you use health care services**?

The majority (94%) of enrollees know that premiums must be paid every month even if services are not used with relatively small differences by race/ethnicity, education level, geographic location or language preference (English 96%, Spanish 86%) (data not shown)

**Question #3:** Which of the following best describes “a copay”?

Copay is the most common form of out-of-pocket expense for consumers. Most (78%) respondents selected the correct answer but another 22% either did not know the answer or confused it with co-insurance (“a percentage of the bill”) or a deductible (“the annual amount you have to pay before the insurance kicks in”). While most of those surveyed knew the definition of co-pay, differences by race/ethnicity were significant: eighty nine percent of Whites gave the correct answer, African Americans 71% and Hispanics 63% (Figure 5). Significant disparities were also present when results were parsed by language preference Spanish 54% correct answers and English 83% (data not shown).

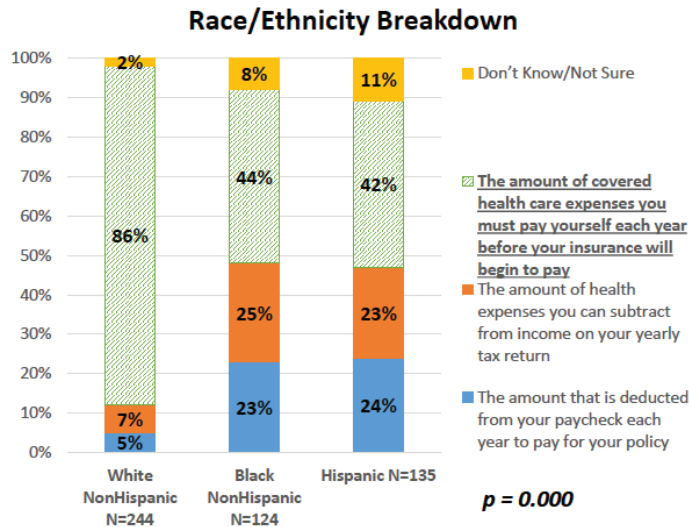
**Figure 5: Best Definition of Copay**



**Question # 4:** Which of the following is the best definition of the term “annual health insurance deductible”?

Most QHP enrollees select a high deductible plan therefore a clear understanding of this term is important in being able to anticipate out-of-pocket expenses. Overall 64% of respondents identified the definition of “deductible” correctly but 82 individuals (16%) selected “The amount of health expenses you can subtract from income on your yearly tax return” (data not shown). When the answers were parsed by race/ethnicity the differences were significant; only 44% of Blacks and 42% of Hispanics answered correctly whereas 86% did (Figure 6).

### Figure 6: Best Definition of HI Deductible

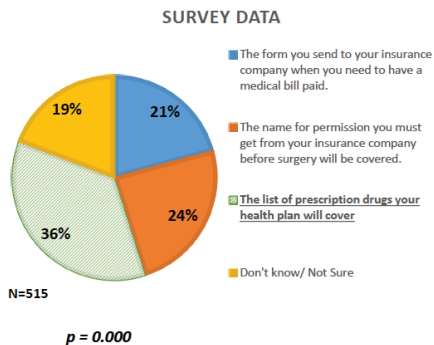


Scores were markedly lower for those taking the survey in Spanish (28% correct) vs. English (72% correct) (data not shown).

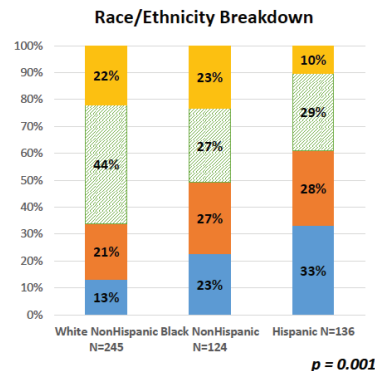
#### Question #5: “Which of the following best describes a “health insurance formulary”?”

Almost half of enrollees understood that the word “formulary” entails requesting permission to receive care; however, only 36% of respondents selected the correct answer. When answers were parsed by R/E Blacks and Hispanics chose more incorrect answers than Whites (Figures 7 and 8).

### Figure 7: Best Def of HI Formulary



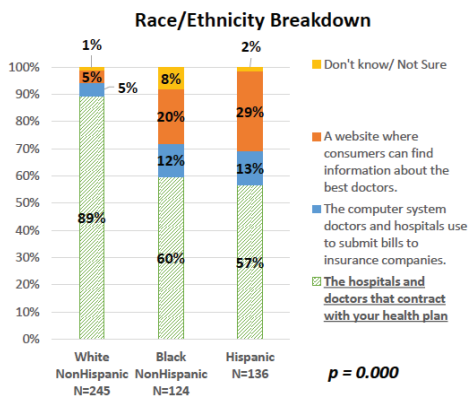
### Figure 8: Best Def of HI Formulary



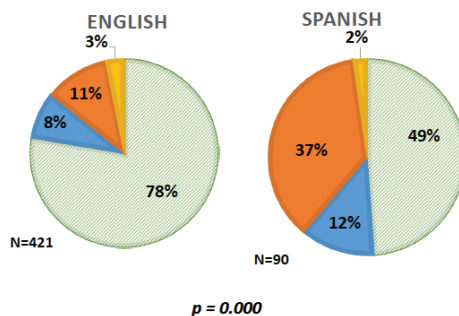
**Question # 6:** Which of the following best describes a health plan “**provider network**”?

With the increasing use of narrow networks by insurance companies a working knowledge of the concept of provider network is important in knowing which providers have a contract with the insurance company and therefore offer lower rates. Overall 72% chose the correct answer (“The hospitals and doctors that contract with your health plan”). As with previous questions marked differences based on race/ethnicity and language preference were noted (Figures 9 and 10)

**Figure 9: Best Definition of Provider Network by Race/Ethnicity**



**Figure 10: Best Definition of Provider Network by Language Preference**



Seventy eight percent of English speaking members chose the correct answer compared to 49% of Spanish speakers; a highly significant difference.

**Question # 7:** When talking about health insurance, what is the best definition of **an appeal**?

Overall, 68% of respondents had the correct answer (Figure 11). Significantly lower scores were noted by race/ethnicity (figure 12) and educational level (data not shown). There were no significant differences by geographic region (data not shown).

Figure 11: Best Definition of Appeal

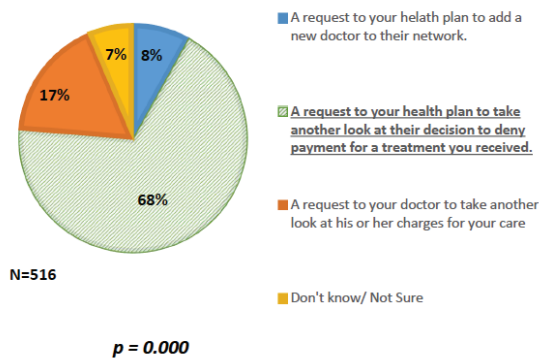
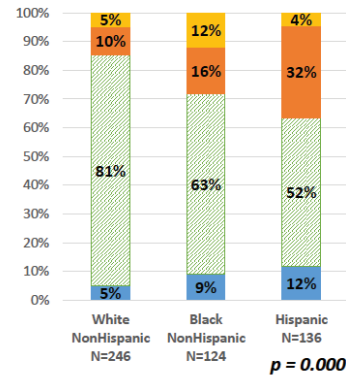


Figure 12: Best Definition of Appeal by Race/Ethnicity



Language preference was a significant discriminant factor with 74% of correct respondents in English but only 43% in Spanish. Relatively high scores in understanding the practical application of an appeal were observed across all respondents with only small differences by race/ethnicity or language preference (data not shown).

**Question # 8:** Which of the following best describes the “annual out-of-pocket limit” under a health insurance policy?

Overall 55% of respondents chose the correct answer. Ninety-eight (98) individuals or 19% thought the correct answer was “The most your insurance company policy will pay for covered services in a year” and 17% answered “The most you will have to pay for premiums in a year”.

The differences in understanding the concept segregated by race/ethnicity were significant with 70% of Whites vs. 42% of African Americans and 39% of Hispanics choosing the correct answers (Figures 13 and 14). Lower educational level, taking the survey in Spanish correlated with choosing fewer correct answers (data not shown).

Figure 13: Best Definition of Annual Out-of-Pocket Limit

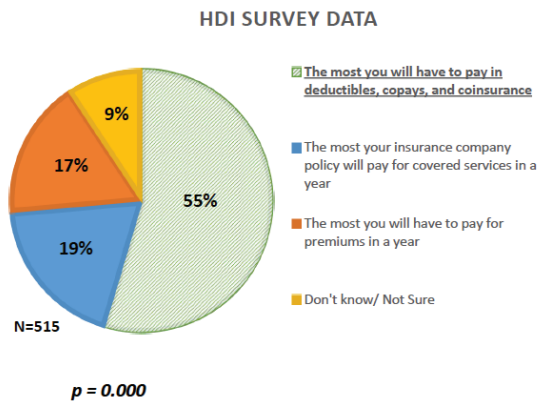
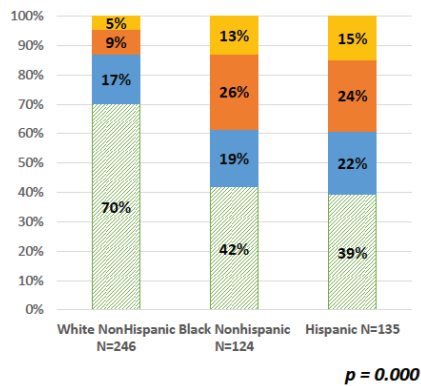


Figure 14: Best Definition of Annual Out-of-Pocket Limit by Race/Ethnicity



**Question # 9 (True or False):** “If you receive **inpatient care at a hospital** that participates in your health plan’s provider network, all the doctors who care for you while you are in the hospital will also be in network”.

Overall 51% answered this question correctly, 44% were incorrect (True) and 5% did not know or were not sure (data not shown). When the answers were parsed by race ethnicity and language preference, in contrast with previous findings more Hispanics than Whites and Blacks had the correct answer (Figure 15).

Figure 15: In Network vs. Out of network Provider by Race/Ethnicity

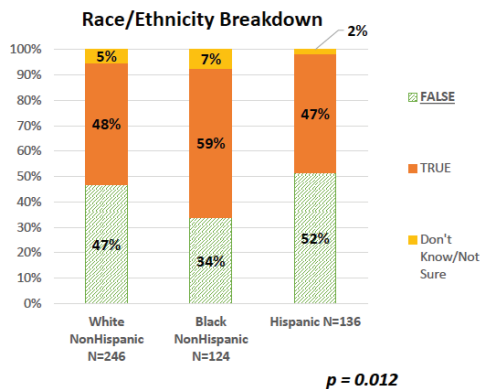
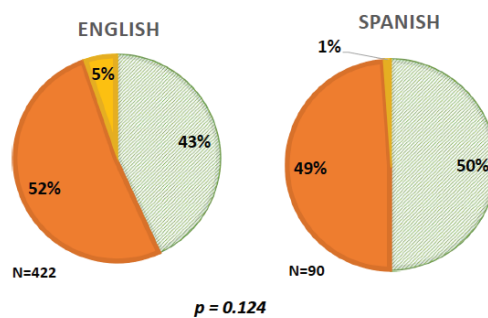


Figure 16: In Network vs. Out of network Provider by Language Preference

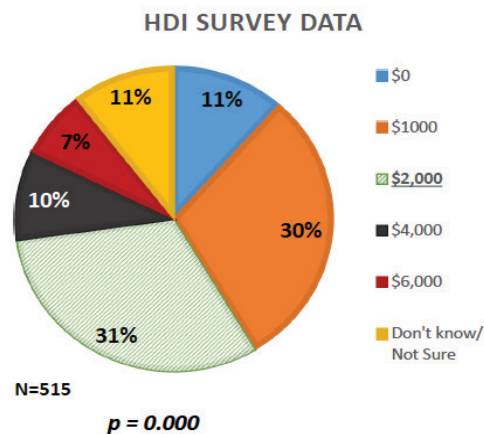


The higher proportion of correct answers by Spanish speakers (Figure 16) aligns with the results parsed by race/ethnicity (only 1 Spanish respondent was not Hispanic). No significant differences were noted by geographic region. There were more correct answers among the higher educated respondents (data not shown)

**Question # 10:** “Suppose that under your health insurance policy, hospital expenses are subject to a \$1,000 deductible and a \$250 per day copay. You get sick and are hospitalized for 4 days, and the bill comes to \$6000. How **much of that hospital bill** will you have to pay yourself?” **The correct answer is \$2,000.**

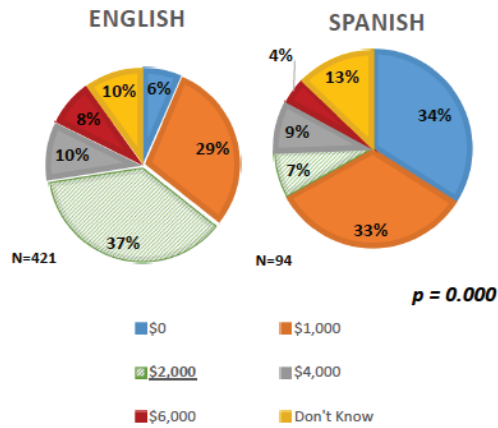
Among all surveyed only 31% chose the correct answer. Eleven percent (11%) of enrollees thought their out-of-pocket (OOP) cost would be \$0 and another 17% thought it would be two to three times higher (\$4,000 or \$6,000) than the correct amount (Figure 17).

**Figure 17: Hospital Bill OOP Calculation**



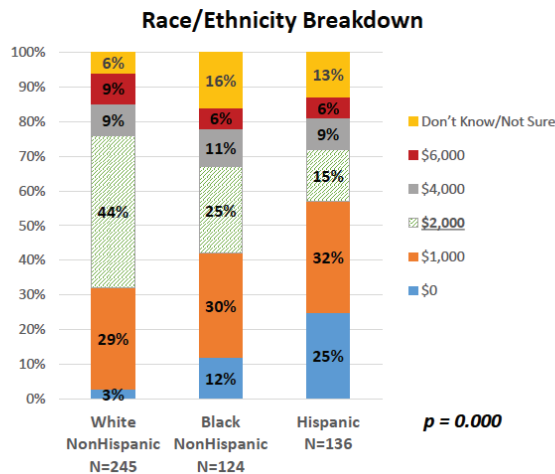
Notably 34 (25%) Hispanics thought their OOP liability would be \$0. Of the 94 individuals who took the survey in Spanish only 7% chose the correct answer (Figure 18).

Figure 18: Hospital Bill OOP Calculation by Language Preference



When answers were parsed by race/ethnicity there were significant disparities. Only 15% of Hispanics and 25% of African Americans chose the correct OOP amount (Figure 19).

Figure 19: Hospital Bill OOP Calculation by Race/Ethnicity



As with other questions, lower education level also resulted in lower scores but there were no differences across geographic region (data not shown)

**Question # 11 (True or False):** If your health insurance plan **refuses to pay** for a service that you think is covered and your doctor says you need, **you can appeal the denial** and possibly get the insurance company to pay the claim.



A large proportion of respondents know they can appeal a denied service and possibly reverse the denial (Figure 20). A significant proportion of people of color answered the question incorrectly (Figure 21).

Figure 20: Appeal a Denial

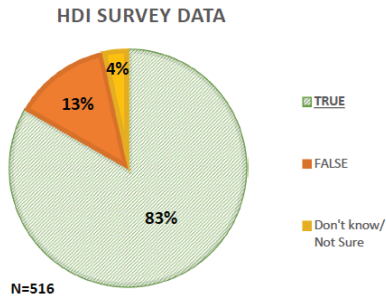
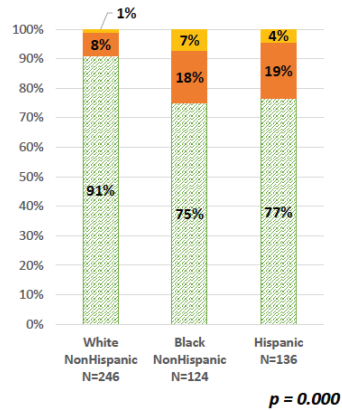


Figure 21: Appeal a Denial by Race/Ethnicity



**Question # 12:** While there may be several ways to determine what is covered, what is the **best way** to find out if a service (i.e., doctor’s visit, lab test, etc.) will be covered by your health plan?

Those enrolling through AHCT have several potential sources of information about their insurance coverage. We asked enrollees what they would consider the best source of information. The intent of this question was to get a sense for where current and future consumer support resources may be needed to handle inquiries. Overall, the majority (58%) of enrollees identified their insurance company (the correct answer) as the best source of information (Figure 22).

Figure 22: Best Information Source for Insurance Coverage

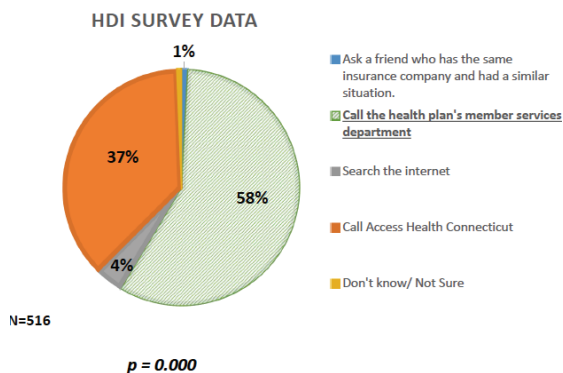
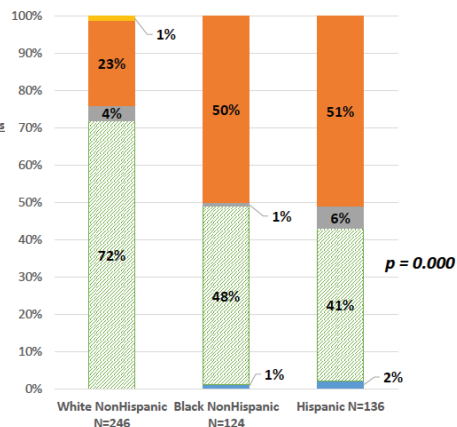


Figure 23: Best Information Source for Insurance Coverage by Race/Ethnicity

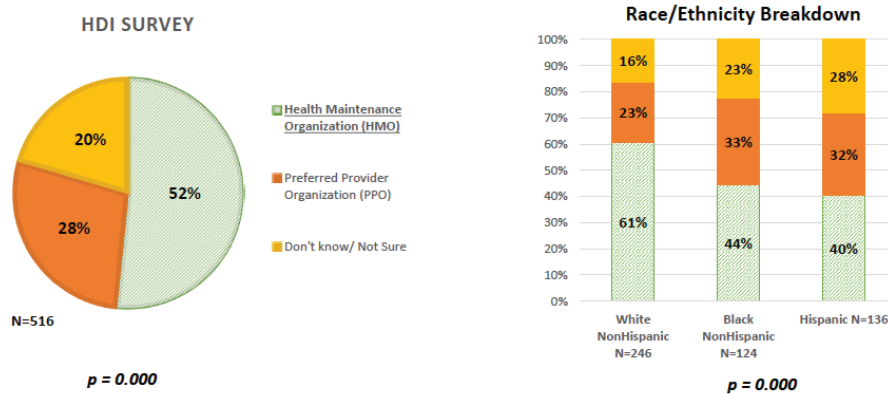


Among Whites 72% had the correct answer rate, 48% among Blacks and 41% among Hispanics (Figure 23). AHCT was identified as the best source by 61% of those taking the survey in Spanish. There were no significant differences by geographic region.

**Question # 13:** In general, which plan offers the least **choice of doctors?**

The question probed enrollees’ familiarity with “Preferred Provider Organization” and “Health Maintenance Organization” and the degree of choice of providers offered by the two most commonly offered plans. Consumers are expected to make informed choices between plan design. Overall 52% chose the correct answer (HMO) but roughly half either did not know or chose the wrong answer. A significant disparity exists between whites and people of color in their recognition and application of these terms (Figure 24).

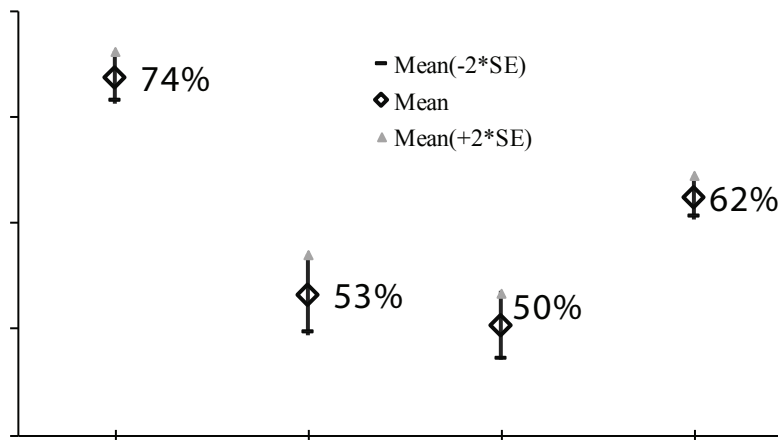
**Figure 24: Which Health Plan gives the least choice of doctors ?**



## MULTIVARIATE RACE AND ETHNICITY ANALYSIS

All HIL questions were analyzed in relation to factors that are known to influence HIL, like income, education and language preference. Relationships were compared across the three racial/ethnicity (R/E) groups.

There were R/E differences in overall HIL scores, such that, on a score scale of 0-13 White respondents scored 2.7 points or 21% significantly higher than Blacks ( $p < .001$  95% CI 2.13-3.19) and 3.1 points or 24% significantly higher than Hispanics ( $p < .001$  95% CI 2.56, 3.54). (Figure 25).

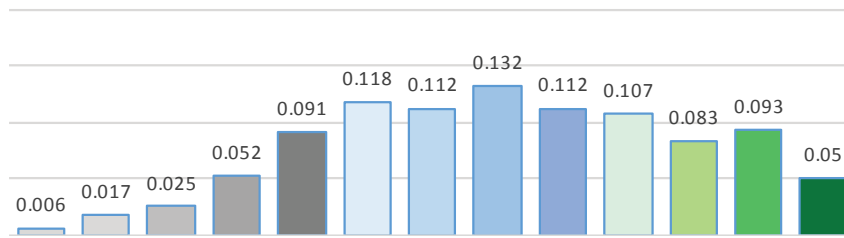


Adding education and income as controls slightly reduced the disparity estimate from 2.7 to 2.02 (Black vs. White) and from 3.1 to 2.18 (Hispanic vs. White) but this adjustment did not change the conclusion (data not shown) that significant racial/ethnic grouping differences persist.

## COMPARISON WITH OTHER HIL SURVEYS

The critical role of HIL became more evident with the advent of the ACA. As millions of people entered the individual market a great deal of reliance was placed on “informed consumers” to make rational choices. Abundant plan choices and competition among QHPs required that consumers be reasonably insurance literate.

To compare the HDI Connecticut survey with results from the rest of the country we selected two previous national surveys. In 2014 the Kaiser Family Foundation conducted a survey that sampled 1,292 subjects including Medicaid, Medicare and an oversample of uninsured individuals. The Kaiser 10-question survey showed that 52% answered most questions correctly, 20% answered some questions correctly and 28% answered very few questions correctly. In contrast the 13-question HDI survey (using a different sampling methodology but 9 of the Kaiser questions) the proportion of QHP enrollees 33% answered most questions correctly; 48% answered some questions correctly and 19% answered very few questions correctly (Figure 26).



In 2014 the American Institute of Research (AIR) conducted a survey of 828 individuals that included uninsured, Medicaid and privately insured subjects. The survey asked question about knowledge of insurance terminology, information seeking skills (e.g.: locating information), document literacy (e.g.: ability to complete forms) and cognitive skills (e.g.: performing OOP cost calculations). The AIR survey showed that that knowledge and skills increase with greater use of insurance, are higher among older age groups, white race and higher income. Similarly, the HDI survey showed higher scores in knowledge and ability to use insurance concepts among higher education and higher income groups. Because of the different reporting formats direct comparisons between HDI and AIR are not possible. Despite the difference in sampling and reporting formats all three surveys demonstrated that there are HIL gaps and that disparities based on race/ethnicity and (HDI) language preference and especially pronounced.

## CONCLUSIONS

HIL is essential in navigating the healthcare system in accordance to benefit plan rules. Even minor deviations from those rules can result in delays, foregone care or unanticipated medical bills. The toll of HIL gaps in terms of health outcomes and financial hardships on the newly insured or previously insured individuals has not been quantified. This survey provides conclusive evidence that in Connecticut despite herculean efforts on the part of AHCT and QHPs to educate/inform consumers about their plan choices and how to use them enrollees are only partially prepared to make informed, rational decisions and once insured to take full advantage of their plan benefits.

This HDI survey showed that overall, the HIL level among Connecticut QHP enrollees is comparable or slightly lower than results at a national level. A possible explanation may be that the HDI survey included only QHP enrollees and that an undetermined number of those surveyed had no previous experience with health insurance and that commercial insurance is more complex in design than Medicaid or traditional Medicare. In addition, the HDI survey oversampled people of color. This population group is generally lower income and lower educational level. Both factors are known correlates of low health literacy. The HDI survey documented marked race/ethnicity disparities that renders Blacks and Hispanics at a significant disadvantage despite some system protections.

Gaps in HIL can present an obvious impediment when trying to make well-informed, rational decisions in choosing or using plan benefits. From the consumer perspective, these gaps also mean that premium prices can be perceived as disproportionately high relative to the value of their policies. It is possible that the perception of the value of having health insurance is especially acute for people of color when they purchase complex plans that they cannot understand.

The HDI survey shows that consumers frequently confuse commonly used vocabulary that in the context of health insurance, have a different and precise meaning than the same words used in every-day life. Even small gaps in HIL such as not knowing the exact definition of “deductible” or “copay” or “formulary” can result not only in foregone benefits (avoiding use), it could also pose a significant financial liability (wrong use). For example, 25% of those asked to choose the best definition of the word “premium” selected the wrong but not entirely unreasonable answer. In every-day life the word “premium” has 11 possible uses (7 as a noun, 3 as and adverb and at least 1 idiomatic expression). In general, the word “premium” denotes something of “high value” and its’ thesaurus synonym is “bonus”. Not surprisingly 129 respondents chose either “a bonus you get at the end of the years for staying insured” or “the best type of health insurance you can buy”, not unreasonable extrapolations of the colloquial use of the term.

Gaps in the application of combinations of words such as deductible and copay are also noteworthy. To illustrate the point, consider the hypothetical consequences of estimating the expected hospital bill following a 4-day stay (Question # 10, figures 17, 18 and 19). Overall, only 31% of respondents had the correct answer. Of those who underestimated their OOP cost 11% thought they would owe \$0 and another 31% thought the amount would be \$1,000. Had those enrollees accessed care they would have been unpleasantly surprised to receive a significantly higher medical bill which they may not have been prepared to absorb. Another 17% of respondents estimated their OOP liability to be twice or three times higher than the actual amount. Could these members have

postponed or foregone needed care for fear that they would not be able to afford it? Forty two percent of Blacks and 57% of Hispanics underestimated their OOP costs and 33% of Blacks and 28% of Hispanics overestimated it. Among Spanish speakers only 7% chose the correct answer. Errors of this type have been reported in the peer-reviewed and lay literature, specifically in the selection of health plans or mistakes resulting in unexpected financial liabilities <sup>10</sup>.

This survey suggests that a concerted effort to improve HIL among all CT residents especially among minorities is warranted. The most effective strategies to enhance HIL must be studied in controlled pilots and tested with especial emphasis on reducing current R/E and language preference disparities. A broad-based educational campaign with contributions from private and public organizations could reduce the overall and disparate HIL gap over time. The benefits of a public policy aimed at improving HIL would accrue to consumers, to insurance companies, to small businesses and to the state because higher literacy would rid the system of pervasive inefficiencies, errors, rework and the perception that premium prices are disproportionate to the benefits of being insured. Higher HIL will enable stakeholders to realize the full value of health insurance.

Another systemic solution would be to significantly simplify plan designs by making them simpler, more consumer friendly. Examples include the CT Medicaid program or the Basic Health Plan used in New York and Minnesota. These plans have eliminated or reduced the use of complex cost sharing features such as co-insurance and deductibles which partially obviates the need for sophisticated literacy and numeracy skills.

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