

# Hunterdon County Department of Health

## Latino Health Behavior Risk Factor Study

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## INTRODUCTION

Hispanic/Latino is the second most common ethnicity in Hunterdon County. The Hispanic/Latino population in Hunterdon County has more than tripled between the release of the 1980 and 2000 Census Reports. The 2000 Census data indicated there were 3,371 Latino/Hispanic residents living in Hunterdon County, or 2.8% of the county population. The most recent update by the US Census includes 2005 data and indicates this number has grown 24% from 2000 to 2005 to 4,187, representing 3.3% of the County population. Due to the growing Hispanic/Latino population, Hunterdon County has a number of municipalities and townships that have witnessed significant increases in the percentage of Hispanic/Latino ethnicity. In particular, Flemington Boro, Union Township and Clinton Township (11.0%, 5.1%, 3.9%, respectively), had a proportionately larger number of persons with Hispanic/Latino ethnicities in 2000 as compared to the surrounding communities.

As the Hispanic/Latino population in Hunterdon County continues to grow, it is important to recognize the risk for health disparities. Even though the overall population within the county is one of the most affluent and educated in New Jersey, there may be significant health risk behaviors and lack of access to health care within the Hispanic/Latino population. The Hunterdon County Department of Health recognized the importance to perform this needs assessment study, and to provide the empirical evidence required to pursue public health resources to address these needs.

In 2005, a county-wide Behavioral Risk Factor Surveillance System (BRFSS) study was conducted by Holleran that included 55 Hispanics/Latinos in a total sample size of 1,100 respondents. In order to accurately assess public health needs in the Hispanic/Latino population in the County, the Hunterdon County Department of Health decided to conduct another study in winter 2006/2007 targeting only Hispanics/Latinos. This effort resulted in data being collected from an additional 166 Hispanic/Latino County residents, increasing the overall sample of Latino participants from 55 to 221. Data from the surveys were coded and entered into a database in February, 2007. The analyses and report writing occurred in March and April, 2007.

This community health needs assessment study is one of a number of community health assessments conducted within Hunterdon County during 2004-06. The findings from this study will be integrated into the findings from the other health data collected from other sources. This is done to construct a comprehensive health improvement plan for Hunterdon County.

## METHODOLOGY

In 2006, the Hunterdon County Department of Health, located in Flemington, NJ, conducted a Health Risk Behavior Needs Assessment with the Hispanic/Latino population using 36 items from the Centers for Disease Control and Prevention (CDC) - Behavioral Risk Factor Surveillance System (BRFSS) study. These 36 items were chosen based on recommendations provided by the *Hunterdon County Latino Healthcare Access Committee* who have a number of members with an understanding of the Latino

health issues within the County. In an ideal world, the complete BRFSS could be administered; however, given the resources available for this study, the length of the instrument was reduced to 36 items.

The survey used in this study was translated into Spanish by a certified translator. Prior to full implementation of the study, pilot testing on 15 participants was completed with persons who were Spanish-speaking and of Latino ethnicity at three different Hunterdon County locations.

This 2006 Latino Health Behavior Risk Factor Study used a convenience sampling strategy to survey Hispanic/Latino adults ( $\geq 18$  years of age) living in Hunterdon County. The Health Department consulted with the *Hunterdon County Latino Healthcare Access Committee* to identify potential sites where there were groups of Hispanic/Latinos. Using a convenience sampling (non-probability sampling) approach, locations were selected based on the perceptions of being able to sample larger groups of Hispanic/Latino adult residents.

Between November 2006 and January 2007 the Hunterdon County Department of Health surveyed 166 Hispanic/Latino individuals from the following locations:

1. English as a Second Language (ESL) courses at Educational Services Commission (ESC) in Flemington
2. Latina Health Fair in Flemington
3. Hunterdon Pediatrics in Flemington
4. St. John the Evangelist Roman Catholic Church in Lambertville
5. St. John the Evangelist Roman Catholic Church, ESL class in Lambertville
6. Hunterdon County Women, Infants and Children (WIC) Program throughout Hunterdon County
7. Phillips-Barber Family Practice in Lambertville
8. Hunterdon County Social Services in Flemington
9. Flemington Baptist Church in Flemington
10. Heritage Baptist Church in Flemington
11. Friendship Center for New Beginners in Flemington

Based on interviews and observations, the Latino sample in the Hunterdon County DOH study tended to be from lower socio-economic status. There were a number of participants that had some difficulty reading the Spanish versions of the surveys, suggesting literacy was an issue with this sample group. In contrast, the Holleran Hispanic sample consisted of adults with children who were receiving health care services within family/pediatric medical group private practices. As such, this suggests the Holleran sample of Hispanics may be within a higher socio-economic status group as compared to the Hunterdon County DOH Hispanic group.

At all 11 survey locations, participants were informed that the survey was completely anonymous. Participants were told they could complete either an English or Spanish version of the survey. After completing the survey instrument, all respondents placed their surveys into a box. On the average, the survey took about 15 minutes to complete. To increase participation, the Health Department offered a limited number

of prizes including canvas tote bags, t-shirts and several Shop-Rite gift certificates worth \$25 each.

## **STUDY OBJECTIVES**

The objectives of this needs assessment were as follows:

1. To gather statistically valid information on the health status of Hunterdon County residents of Hispanic/Latino ethnicity;
2. To collect an adequate sample so that accurate comparisons could be made to the 2005 Holleran BRFSS Study, including comparisons with Hispanics and non-Hispanic whites;
3. To provide a baseline of health risk behaviors/factors for the purposes of documenting public health needs and baselines to assess efficacy of future public health initiatives;
4. To conduct research in a fully confidential manner consistent with the Code of Standards and Ethics promulgated by the Council of American Survey Research Organizations (CASRO).

## **PREPARATION OF THE DATA FOR ANALYSES**

Code sheets were developed for data interpretation, and data entry into an Excel spreadsheet. Protocols were developed for decision making regarding erroneous answers from the participants prior to data cleaning and entry.

Two separate study groups from the Holleran 2005 Hunterdon County BRFSS were used as comparison groups to the 2006 Hunterdon County Department of Health Hispanic sample ("Hunterdon County DOH Hispanic sample", hereafter). These two groups included the Hispanic sample ("Holleran Hispanic sample", hereafter) and the non-Hispanic white sample ("Holleran White sample", hereafter). Prior to conducting these comparisons, all three sample groups were merged into one comprehensive dataset.

Re-coding of the Holleran datasets was necessary to allow for comparisons between the three samples (i.e., Holleran White sample; Holleran Hispanic sample; and the Hunterdon County DOH Hispanic sample). Originally, Holleran used a "weighting system" in their dataset as a method to match the demographics of their data to that of the Hunterdon County's demographics based on the 2000 U.S. Census. Since the Holleran BRFSS had more participation from women, and whites, the men and minorities within this dataset were "weighted" more heavily in order to match with the 2000 census. Since this study used the Hispanics from the Holleran dataset, these weightings needed to be removed. Furthermore, in this study, "inferential statistics" were used to examine gender, ethnicity, and age-group differences, making these weightings unnecessary. Inferential statistics were also used to determine differences

in the responses from participants between the three different samples. Thus, when looking at the aggregate percentages from the Holleran samples in this study, these percentages are likely to be slightly different than those presented in the 2005 Holleran report.

## **SOFTWARE USED IN THE ANALYSES**

Excel datasets were created for the Holleran and the Hunterdon County DOH samples with appropriate recoding to match the range of values within all datasets to allow comparisons. Once compatible datasets were developed, files were imported into a SPSS database (Version 14.0) for analyses by the authors.

## **DATA ANALYSES, STATISTICAL PROCEDURES AND DECISIONS CONDUCTED**

This report consists of results generated for descriptive statistical analyses (frequencies, percentages, means, modes, and standard deviations), and inferential statistical analyses (t-tests, ANOVAs/GLMs, Pearson/Spearman correlations, and Chi-Squares). Duncan post-hoc tests were used for any significant ANOVA/GLM analyses. Due to the numerous analyses conducted in this study, conservative alpha levels (i.e., levels of significance) of  $p \leq .01$  level were considered to be significant. While all significant findings were reported, Excel graphic representations of the significant findings (i.e. figures) were used in situations where the alpha levels were  $p = .005$  or lower. Given the large sample size within this study, a number of significant findings occurred. However, statistical significance at times may not transfer to meaningful significance for the public health planning and decision making. Thus, graphic representation of the findings was provided only in situations where there were clearly visible differences in the values of the independent variables.

All percentages reported were rounded. Tallies of percentages may not equal 100% due to rounding. For each question presented, "*Missing Data*" figures were provided. Examples of missing data include situations when the participant did not answer the question, or answered the question with an inappropriate response (i.e., indicating he/she had "40 days when mental health was not good this month").

## **INDEPENDENT VARIABLES**

Three independent variables or demographic characteristics common to both studies were: 1) ethnicity; 2) gender; and 3) age. With ethnicity, comparisons were made between the Holleran White sample vs. Holleran Hispanic sample vs. the Hunterdon County DOH Hispanic sample. The Holleran Hispanic sample was separated from the Hunterdon County DOH Hispanic sample because the authors felt these two samples represented two very distinct Hispanic groups. The Holleran Hispanic sample was obtained from a telephone list of families receiving health care within one of the group family practices within the county. The Hunterdon County DOH Hispanic sample was obtained by visiting local churches, social service organizations serving low-income clients, and local Hispanic social and civic functions within the county. The continuous

variable “age” was grouped into two levels: a) 18-39 year old younger adults; b) 40 and older middle-aged adults to seniors. While ideally one would want to examine a separate age group of seniors (i.e., 55 years and older), this comparison could not be done due to the low number of seniors who participated in the Hunterdon County DOH Hispanic study.

**DEMOGRAPHIC CHARACTERISTICS OF THE COMBINED  
HOLLERAN AND HUNTERDON COUNTY DEPARTMENT OF HEALTH  
HISPANIC SAMPLES (N=221)**

**Q1. What town do you live in? (n=215)**

**Missing Data= 6**

The majority of participants indicated they lived in Flemington located in Raritan Township (n=124; 57.7%) or Lambertville which is located in West Amwell Township (n=39; 18.1%). According to the US Census 2000 report, Hunterdon County municipalities with the highest percentage of Hispanic/Latinos are Flemington Borough (11.0%) and Union Township (5.1%).

**Table 1: Participants’ Township of Residence**

Hunterdon County Townships	Number of Participants	Percentage of the Sample*	Percentage Hispanic Reported in 2000 US Census <sup>1</sup>
Alexandria Township	2	0.9%	1.7%
Bethlehem Township	0	0.0%	1.6%
Clinton Township	5	2.9%	3.9%
Delaware Township	2	0.9%	1.1%
East Amwell Township	0	0.0%	1.5%
Franklin Township	0	0.0%	2.2%
Holland Township	2	0.9%	1.7%
Kingwood Township	3	1.4%	1.9%
Lebanon Township	5	2.3%	1.7%
Raritan Township**	131	60.9%	2.8%
Readington Township	4	1.9%	2.1%
Tewksbury Township	2	0.9%	1.5%
Union Township	5	2.3%	5.1%
West Amwell Township***	50	23.3%	1.0%
Unknown Location in Hunterdon Co.	3	1.4%	N/A

1: Source: US Bureau of the Census, 2000 Census of Population and Housing; Summary File 1, (SF 1)

\* may not add to 100% due to rounding

\*\* Within Raritan Township is Flemington Boro, which has the highest percentage (11.0%) of Hispanics in Hunterdon County. Many of the participants in the Hunterdon County DOH sample came from Flemington.

\*\*\* Included in this township are 11 participants who indicated their residence as New Hope, PA. These participants were included since these New Hope residents indicated they rotated living in Lambertville, NJ for a portion of the year.



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**Q2. What is your age?**      Average= 31.9    SD= 10.4    Median= 29.0    Mode<sup>1</sup>: 22  
(n= 210)                      Range: 18-75  
Missing data= 11

The average age was higher than the median (50<sup>th</sup> percentile) and the mode (most common age) suggesting that the distribution of ages had a positive skew. That is, the majority of participants were younger than the average age of 32 in this sample. The range of ages was from 18 to 75 years of age.

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<sup>1</sup> Mode is the most common, or most frequent score

From the age variable, the following groups were created:

<b>18-39 years of age</b>	<b>(n= 170; 81.0%)</b>
<b>40-75 years of age</b>	<b>(n= 40; 19.0%)</b>

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**Q3. What is your gender?** (63; 29.9%) Male (148; 70.1%) Female

**(n= 211)**

**Missing Data= 10**

The gender representation within this study was 2.3 women to every man in ratio. Over-representation of women is typically experienced in community-based surveys, where women tend to be more interested in health issues and more likely to complete surveys that ask about health related matters. The inferential statistics performed on this survey allows for comparisons of gender across all relevant questions asked. In situations where only women or men were asked to complete the questions, gender analyses were not performed.

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**Q4. What best describes your current status?**

**(n=205)**

**Missing Data= 16**

(n=102; 47.4%) Married

(n=3; 1.4%) Divorced

(n=2; 1.4%) Widowed

(n=10; 4.7%) Separated

(n=50; 23.3%) Never Been Married

(n=38; 17.7%) Member of an Unmarried Couple

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## Hunterdon County DOH Hispanic Sample Compared with the Holleran Hispanic and Non-Hispanic (White) Samples

### Overall Demographics for All Three Samples

Complete sample characteristics for the Holleran samples can be obtained from the 2005 Hunterdon County Behavior Risk Factor Surveillance System (BRFSS) Study Report. Briefly, the Holleran White sample consisted of 1,045 adult participants and the Holleran Hispanic sample consisted of 55 adult participants. As mentioned above, the Hunterdon County DOH Hispanic sample consisted of 166 adult participants.

Summing the three samples, the total number of participants was 1,266. In total, there were 69.5% women, and 30.5% men. The average age of participants was 51 years, with a median of 50 and a mode of 49 suggesting a bell-shaped distribution with regard to age. The range of ages for all three data sets was 18 to 92 years.

**Q5 & Q6: Participants were asked to indicate their height and weight.**

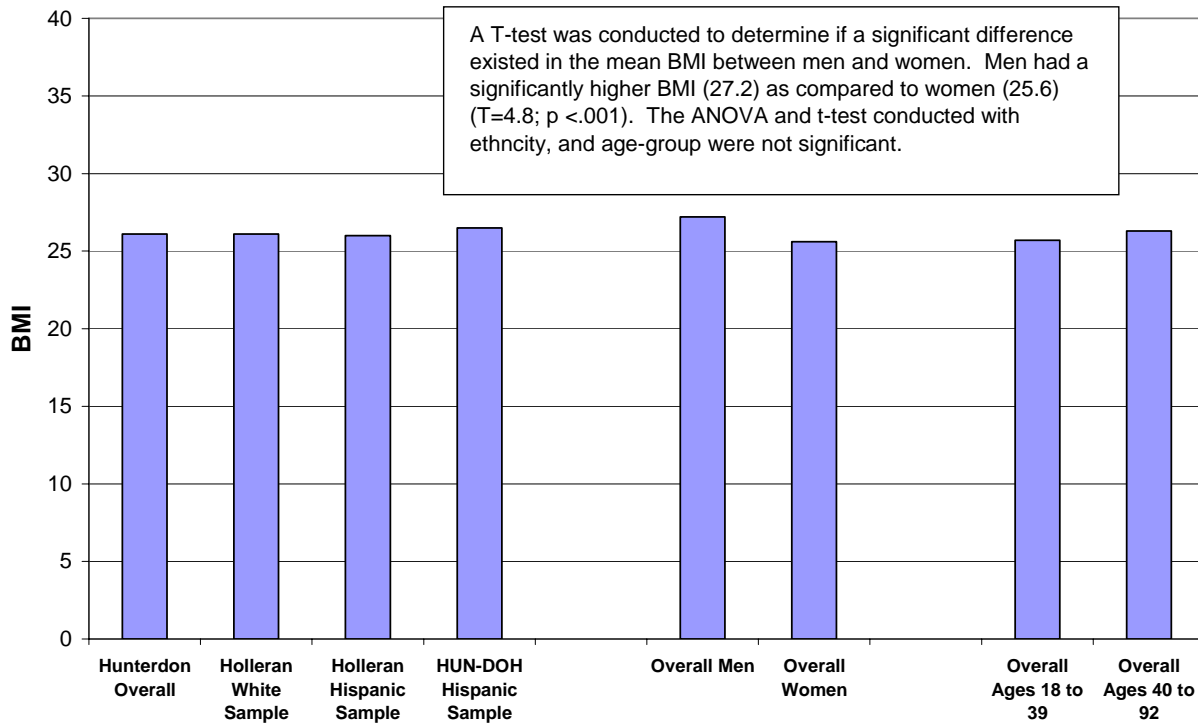
**(These questions were used to determine body mass index).**

**(n= 1,154)**

**Missing Data= 112**

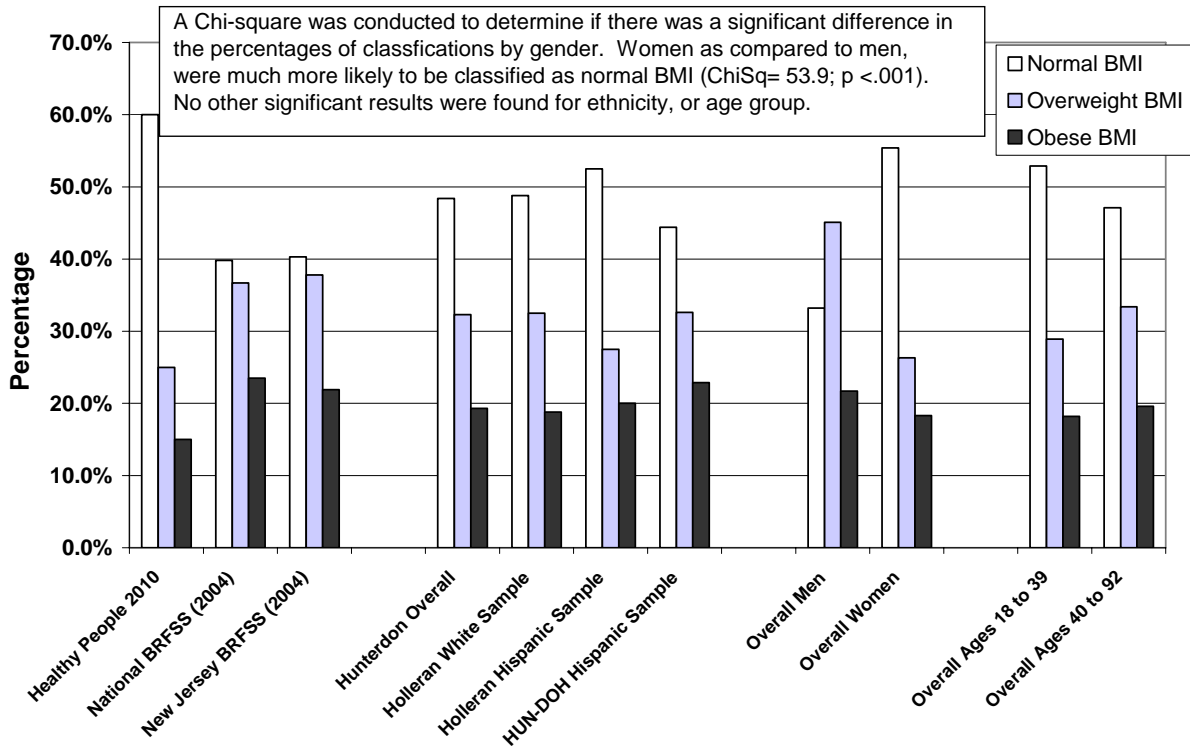
The height and weight figures, along with the gender data above were used to compute a Body Mass Index estimate (BMI, hereafter). BMI measurements that fall within the range of 18.5 to 24.9 are considered to have "**normal weight**". Those BMI that fall in the range of 25.0 to 29.9 are considered to be "**overweight**". Finally, persons with a BMI that are between 30.0 and 34.9 are considered "**obese**", and with any value higher than 35.0 are to be considered "**morbidly obese**". The BMI for the entire sample ranged from 18.3 to 48.1, with a mean 26.4 (SD= 4.9). This finding suggests that as a whole, Hunterdon County residents have an average BMI index that falls within the "overweight range" and are similar to overall averages measured in recent years for New Jersey and the United States. Comparisons were made to determine if there were significant differences in BMI based on ethnicity, gender, and age group. Figure 1 below summarizes the findings overall, and for ethnicity, gender and age-group.

**Figure 1: Average Body Mass Index**



The BMI was then grouped into one of three classifications: Normal (18.5 to 25 BMI); Overweight (25 to 29.9 BMI); and Obese (30 and higher BMI). Comparisons were made to determine if there were significant differences in BMI classifications based on ethnicity, gender, and age group. Figure 2 summarizes the findings overall, and for ethnicity, gender and age-group.

**Figure 2: BMI Classification**

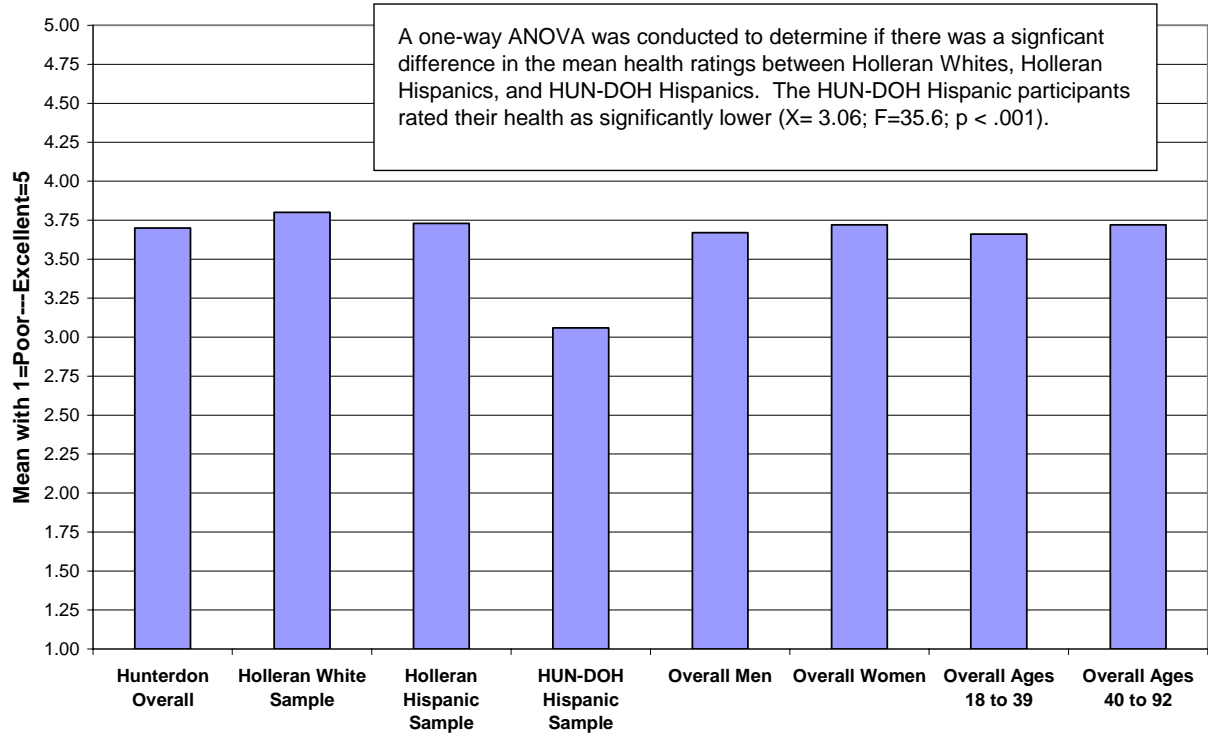


**Q7: In general, how would you rate your health? (n=1,238)**  
**Missing Data=28**

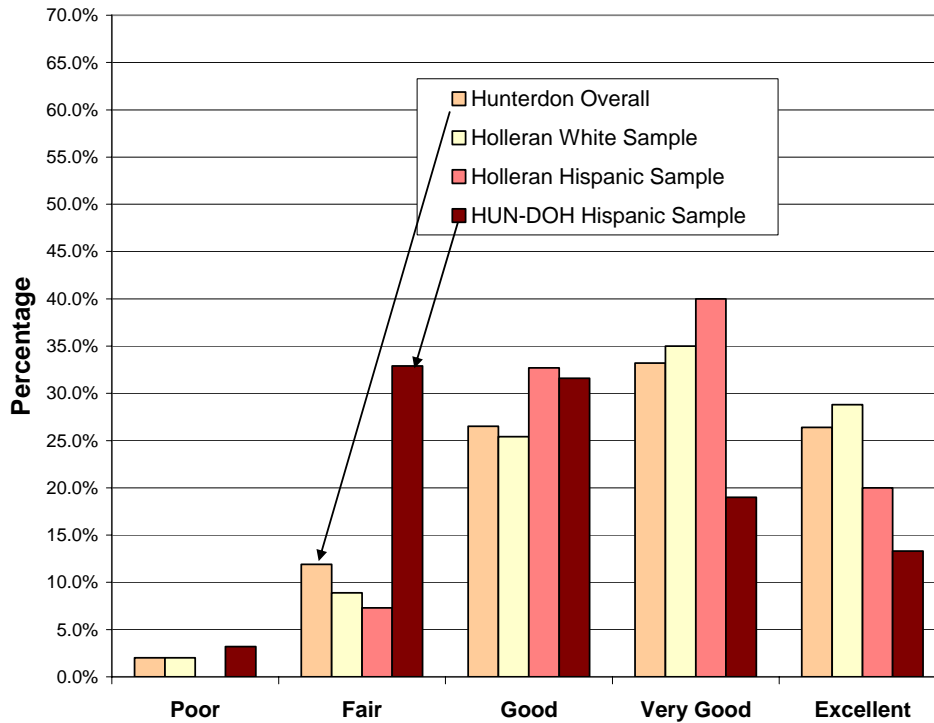
(327; 26.4%)	Excellent (5)
(411; 33.2%)	Very Good (4)
(328; 26.5%)	Good (3)
(147; 11.9%)	Fair (2)
(25; 2.0%)	Poor (1)

Approximately 60% of participants indicated that their health status was very good or excellent. Very few (2.0%) indicated their health status as poor. Inferential statistics were conducted to determine whether there was a significant difference in health status based on: a) ethnicity; b) gender; and c) age-group. The Hunterdon County DOH Hispanic participants rated their health status as significantly lower than all other groups. While few participants within the three samples reported health as being "poor", the Hunterdon County DOH Hispanic sample had a large percentage (32.9%) indicating their health status as "fair". Figures 3 and 4 provide a summary of these analyses.

**Figure 3: In General, How Would You Rate Your Health?**



**Figure 4: Differences in Self-Reported Health Ratings**



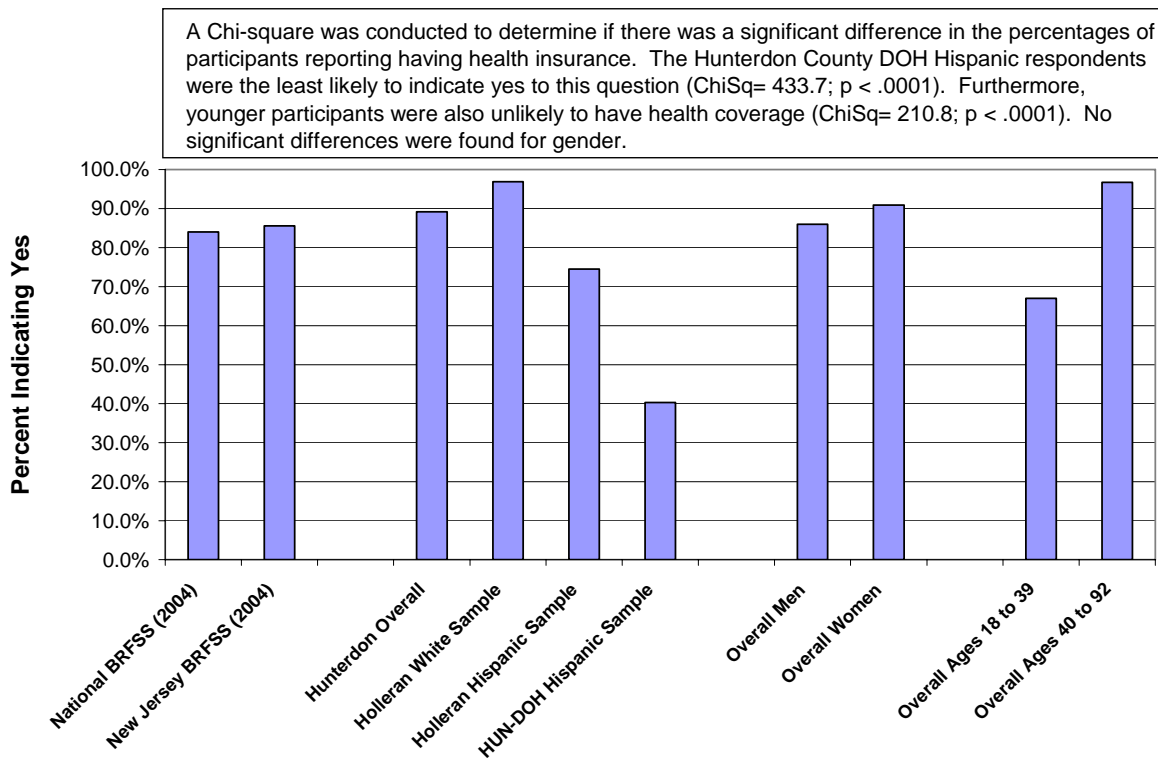
**Q8: Do you have any kind of health care coverage, including health insurance, prepaid plans such as HMOs, or government plans such as Medicare or Medicaid?**

**(n=1,225)**

**Data Missing= 41**

Overall, 89% (n=1,093) of Hunterdon County residents who participated in these surveys reported to have some type of health insurance coverage. Inferential statistics were conducted to determine whether there was a significant difference in health insurance coverage on: a) ethnicity; b) gender; and c) age-group. Approximately 60% of the Hispanics sampled in the Hunterdon County DOH study reported not having health insurance. This finding is largely disparate as compared to the Whites and Hispanics sampled in the Holleran study. In addition, younger Hunterdon County residents in this study reported not having health coverage. Figure 5 provides a summary of the findings.

**Figure 5: Reported to Have Some Form of Health Insurance Coverage**



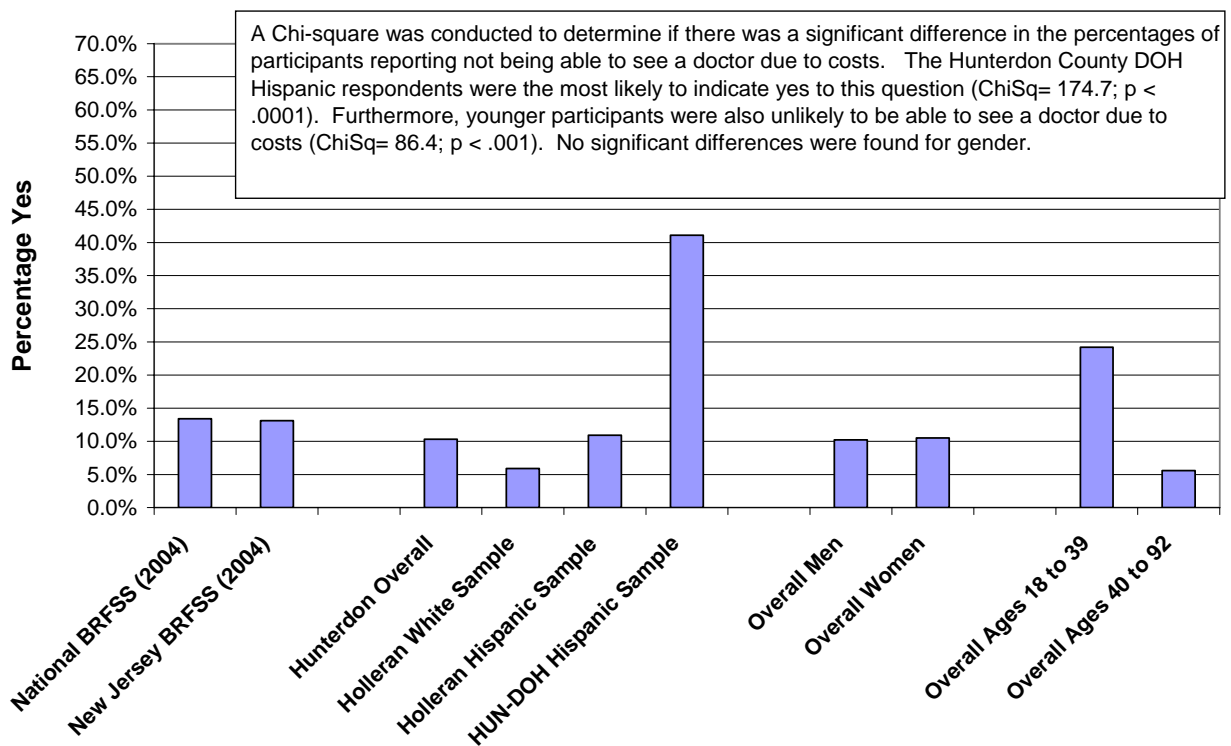
**Q9: Was there a time during the last 12 months when you needed to see a doctor, but could not because of the costs?**

(n=1,229)

Data Missing= 37

Overall, only 10.4% (n=128) of Hunterdon County residents reported not being able to see a doctor within the past 12 months due to costs. Inferential statistics were conducted to determine whether there was a significant difference in response to this question based on: a) ethnicity; b) gender; and c) age-group. Approximately 41% of the Hispanics sampled in the Hunterdon County DOH study reported not being able to see a doctor within the past 12 months due to cost. This finding, similar to question #8, suggests considerable health disparity regarding access to healthcare within the Hispanic sample collected by the Hunterdon County DOH as compared to the Whites and Hispanics sampled in the Holleran study. Furthermore, mirroring Question #8 on health insurance above, about one in four (24.2%) residents aged 18-39 also reported not being able to see a doctor within the past 12 months due to cost. Figure 6 provides a summary of the findings.

**Figure 6: Unable to See a Doctor in Past 12 Months Due to Costs**



An additional correlational analysis was conducted correlating the answers participants provided to Questions 8 and 9. While this analysis does not determine a cause effect relationship, it does provide useful information regarding whether people without health insurance also reported not being able to see a doctor due to the associated costs. The Pearson Chi-Square analysis indicated a significant negative

correlation between the two questions. That is, as participants reported not having health insurance, they also reported yes to not being able to see a doctor due to costs ( $r = -.47$ ;  $p < .001$ ). This correlation is moderately strong, suggesting there are also a few participants who stated they had health insurance, but still could not afford to see a doctor. There may be participants who report having health insurance, but may be “under-insured” (i.e., possess hospitalization coverage, but not major medical; or have health insurance with large deductibles).

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**Q10: When thinking about your mental health, which includes stress, depression and problems with emotions, for how many days during the past thirty (30) days was your mental health NOT good?**

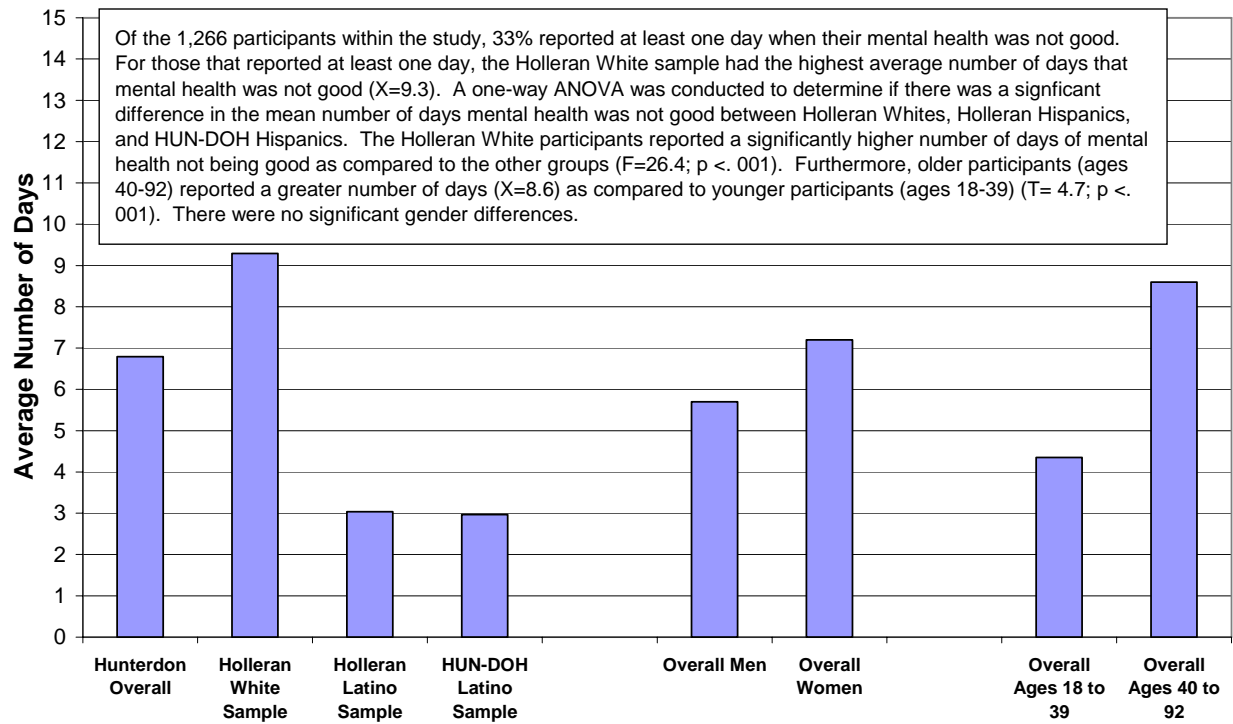
**(n= 414)**

**Missing Data = 852**

Of the 1,266 participants, 852 (67%) indicated either “none”, “don’t know”, or “refused” to answer this question. In the Holleran White sample, only 24% reported at least one day when their mental health was not good. Whereas, in the Holleran Hispanic sample, 98% reported at least one day when their mental health was not good. In the Hunterdon County DOH Hispanic sample, 51% reported at least one day when their mental health was not good.

For those 414 participants reporting at least one day when their mental health was not good, the overall average was 6.8 days (23% of days) per 30 day period (i.e., month), with a range of 1 to 30 days. Inferential statistics were conducted to determine whether there was a significant difference in health status based on: a) ethnicity; b) gender; and c) age-group. The Holleran White sample was less likely to report having at least one day when mental health was not good. However, for those that did report at least one day, the mean was 9.8 days. This average number of days when mental health was not good for the Holleran White participants is significantly higher than the days reported by Hispanics in Hunterdon County. Furthermore, older respondents (ages 40-92) reported a significantly higher number of days as compared to younger respondents (ages 18-39). Figure 7 provides a summary of the findings.

**Figure 7: Number of Days Mental Health Was Not Good**



**Q11: Is there one particular clinic, health center, doctor’s office, or other place that you usually go to if you are sick or need advice about your health?**

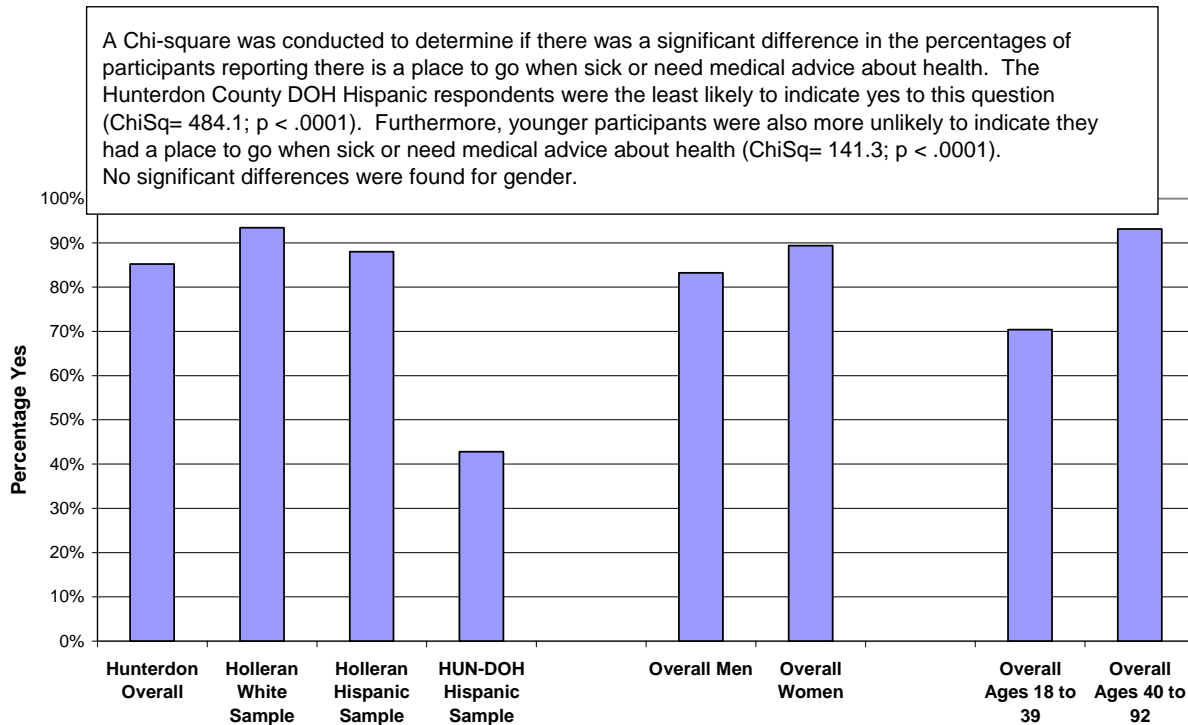
**(n=1,210)**

**Missing Data= 56**

Overall, 87% (n=1,058) indicated “yes” to this question. Only 8.4% (n=102) stated “no”, with another 4.1% (n= 50) responding with a “don’t know”. Inferential statistics were conducted to determine whether there was a significant difference in health status based on: a) ethnicity; b) gender; and c) age-group. The results of these analyses mirror the findings for healthcare access questions 8 and 9. Almost one in three (29.6%) residents aged 18-39 also reported not having a place to go when sick or need medical advice about health. These findings mirror Question 8 on health insurance. The results here further suggests healthcare access disparity within the Hispanic sample collected by the Hunterdon County DOH. Figure 8 provides a summary of the findings.



**Figure 8: Is There One Particular Clinic, Health Center, Doctor's Office, etc. that You Usually Go to...**



An additional correlational analysis was conducted correlating the answers participants provided to Question #8. While this analysis does not determine a cause effect relationship, it does provide useful information regarding whether people without health insurance also reported not being able to have a place to go when sick or need medical advice about health. The Pearson Chi-Square analysis indicated a significant negative correlation between the two questions. That is, as participants reported not having health insurance, they were more likely to report not having a place to go when sick or need medical advice about health ( $r = .53$ ;  $p < .001$ ).

**Q11A: If yes, what kind of place is it?**

**(n=1,068)**

**Missing Data= 142**

For those that answered yes to Question 11 above, the majority of participants indicated they went to a doctor's office or HMO (n=864; 80.9%). Below is a summary of the frequencies and percentages to this question. Inferential statistics were not performed due to the small frequencies in each category as presented below.

- |                |                                  |
|----------------|----------------------------------|
| (n=864; 80.9%) | A doctor's office or HMO         |
| (n=165; 15.4%) | A clinic or health center        |
| (n=22; 2.1%)   | A hospital outpatient department |
| (n=8; 0.7%)    | A hospital emergency room        |
| (n=0; 0.0%)    | An urgent care center            |
| (n=9; 0.8%)    | Other place                      |

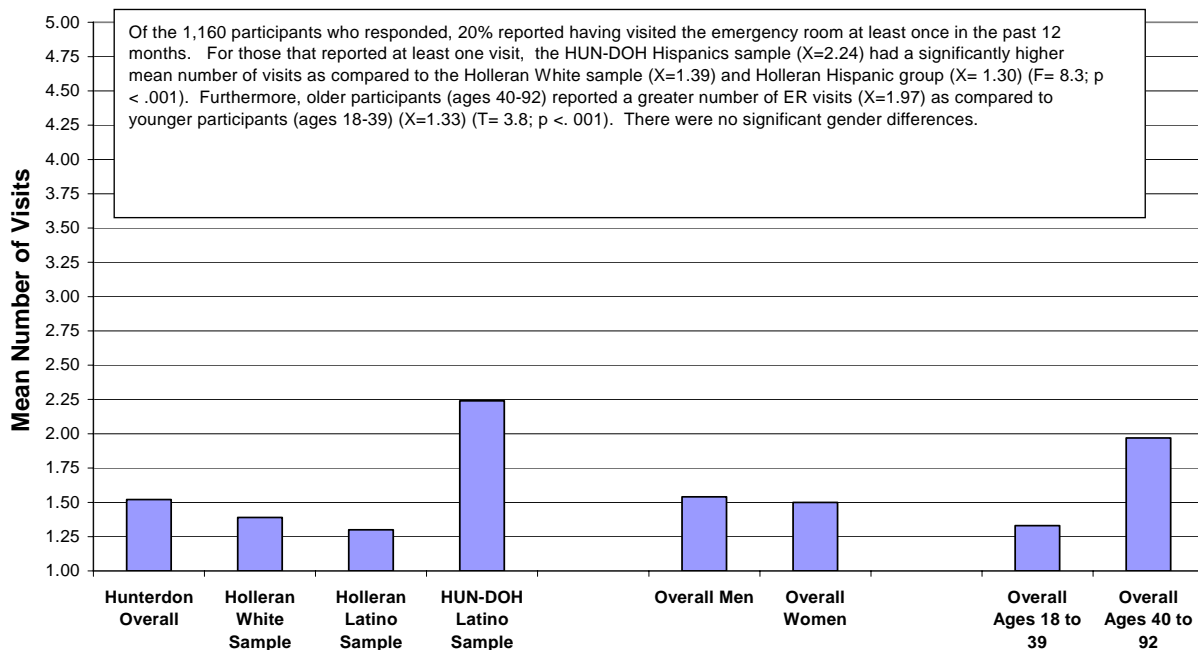
**Q12: In the last 12 months, how many times did you go to an emergency room to get care for yourself?**

**(n= 1,160)**

**Missing Data= 106**

Approximately 20% (n=234) of respondents reported having gone to the emergency room in the past year. The mean number of emergency room visits for this group was 1.52 (SD=1.2) with a range from 1 to 12 visits. Inferential statistics were conducted to determine whether there was a significant difference in mean number of emergency room visits based on: a) ethnicity; b) gender; and c) age-group. The Hunterdon County DOH Hispanic sample had a significantly higher number of emergency room visits (X=2.24; SD=1.54) as compared to the Holleran White (X=1.39; SD= 1.13) and the Holleran Hispanic samples (X= 1.30; SD= .80). Furthermore, the younger participants (ages 18-39) also reported significantly less ER visits when compared to those aged 40-92. There were no gender differences in ER visits. Figure 9 below summarizes these findings.

**Figure 9: Average Number of Emergency Room Visits in Last 12 Months (for those reporting having gone to the ER)**



**Q13: When you go outside on a sunny summer day for more than one hour, how often do you use sunscreen or sun block?**

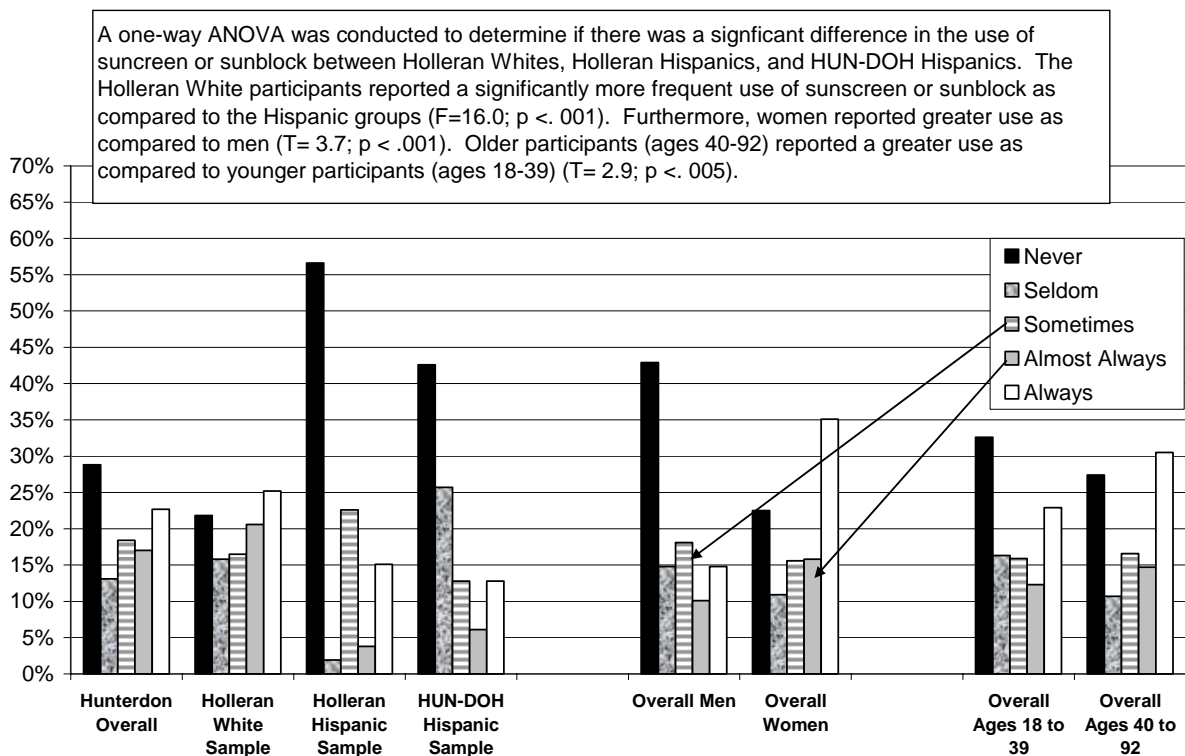
**(n= 1,162)**

**Missing Data= 104**

Never (0 times)	n=335;	28.8%
Seldom (about 1 to 3 times out of 10 times)	n=152;	13.1%
Sometimes (about 4 to 6 times out of 10 times)	n=214;	18.4%
Almost Always (about 7 to 9 times out of 10 times)	n=197;	17.0%
Always (about 10 times out of 10 times)	n=264;	22.7%

Overall, approximately 29% (n=335) of the participants reported never using sunscreen. Inferential statistics were conducted to determine whether there was a significant difference in the use of sunscreen and/or sun block based on: a) ethnicity; b) gender; and c) age-group. Regarding ethnicity differences, the Holleran White participants' use of sunscreen and/or sun block was significantly higher than the Hispanic samples. Females within the county use sunscreen and/or sun block more so than men. There were no significant differences in sunscreen and/or sun block based on age. Figure 10 summarizes these findings.

**Figure 10: How Often Sunscreen or Sun Block is Used on a Sunny Day**

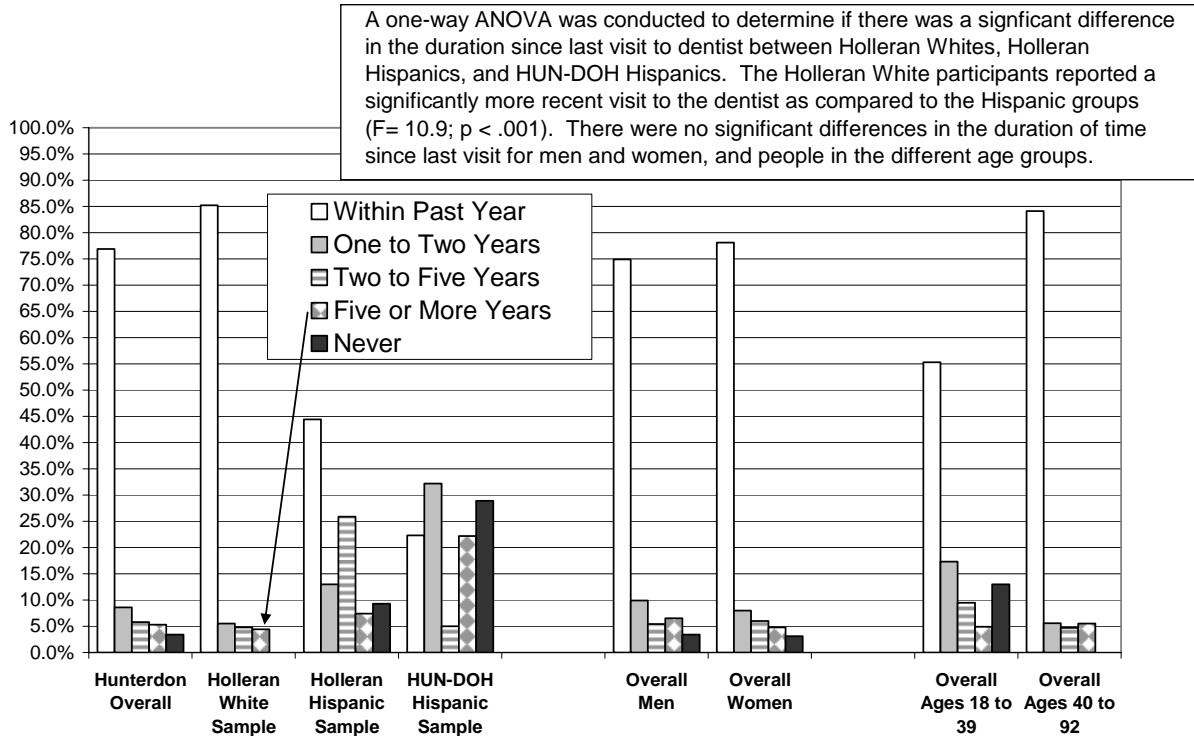


**Q14: How long has it been since you last visited a dentist or a dental clinic for any reason? Include visits to a dental specialist, such as an orthodontist.**

**(n=1,188)**  
**Missing Data= 78**

Overall, approximately 77% (n= 914) of participants indicated they had visited a dentist or dental clinic within the past year. Inferential statistics were conducted to determine whether there was a significant difference in the duration of time since the last visit to the dentist/dental clinic based on: a) ethnicity; b) gender; and c) age-group. Hispanic participants reported a significantly longer period of time since most recent visit. The analyses revealed no significant differences in duration since last visit between men and women, and between age-groups. Figure 11 provides a graphic summary of the findings.

**Figure 11: Duration of Time Since Last Visit to a Dentist or Dental Clinic**



**Q15: What is the main reason you have not visited the dentist in the last year?**

**(n=289)**

**Missing Data= 977**

n=132;	45.7%	Cost
n=45;	15.6%	No reason to go (no problems)
n=28;	9.7%	No reason to go (no teeth)
n=24;	8.3%	Fear, apprehension, nervousness, pain, dislike going
n=18;	6.2%	Other priorities
n=14;	4.8%	Do not have/know a dentist
n=13	4.5%	Other reasons
n=9;	3.1%	Have not thought of it
n=4;	1.4%	Cannot get to the office/clinic (too far away, no transportation)
n=2;	0.7%	No appointments available
n=0	0.0%	Don't know/Not sure

As can be seen by the frequency counts above, "cost" accounted for almost 50% (half) of the participants' reasons for not visiting a dentist. "Cost" was the primary reason for approximately 46% of the Hispanic participants completing the survey.

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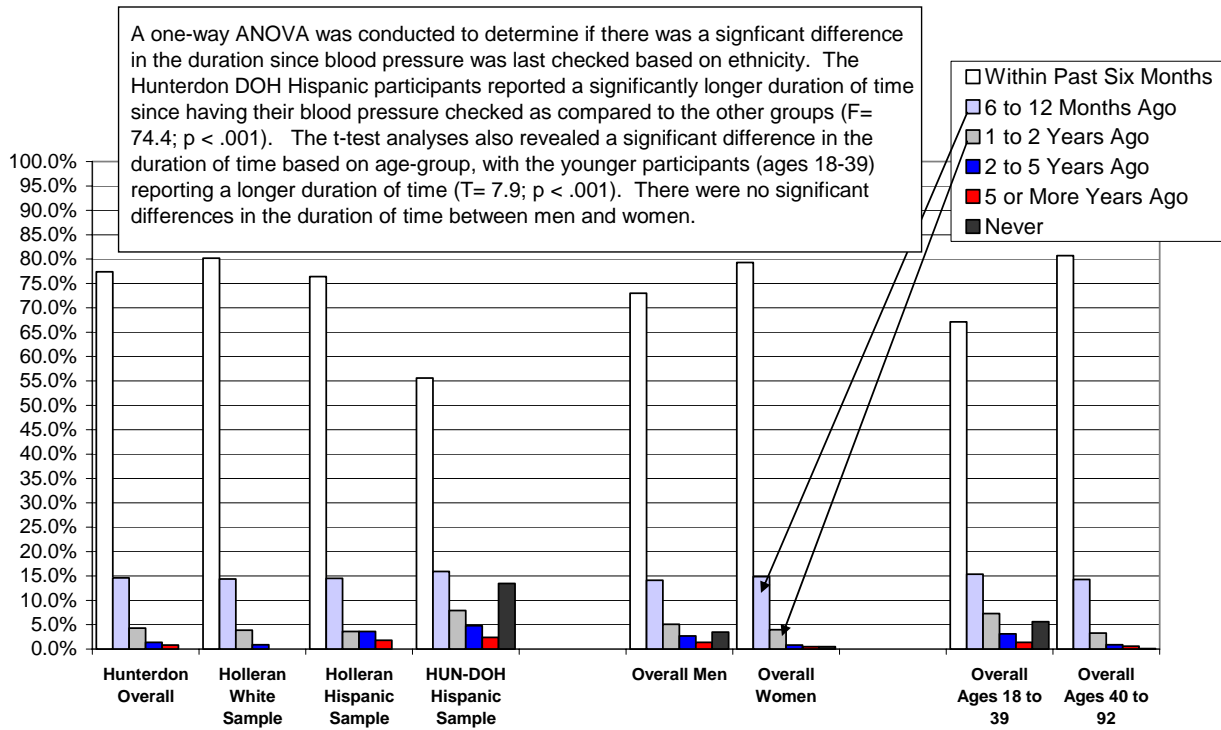
**Q16: About how long has it been since you last had your blood pressure taken by a doctor, nurse, or other health professional?**

**(n= 1,199)**

**Missing Data= 67**

Overall, approximately 77% (n= 928) of participants indicated they had their blood pressure checked within the past six months. Inferential statistics were conducted to determine whether there was a significant difference in the duration of time since blood pressure was checked based on: a) ethnicity; b) gender; and c) age-group. Hunterdon DOH Hispanic participants reported a significantly longer period of time since they had their blood pressure checked as compared to Holleran Whites and Hispanics. Further analyses revealed younger participants also reported a significantly longer duration of time. The analyses revealed no significant differences in duration between men and women. Figure 12 provides a graphic summary of the findings.

**Figure 12: Duration of Time Since Blood Pressure Checked**



**16A. Have you ever been told by a doctor, nurse, or other health professional that you have high blood pressure?**

(n=1,164)

Missing Data= 102

For those that had their blood pressure checked, 21.1% reported they were told their blood pressure was high overall. Another 7.8% of women were told they had high blood pressure only during their pregnancy. Inferential statistics were conducted to determine whether there was a significant difference in the frequency of reported high blood pressure based on: a) ethnicity; b) gender; and c) age-group. There were no significant differences regarding ethnicity. As expected, 25.4% older participants (ages 40-92) reported significantly more high blood pressure as compared to 5.8% of younger participants (age 18-39) ( $\text{ChiSq}=72.3$ ;  $p < .001$ ). Men (25.7%) had a higher frequency of high blood pressure as compared to women (19.2%).

**Q17: Have you ever been told by a doctor that you have diabetes?**

**(n=1,185)**

**Missing Data= 81**

Overall, 6.3% (n=75) of the participants indicated a doctor had told them they had diabetes. Another 4.2% (n=34) reported to have been diagnosed with gestational diabetes (i.e., diabetes during pregnancy). Of the Hunterdon County DOH Hispanic sample, only 6.7% (n=5) of those completing this question stated they had diabetes. Inferential statistics were conducted to determine whether there was a significant difference in the frequency of reported diabetes based on: a) ethnicity; b) gender; and c) age-group. There were no significant differences regarding ethnicity and gender. As expected, diabetes was significantly higher in the older age group (ages 40-92) with 7.9% having diabetes compared to only 1.1% in the younger age group (ages 18-39) (ChiSq= 18.6;  $p < .001$ ).

**Q17A: About how often do you check your blood for glucose or sugar?**

This question was dropped from the inferential analyses due to only seven (n=7) participants completing this question on the Hunterdon County Hispanic DOH survey.

**Q17B: About how many times in the past 12 months have you seen a doctor, nurse, or other health professional for your diabetes?**

This question was dropped from the analyses as 32 participants from the Hunterdon County Hispanic DOH sample completed this question, even though only five stated they had diabetes.

---

**Q18: During the past 12 months, have you had a flu shot?**

**(n= 1,216)**

**Missing Data= 50**

Overall, 29.3% of the participants reported having had a flu shot in the past 12 months. When looking at the Hunterdon County DOH Hispanic sample, 21.4% reported having had a flu shot. The Holleran Hispanic sample had the lowest percentage with only 16.4% reporting to have had a flu shot in the past year. Inferential statistics were conducted to determine whether there was a significant difference in the frequency of reported flu shots based on: a) ethnicity; b) gender; and c) age-group. Surprisingly, there were no significant differences in flu shots obtained based on ethnicity, gender, and even age group. For the younger age group (18-39 years), 24% reported having had a flu shot; whereas, in the older age group (40-92 years), 31% reported having had a flu shot.

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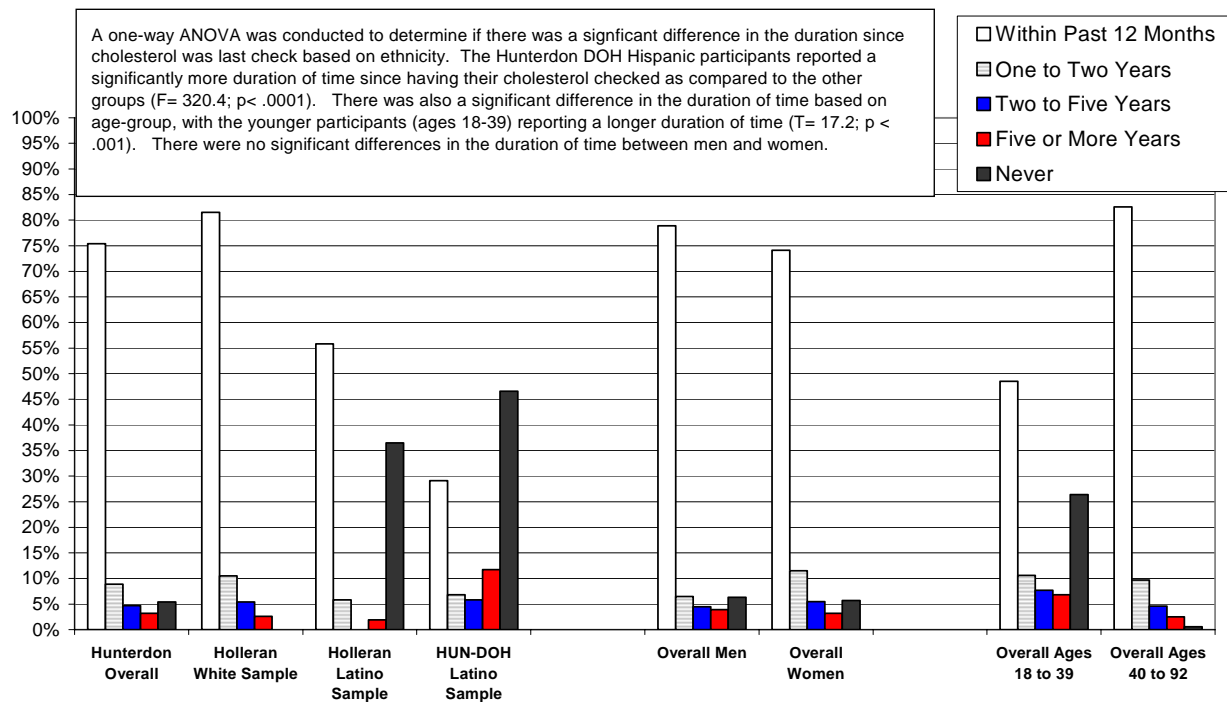
**Q19: About how long has it been since you last had your blood cholesterol checked?**

**(n= 1,115)**

**Missing Data= 151**

Overall, 75.4% (n=841) indicated that they had their cholesterol checked within the past year. Inferential statistics were conducted to determine whether there was a significant difference in the duration of time since cholesterol had been checked based on: a) ethnicity; b) gender; and c) age-group. The Holleran White participants (81.5%) were much more likely to report having their cholesterol checked within the past year as compared to the Holleran Hispanic participants (55.8%), and the Hunterdon County DOH sample (29.1%) (F= 320.4; p< .0001). Not surprisingly, 82.6% of older participants (ages 40-92) had their cholesterol checked within the past year as compared to 48.5% of younger participants (ages 18-39) (T= 17.2; p < .001). The analyses revealed no gender differences. Figure 13 below provides a summary of the findings.

**Figure 13: Duration of Time Since Cholesterol Has Been Checked**



**Q19A: Have you ever been told by a doctor or other health professional that your blood cholesterol is high?**

**(n= 1,069)**

**Missing Data= 197**

Overall, approximately 29% (n=308) of the participants reported that they had high cholesterol. Inferential statistics were conducted to determine whether there was a



significant difference in whether participants who had high cholesterol based on: a) ethnicity; b) gender; and c) age-group. Age played a significant role in having high cholesterol, with 31% of the older participants (ages 40-92) versus 16% of the younger participants (ages 18-39) reporting high cholesterol (ChiSq= 18.5;  $p < .001$ ). No significant differences were found for ethnicity and gender.

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**Q20: Have you smoked at least 100 cigarettes in your entire lifetime? <sup>2</sup>**

**(n=119)**

**Missing Data= 41**

This question was only used in the Hunterdon County DOH Hispanic survey. Of those completing this question, 26.9% (n=32) indicated they have smoked 100 cigarettes in their lifetime. Chi-square analyses were conducted to determine if there are gender and/or age group differences in lifetime cigarette use. While there were no age group differences, 63.2% of men indicated lifetime smoking compared to only 8.9% of women (ChiSq= 38.8;  $p < .001$ ).

**Q20A: Do you now smoke cigarettes everyday, some days, or not at all?**

**(n= 1,136)**

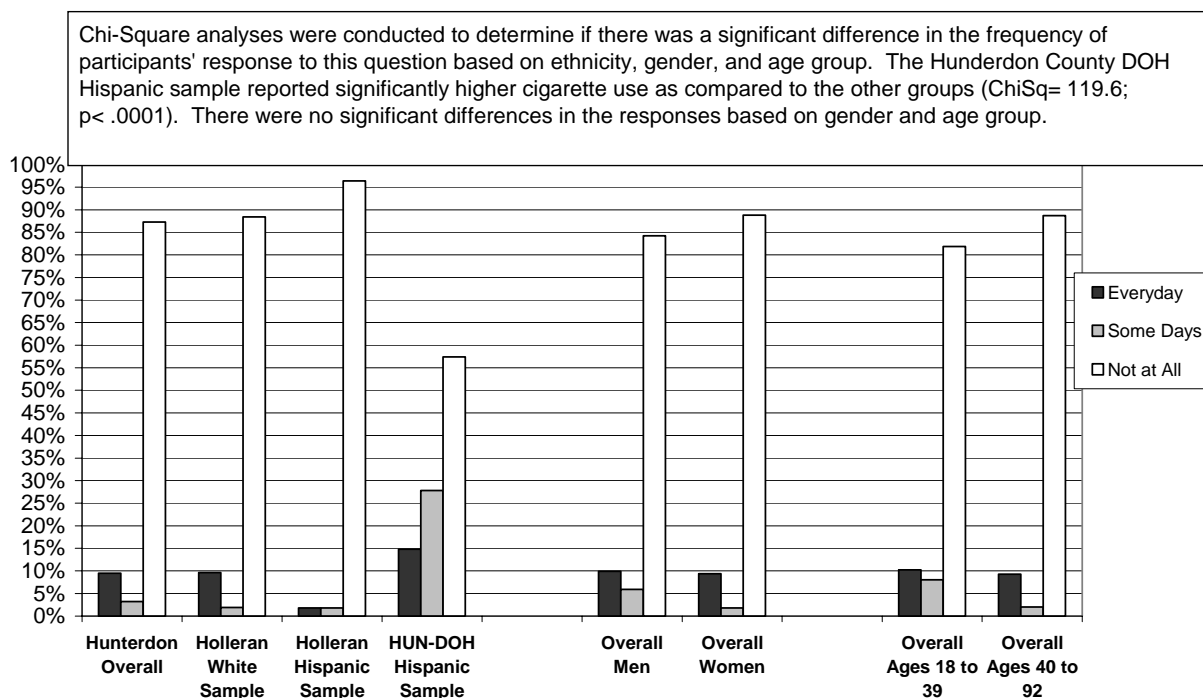
**Missing Data= 130**

Overall, only 9.5% (n=108) of the participants reported to smoke daily, with another 3.2% (n=36) indicating they smoked some days. Inferential statistics were conducted to determine whether there was a significant difference in the frequency of smoking based on: a) ethnicity; b) gender; and c) age-group. There was a significant difference in smoking with regard to ethnicity. In the Hunterdon County DOH Hispanic sample, 14.8% reported to smoke daily, and another 27.8% indicating they smoked some days. In comparison, only 1.8% of the Holleran Hispanic sample, and 9.6% of the Holleran White sample reported to smoke daily. Furthermore, only 1.8% of the Holleran Hispanic sample, and 1.9% of the Holleran White Sample indicated smoking some days. There were very little gender differences in the overall study, with 9.9% of men reporting they smoked daily, compared to 9.4% of women. With occasional smoking (some days), 5.9% of men and only 1.8% of women reported this behavior. There was also very little differences in smoking between age-groups. Of the younger participants (ages 18-39), 10.2% indicated smoking daily compared to 9.3% of the older participants (ages 40-92). Regarding occasional smoking, 8% of the younger participants and 2% of the older participants reported smoking some days. Figure 14 provides a summary of these findings.

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<sup>2</sup> This question is used by the federal and state governments as an operational definition of smoking.

**Figure 14: Do You Now Smoke Cigarettes Everyday, Some Days, or Not at All**



**Q20B: On the average, when you smoked during the past 30 days, about how many cigarettes did you smoke a day?**

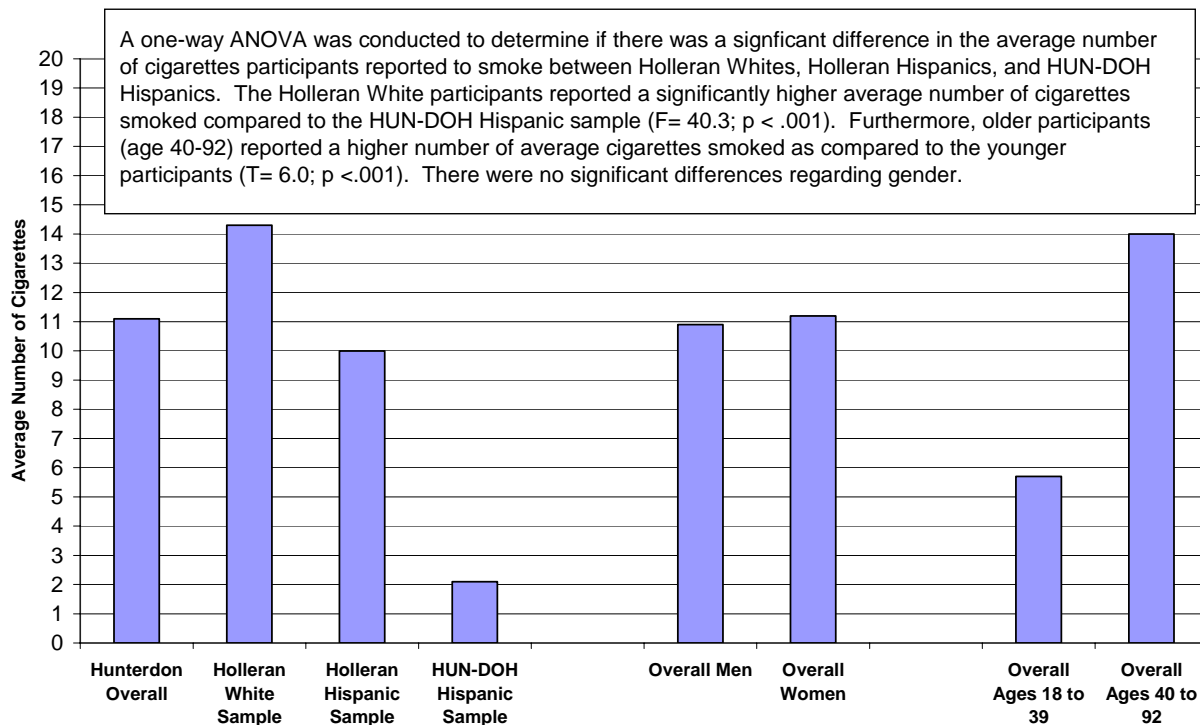
(n= 1, 085)

Missing Data= 181

Overall, the average number of cigarettes smoked was 11.1 (SD= 9.1) per day. The range of smoking in this study was from 0 to 40 (2 packs) cigarettes a day. There was a bimodal distribution<sup>3</sup>, with the most common number of cigarettes smoked daily being 10 (1/2 pack) and 20 (1 pack) cigarettes. Inferential statistics were conducted to determine whether there was a significant difference in the number of cigarettes smoked based on: a) ethnicity; b) gender; and c) age-group. Those older participants (age 40-92) reported a significantly higher average number of cigarettes smoked daily as compared to the younger participants (ages 18-39). An additional analyses was conducted that looked at the correlation between age and the average number of cigarettes smoked per day. The correlation was significant ( $r=.40$ ;  $p < .001$ ) indicating that the amount of cigarettes smoked daily increases as age increases. Regarding ethnicity, the Holleran White sample reported a significantly higher average number of cigarettes smoked per day compared to the other groups. Thus, while the Hunterdon County DOH Hispanic sample had a higher percentage of smokers, when they smoke, they smoke significantly less cigarettes. Figure 15 provides a summary of these findings. These analyses revealed no significant differences with regard to gender.

<sup>3</sup> A bi-modal distribution is where there are two most common values or scores in a distribution.

**Figure 15: Average Number of Cigarettes Smoked Daily in the Last Month**



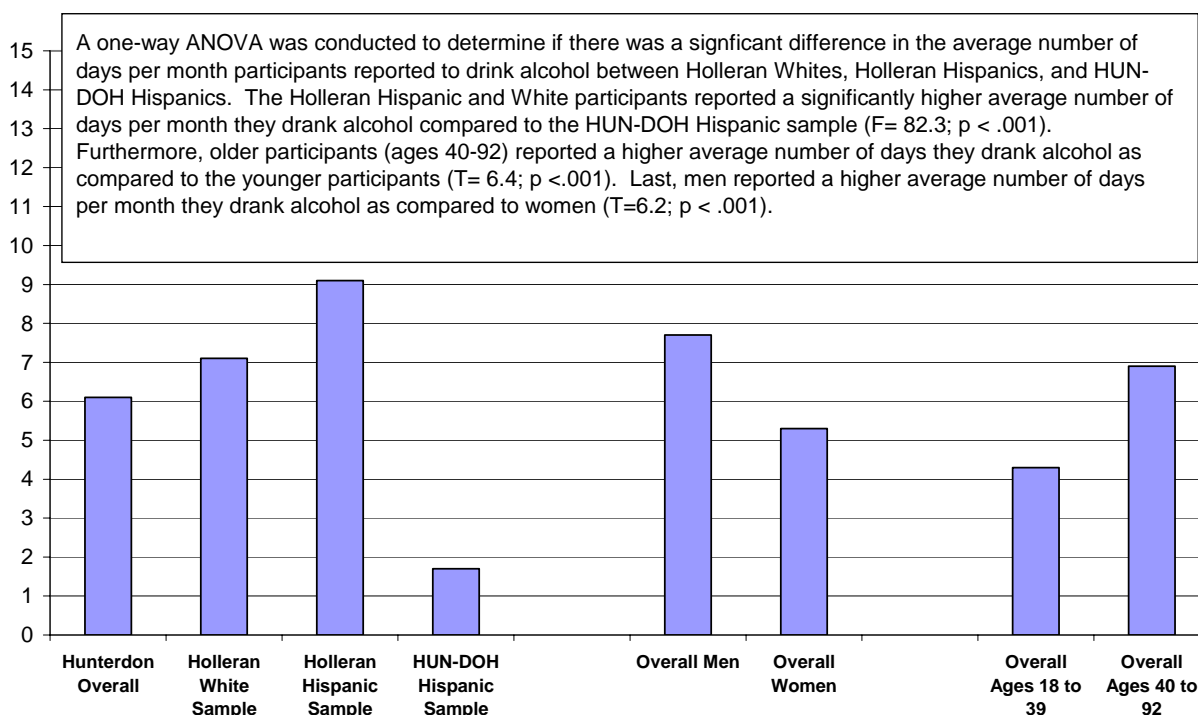
**Q21: During the past 30 days, how many days per week or per month did you drink any alcoholic beverages on the average?**

**(n=628)**

**Missing Data= 638**

With this question, all responses were converted into “the number of days per month”. Note that almost half of the participants did not answer this question, primarily because they do not drink alcohol. There were a few participants that stated they drank alcohol, but did not indicate the average number of alcoholic beverages consumed. Overall, the average number of days participants drank alcohol was 6.1 days (SD= 4.6). The range was 0 to 30 days, with the mode (most common response) being 4 (n=249) or approximately one day per week. Inferential statistics were conducted to determine whether there was a significant difference in the number of days people drank alcohol on: a) ethnicity; b) gender; and c) age-group. Regarding ethnicity, the Holleran Hispanic sample, and the Holleran White sample reported significantly higher average number of days as compared to the Hunterdon County DOH Hispanic sample. In addition, men and older participants (ages 40-92) reported significantly higher average number of days as compared to women, and younger participants respectively. Figure 16 below provides a summary of the results.

**Figure 16: Average Number of Days Per Month Participants Reported Drinking Alcohol**



## Women's Health Issues

**Q22: A mammogram is an x-ray of each breast to look for breast cancer. Have you ever had a mammogram?**

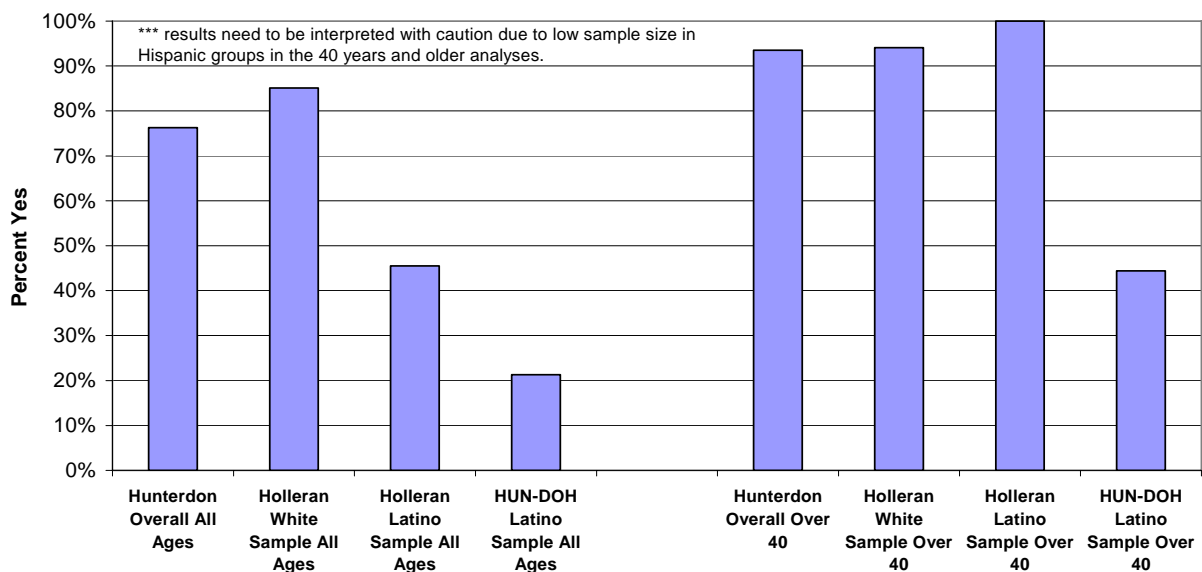
**(n= 836) Women of all ages**  
**Missing data= 24**

**(n= 618) Women 40 years of age and older**  
**Missing Data= 9**

Overall, 76.3% (n=638) of women of all ages in this study reported having had a mammogram. When looking at women aged 40 years and older, 93.5% (n=578) reported having had a mammogram. Inferential statistics were conducted to determine whether there was a significant difference in the frequency of having a mammography based on ethnicity. This analysis was done for: a) women of all ages; and b) women 40 years and older. When looking at women of all ages, the Holleran White sample were much more likely to report having had a mammography as compared to both Hispanic groups. Women 40 and older in the Holleran White sample and Holleran Hispanic sample had a significantly higher frequency of having had a mammography as compared to women in the Hunterdon County DOH Hispanic sample. *(It should be noted that there were very few women over the age of 39 in both Hispanic groups {n=21}).* Figure 17 provides a summary of these findings.

**Figure 17: Have You Ever Had a Mammogram?**

Chi-Square analyses were conducted to determine if there was a significant difference in the frequency of participants' response to this question based on ethnicity. The Hunderdon County DOH Hispanic sample reported a significantly lower percentage of mammographies obtained compared to the other groups (ChiSq= 388.1; p< .0001 for all ages ChiSq=37.0; p < .001 for women 40 and older\*\*\*).



**Q22A: How long has it been since you had your last mammogram?**

**(n= 637) Women of all ages**

**Missing data= 24**

**(n= 577) Women 40 years of age and older**

**Missing Data= 50**

Overall, of those women who have had a mammogram, 72.4% did so within the past year. For women aged 40 and older, 74.6% had a mammogram in the past year. Approximately 8% of women over the age of 39 have not had a mammography within the last three years. Due to the low number of Hispanic women over the age of 39 in this study, along with few Hispanic women answering this question (n=17), further analyses was not conducted as the statistical findings would not be reliable.

**Q23: Breast self-examination is when you check your breasts for lumps. Were you ever taught how to do a breast self-exam?**

**(n=791) Women of all ages**

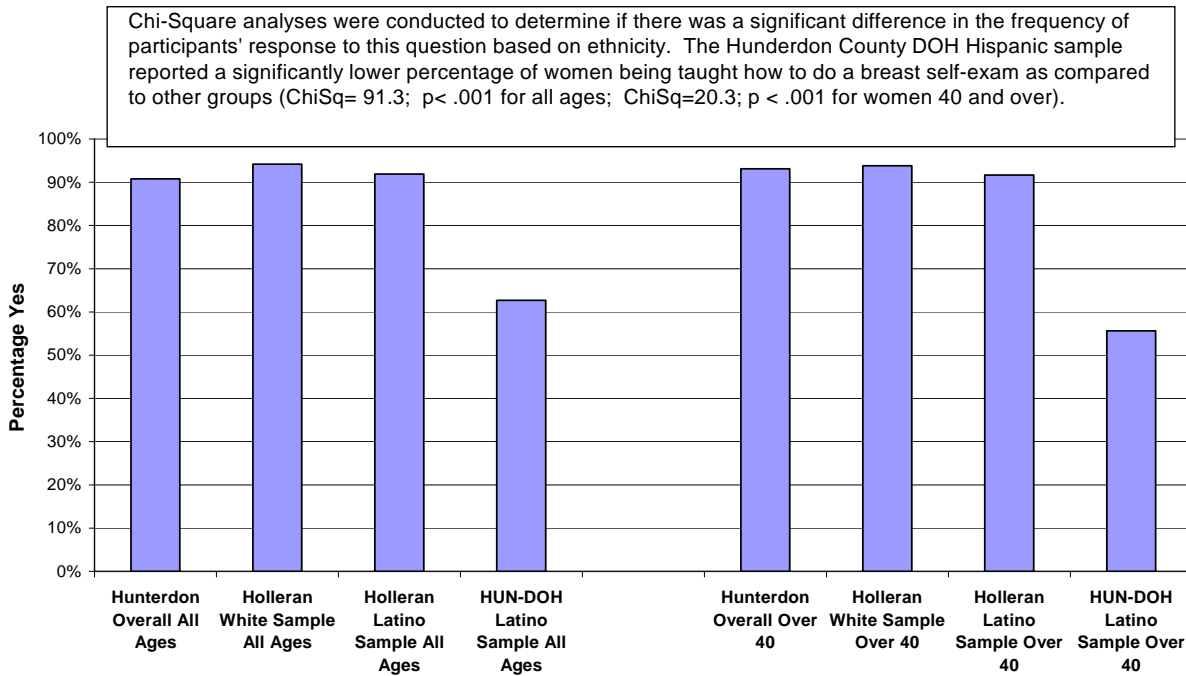
**Missing data= 69**

**(n=583) Women 40 years of age and older**

**Missing Data= 44**

Overall, 91% of women reported they were taught how to do a breast self exam. For women aged 40 and older, 93.1% stated they had been taught compared to 84.2% for women aged 18-39. In looking at ethnicity differences, women in the Holleran White (94%) and Hispanic samples (92%) had a significantly higher percentage of women reporting being taught this skill as compared to women in the Hunterdon County DOH Hispanic sample (63%). Figure 18 provides a summary of these findings.

**Figure 18: Were You Ever Taught How to Do a Breast Self-Exam?**



## Fruits and Vegetables Consumption

**Q24: In an average day, how often do you eat fresh, canned, or frozen fruit?**

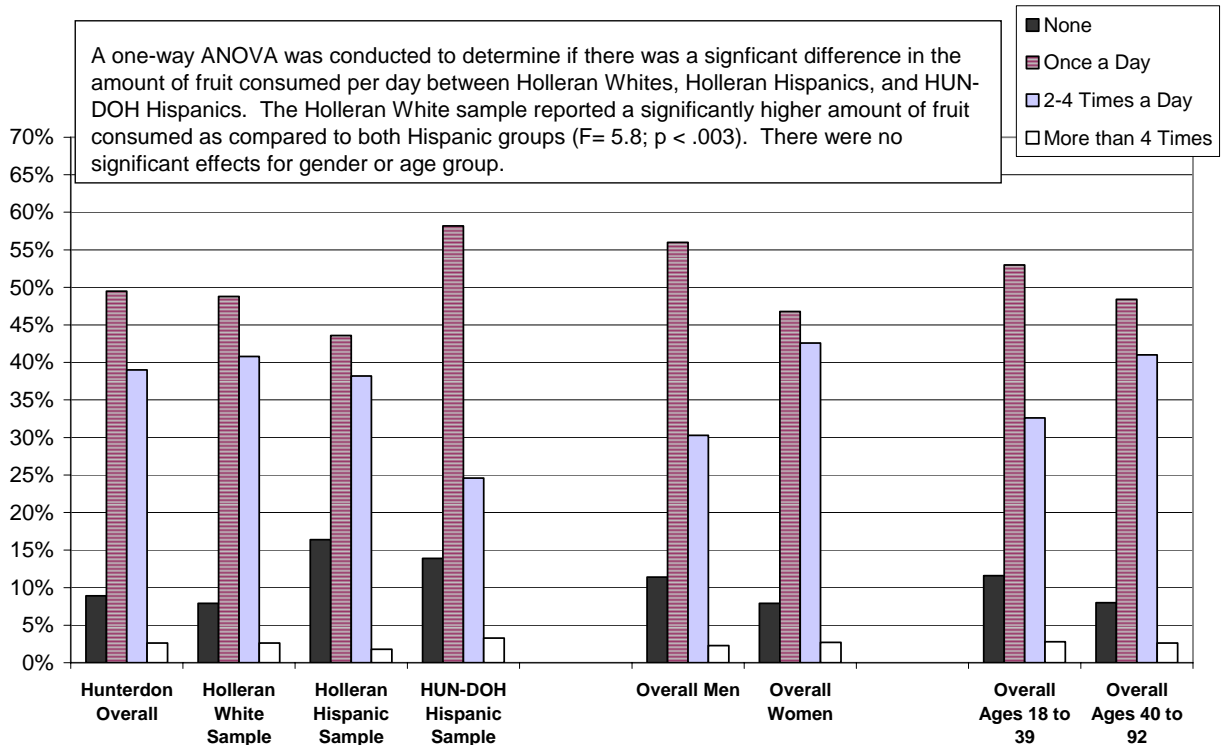
**(n= 1,190)**

**Missing Data= 76**

Overall, about one-half (49.5%) of the participants in this study eat some type of fruit once a day. Another 39% report they eat fruit 2-4 times per day. Inferential statistics were conducted to determine whether there was a significant difference in the amount of fruit participants consume daily based on: a) ethnicity; b) gender; and c) age-group. Significant differences in fruit consumption occurred based on ethnicity. The Holleran White sample reported significantly more fruit consumption daily as compared to both Hispanic groups. With regards to gender, women reported slightly more consumption of fruit as compared to men. Last, older participants (ages 40-92) also reported eating

slightly more fruit as compared to younger participants. Figure 19 provides a summary of these results.

**Figure 19: In an Average Day, How Often Do You Eat Fruit?**

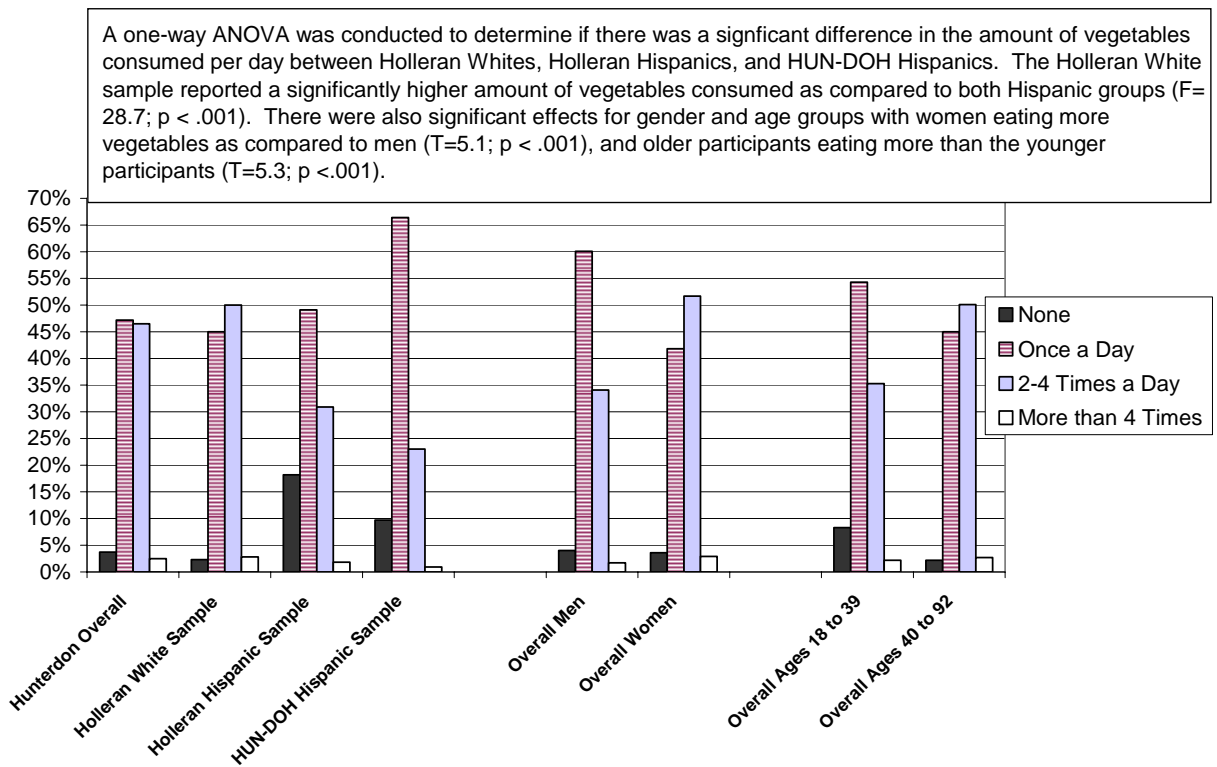


**Q25: In an average day, how often do you eat fresh, canned, or frozen vegetables?**

**(n= 1,180)**  
**Missing Data= 86**

Overall, almost one-half (47.2%) of the participants in this study eat vegetables once a day. Another 44.2% report they eat vegetables 2-4 times per day. Inferential statistics were conducted to determine whether there was a significant difference in the amount of vegetables participants consume daily based on: a) ethnicity; b) gender; and c) age-group. Significant differences in vegetable consumption occurred based on ethnicity. The Holleran White sample reported significantly more vegetables consumed daily as compared to both Hispanic groups. With regards to gender, women reported significantly more consumption of vegetables as compared to men. Last, older participants (ages 40-92) also reported to eat significantly more vegetables as compared to younger participants. Figure 20 provides a summary of these results.

**Figure 20: In an Average Day, How Often Do You Eat Vegetables?**



**Colorectal Screening Questions (for those aged 50 years and over)**

**Q26: A blood stool test is a test that may use a special kit at home to determine whether the stool contains blood. Have you ever had this test using a home kit?**

**(n= 620) Participants 50 and older**  
**Missing Data= 12**

Overall, almost one-half (48.9%) of participants aged 50 years and older reported they have had a blood stool test. Regarding gender, men (51.1%) were slightly more likely to report having had this test as compared to women (47.6%). With regards to ethnicity, only ten (n=10) Hispanics completed this question, making cross-tabulations and chi-squares not possible.

**Q27: A sigmoidoscopy or colonoscopy is when a tube is inserted in the rectum to view the bowel for signs of cancer and other health problems. Have you ever had this exam?**

**(n= 617) Participants 50 and older**  
**Missing Data= 15**



Overall, 62.3% of participants aged 50 years and older reported having had this procedure done. There was a significant gender effect with this question. Men (72.1%) as compared to women (59.3%) were more likely to report having had this procedure (ChiSq= 9.6;  $p < .002$ ). With regards to ethnicity, only ten (n=10) Hispanics completed this question, making cross-tabulations and chi-squares not possible.

### **Men's Health Issues (for men aged 40 years and over)**

**Q28: A Prostate-Specific Antigen Test, also called a PSA test, is a blood test used to check men for prostate cancer. Have you ever had a PSA test?**

**(n=272) Men aged 40 and older  
Missing Data= 20**

Of men aged 40 years and over, about three out of four (74.9%) reported having had a PSA test. Only 12 Hispanic men aged 40 and over completed this question. Thus, cross-tabulations and chi-squares were not conducted.

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**Q29: A digital rectal exam is an exam in which a doctor, nurse, or other health professional places a gloved finger into the rectum to feel the size, shape, and hardness of the prostate gland. Have you ever had a digital rectal exam?**

**(n=289) Men aged 40 and older  
Missing Data= 3**

Of men aged 40 and older, almost four out of five (78.9%) reported having had a digital rectal exam. With this final question, only 11 Hispanic men aged 40 and over completed this question. Again, due to the low number, cross-tabulations and chi-squares were not conducted.

## **SUMMARY OF THE FINDINGS AND DISCUSSION POINTS FOR COMMUNITY HEALTH IMPROVEMENT PLANNING**

### **Overall Health**

- The majority (59.6%) of Hunterdon County participants rated their health as excellent to very good.
- The Hunterdon County DOH Hispanic sample rated their health significantly lower as compared to the Holleran Hispanic and non-Hispanic white groups.

## Health Insurance and Access to Health Care

- Only 40% of the Hunterdon County DOH Hispanic sample reported to have some form of health insurance. This figure was much lower than the Holleran Hispanic (75%) and non-Hispanic white (97%) samples.
- Of younger participants (ages 18-39), about 67% reported having some form of health insurance compared to older participants (ages 40-92) where 97% reported to have some form of health insurance.
- Only about 10% of study participants overall reported not being able to see a doctor in the last 12 months due to costs. However, within the Hunterdon County DOH Hispanic sample, this figure was substantially higher at 41%. Almost 25% of younger participants (ages 18-39) reported not being able to see a doctor in the last 12 months due to costs, as compared to only 5% for older participants (ages 40-92).
- Overall, 85% of the study participants indicated they had a particular clinic, health center, or doctor's office that they can go to for health care. For the Hunterdon County DOH Hispanic sample, this figure was only 41%.
- The Hunterdon County DOH Hispanic sample reported almost twice as many emergency room visits in the past 12 months (average= 2.24) as compared to the Holleran non-Hispanic white sample (average= 1.39).

## Mental Health Needs

- In the Holleran Hispanic sample, 98% reported at least one day per month when their mental health was not good. In contrast, 51% of the Hunterdon County DOH Hispanic sample reported at least one day per month when their mental health was not good. For the Holleran non-Hispanic white sample, only 24% reported at least one day per month when their mental health was not good.

## Sun Safety

- Overall, about 41% of study participants reported either seldom or never using sunscreen. Only 29% of the participants reported always using sunscreen. When looking at ethnicity, 57% of the Holleran Hispanic sample and 43% of the Hunterdon County DOH Hispanic sample reported never using sunscreen. Whereas, in the Holleran non-Hispanic white sample, only 22% reported never using sunscreen.

## Oral Health

- Overall, 77% of the study participants reported visiting a dentist or dental clinic within the past year. However, for the Hunterdon County DOH Hispanic sample, only 22% reported having visited a dentist or dental clinic within the past year.

Furthermore, almost 30% of the Hunterdon County DOH Hispanic participants reported never having visited a dentist or dental clinic.

- For those who reported having not gone to visit a dentist or dental clinic within the past year, 46% said the reason was cost. The second most common reason (10%) was "No reason to go (no teeth)".

## **Diabetes**

- Overall, 6.3% of the study participants reported they have been told by a doctor that they have diabetes. Of older participants (ages 40-92), 7.9% were said to have diabetes.

## **Blood Pressure Monitoring and Hypertension**

- Overall, 77% of the study participants reported having had their blood pressure checked within the past six months. For the Hunterdon County DOH Hispanic sample, only 55% have had their blood pressure checked within the past six months. Furthermore, about 14% of the Hunterdon County DOH Hispanic participants have never had their blood pressure checked.
- Overall, for those who have had their blood pressure checked, 21% were told they have high blood pressure. Of older participants (ages 40-92), 25% reported they were told they have high blood pressure.

## **Blood Cholesterol**

- Overall, 75% of the study participants reported having had their blood cholesterol checked within the past year. Only 55% of the Hunterdon County DOH Hispanic sample reported they had their blood cholesterol checked within the past year. Another 14% of the Hunterdon County DOH Hispanic participants reported they have never had their blood cholesterol checked.
- For those that have had their blood cholesterol checked, overall 29% were told that they have high cholesterol. This was especially true of older participants where 31.4% reported high cholesterol.

## **Smoking Cigarettes**

- Overall, only 9.5% of the study participants reported to smoke daily. About 15% of the Hunterdon County DOH Hispanic sample reported to smoke daily. However, for those that smoke daily, the Holleran non-Hispanic white sample smoke the most, averaging just over 14 cigarettes per day, as compared to only 2 cigarettes per day for the Hunterdon County DOH Hispanic participants. Since a carton of cigarettes now exceeds \$60, it may be that low-income Hispanics smoke less because smoking is unaffordable.

## **Alcohol Consumption**

- For those who report drinking alcohol (about 51%), the average number of days per month they drank alcohol was 6.1 days. The most common response (the mode) was four days, or once a week. The Hunterdon County DOH Hispanic sample reported the lowest average number of days they drank alcohol at approximately 2 days a month. Men reported drinking alcohol about 8 days per month, whereas women 5 days per month.

## **Breast Health**

- Overall, 76% of women reported having had a mammogram. This figure increased dramatically for women 40 years of age and older with 94% of women reporting to have had a mammogram. In the Holleran non-Hispanic white and Hispanic samples, over 90% of women over the age of 39 reported having had a mammogram. However, in the Hunterdon County DOH Hispanic sample, this figure is only 44%.
- Overall, 91% of women in the study reported having been taught how to perform a breast self-exam. While 94% of the Holleran non-Hispanic white sample and 92% of the Holleran Hispanic sample reported having been taught, only 63% of the Hunterdon County DOH Hispanic sample reported being taught how to do breast self-exams.

## **Prostate Health**

- Overall, 75% of men (ages 50 and older) in this study reported having had a Prostate-Specific Antigen Test.
- Overall, 79% of men (ages 50 and older) in this study reported having had a digital rectal exam.

## **Consumption of Fruits and Vegetables**

- Overall, about 50% of the study participants reported eating some type of fruit at least once a day. The Holleran Hispanic sample and the Hunterdon County DOH Hispanic sample with 14% and 15%, respectively, reported never eating fruit. In addition, about 13% of the younger participants (ages 18-39) report never eating fruit.
- Overall, about 47% of the study participants reported eating some type of vegetable at least once a day. The Holleran Hispanic sample and the Hunterdon County DOH Hispanic sample with 10% and 18%, respectively, reporting never eating vegetables. In addition, about 8% of the younger participants (ages 18-39) reported never eating vegetables.

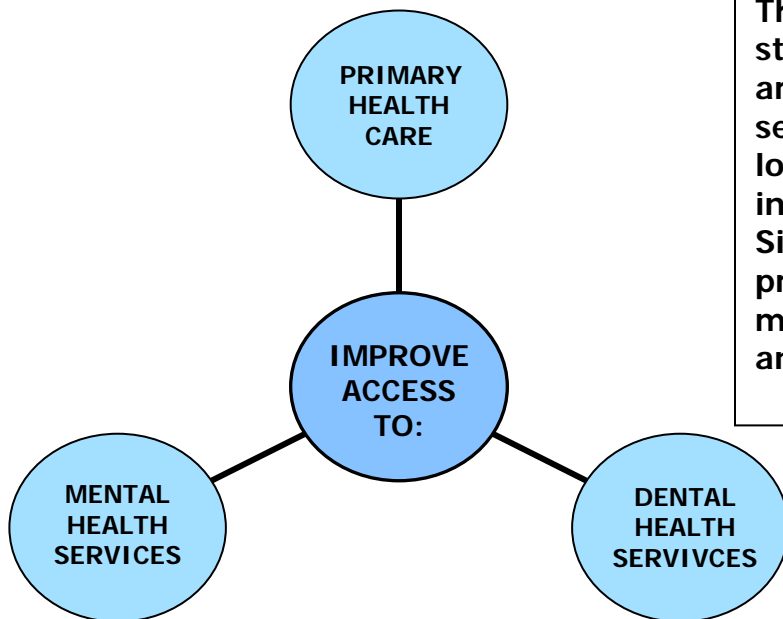
## **Obesity**

- Average BMI for the Hunterdon County participants in this study was in the “overweight” range.
- While the BMI for both men and women was in the “overweight” range, men had significantly higher BMI (27.2) as compared to women (25.6).

## **Colorectal Screening**

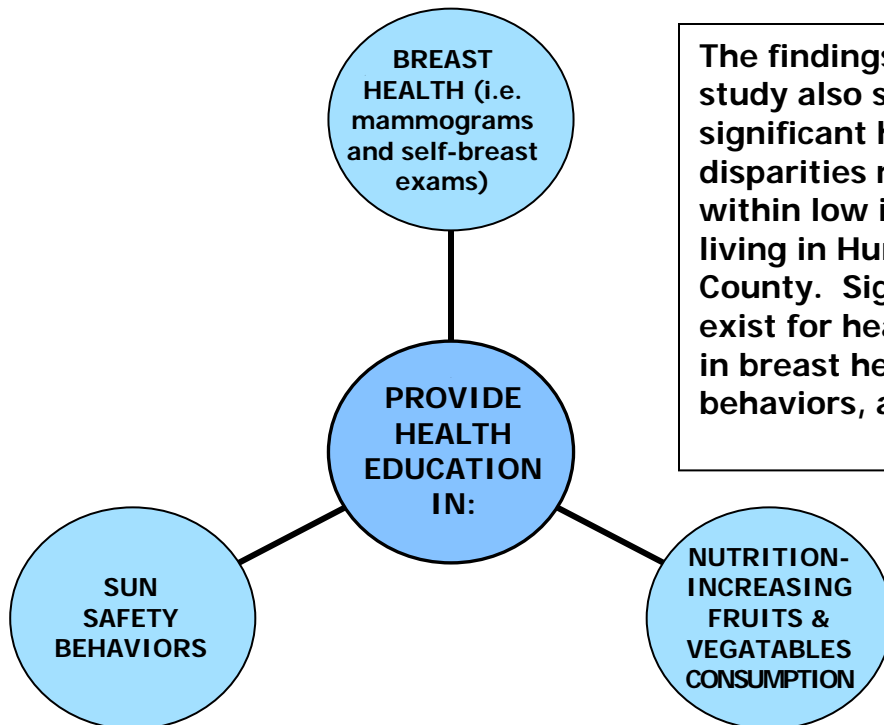
- Only 49% of study participants (ages 50 and older) reported having had a blood stool test.
- Only 62% of study participants (ages 50 and older) reported having had a sigmoidoscopy or a colonoscopy. Men (72%) were much more likely to have this procedure as compared to women (59%).

## RECOMMENDATIONS: Increase access to care



The findings from this study conclude that there are significant health services disparities within low income Latinos living in Hunterdon County. Significant needs exist for primary health care, mental health services, and dental health services.

## RECOMMENDATIONS: Increase access to health education



The findings from this study also show that significant health literacy disparities may exist within low income Latinos living in Hunterdon County. Significant needs exist for health education in breast health, sun safety behaviors, and nutrition.