

# Profile of Chronic Disease in Nevada's FQHCs

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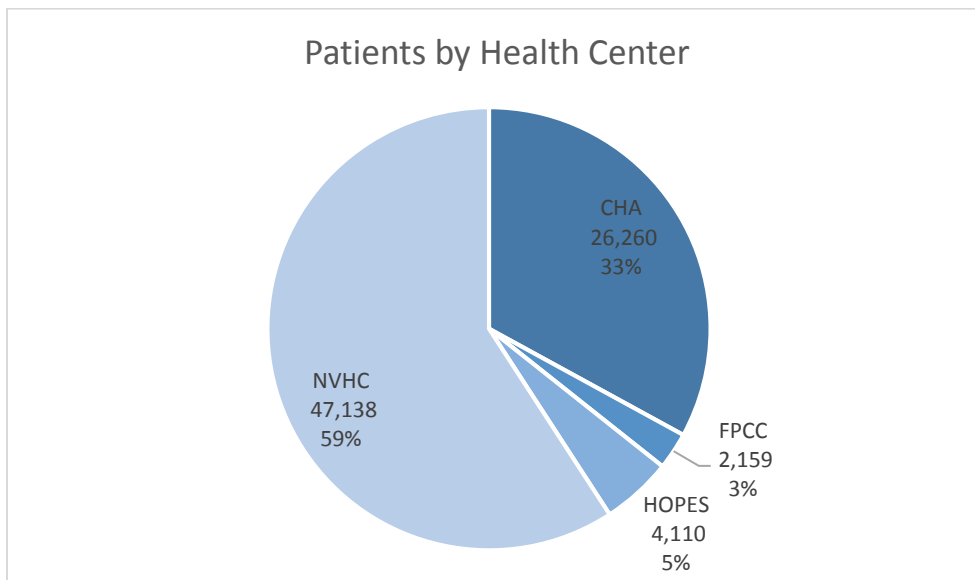
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## Introduction

Data for this report was collected from four Federally Qualified Health Centers (FQHCs) in Nevada: Community Health Alliance (CHA) and Northern Nevada HOPES (HOPES) in Washoe County, First Person Care Clinic (FPCC) in Clark County, and Nevada Health Centers (NVHC) with clinics in Clark County, Carson City, and throughout rural Nevada. This data is inclusive of all patients served by these FQHCs during 2015.

## Health Center Population

The four health centers reported information on a combined 79,667 patients in 2015.

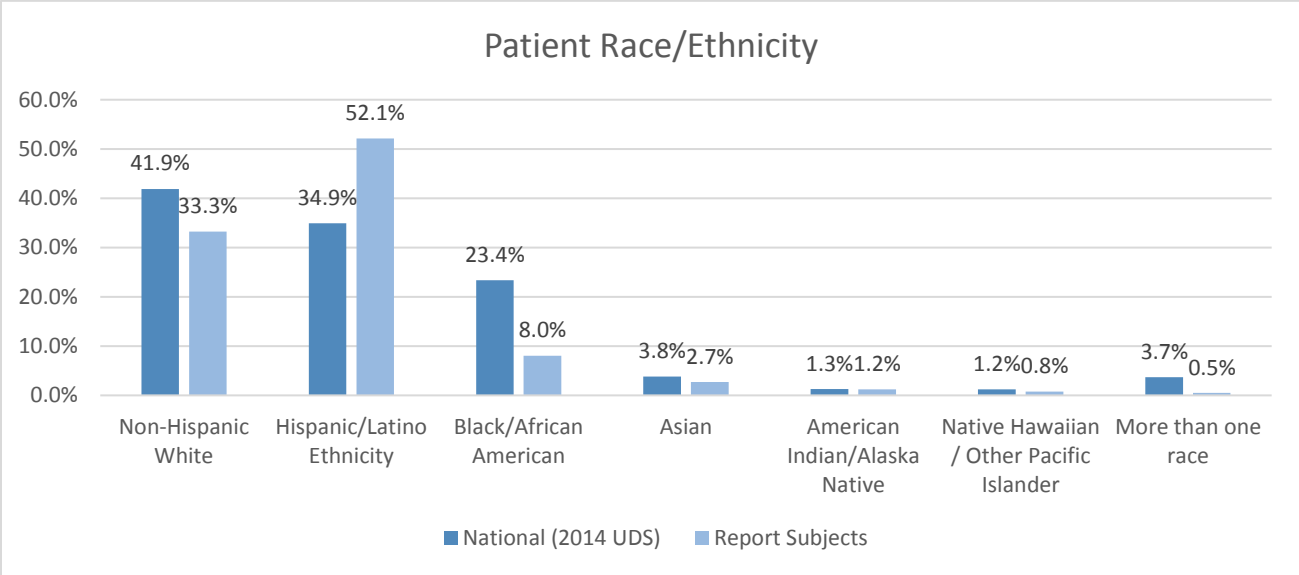
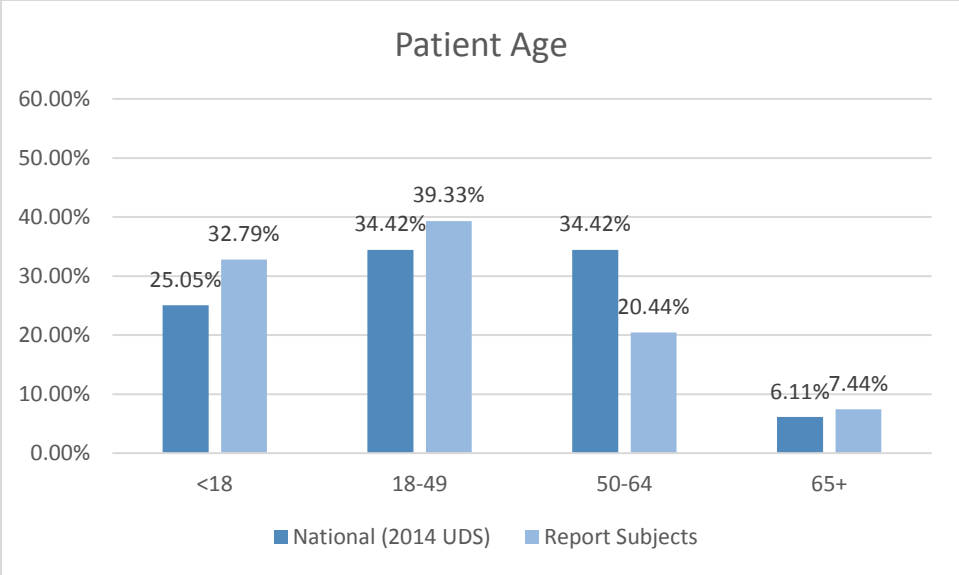


Following national trends, these health centers serve a disproportionately female patient base.

	National (2014 UDS)	Report Subjects
<b>Male</b>	41.7%	40.3%
<b>Female</b>	58.3%	59.7%

The patients in the subject FQHCs are generally younger than the national average, although they do see a slightly higher share of the Medicare-aged population not traditionally served in large numbers by health centers.

Compared to their national counterparts, the FQHCs in Nevada serve proportionately more Hispanic and/or Latino patients—an absolute majority of their total patients. They serve a smaller share of all races compared to the national average, and this difference is especially pronounced among White non-Hispanics and African American patients. This difference is representative of the race and ethnicity diversity in Nevada as compared to the nation.



<b>Patient Race/Ethnicity (as a share of total patients in subject FQHCs)</b>				
<b>Patient Race</b>	<b>Hispanic or Latino</b>	<b>Not Hispanic or Latino</b>	<b>Unreported</b>	<b>Total Race</b>
<b>American Indian or Alaska Native</b>	0.61%	0.62%	-	1.23%
<b>Asian</b>	0.08%	2.62%	-	2.70%
<b>Black or African American</b>	0.42%	7.60%	-	8.02%
<b>Multiple Races</b>	0.27%	0.24%	-	0.50%
<b>Native Hawaiian or Other Pacific Islander</b>	0.17%	0.60%	-	0.77%
<b>White</b>	42.73%	33.27%	-	76.01%
<b>Unreported</b>	7.87%	1.12%	1.78%	10.75%
<b>Total Ethnicity</b>	52.15%	46.07%	1.78%	100.00%

# Diabetes

The four FQHCs reported 6,756 patients diagnosed with type 2 diabetes over the course of the year representing 8.48% of the total patients. Women made up a larger share of diabetics, comprising 54.29% compared to 45.71% for men. However, men were more likely to be diabetic than women in this population. Among men, 9.61% in this population had diabetes compared to 7.72% of women.

Diabetes Rates by Gender		
Gender	% of Total Patients	% of Total Diabetes
Male	9.61%	45.71%
Female	7.72%	54.29%
<b>Total</b>	<b>8.48%</b>	<b>100.00%</b>

The likelihood of having diabetes increased sharply with age from only 0.11% for patients under 18 to nearly 30% for patients 65 and older. The largest age group of patients with diabetes was 50 to 64, comprising 46.95% of all diabetics.

Diabetes Rates by Age		
Age	% of Total Patients	% of Total Diabetes
<18	0.11%	0.44%
18-49	5.80%	26.89%
50-64	19.48%	46.95%
65+	29.31%	25.71%
<b>Total</b>	<b>8.48%</b>	<b>100.00%</b>

Diabetes rates varied widely by race and ethnicity from only 1.8% of Black Hispanics to nearly 17% of non-Hispanic Asians. The highest rate of diabetes occurred in patients who identified themselves as not Hispanic, but who did not report a race. It was discovered through the process of preparing this report that one of the health centers’ EHR system had malfunctioned in the process of delivering the data. The effect of the malfunction was that race data was lost for a relatively small number of patients. However, each of the patients in this small group exhibit at least one of the diagnoses in this report.

<b>Diabetes Rates By Race and Ethnicity</b> (highest rates in red, lowest in blue)				
<b>Patient Race</b>	<b>Hispanic or Latino</b>	<b>Not Hispanic or Latino</b>	<b>Unreported</b>	<b>Total Race</b>
<b>American Indian or Alaska Native</b>	2.48%	7.26%	-	4.90%
<b>Asian</b>	6.56%	16.83%	-	16.54%
<b>Black or African American</b>	1.79%	6.90%	-	6.63%
<b>Multiple Races</b>	10.38%	8.51%	-	9.50%
<b>Native Hawaiian or Other Pacific Islander</b>	9.42%	15.97%	-	14.50%
<b>White</b>	7.29%	8.85%	-	7.97%
<b>Unreported</b>	10.62%	29.70%	2.96%	11.35%
<b>Total Ethnicity</b>	7.71%	9.56%	2.96%	8.48%

Of diabetic patients in the subject FQHCs, over 70% identify as White. Slightly more identify as non-Hispanic (51.94%) compared to those who identify as Hispanic (47.44%).

<b>Race and Ethnicity of Diabetic Patients</b>				
<b>Patient Race</b>	<b>Hispanic or Latino</b>	<b>Not Hispanic or Latino</b>	<b>Unreported</b>	<b>Total Race</b>
<b>American Indian or Alaska Native</b>	0.18%	0.53%	-	0.71%
<b>Asian</b>	0.06%	5.21%	-	5.27%
<b>Black or African American</b>	0.09%	6.19%	-	6.28%
<b>Multiple Races</b>	0.33%	0.24%	-	0.56%
<b>Native Hawaiian or Other Pacific Islander</b>	0.19%	1.12%	-	1.32%
<b>White</b>	36.74%	34.74%	-	71.48%
<b>Unreported</b>	9.86%	3.91%	0.62%	14.39%
<b>Total Ethnicity</b>	47.44%	51.94%	0.62%	100.00%

More than half of diabetic patients in this population are diagnosed with hypertension (55.46%). Furthermore, more than half of diabetic patients are classified as obese (54.87%). Nearly one in five patients with diabetes (19.17%) are tobacco users. By cross-tabulation of the data, 32.08% of the patients were identified to have three chronic conditions of hypertension, diabetes, and obesity, and 9.55% of the patients had all four chronic conditions—hypertension, diabetes, obesity, and tobacco use.

<b>Comorbidities of Diabetic Patients</b>			
	<b>Hypertension</b>	<b>Obesity</b>	<b>Tobacco Use</b>
<b>Diabetes and</b>	55.46%	54.87%	19.17%
<b>Diabetes, Obesity and</b>	32.08%	-	16.62%
<b>Diabetes, Tobacco Use and</b>	11.89%	16.62%	-
<b>Diabetes, Obesity, Tobacco Use and</b>	9.55%	-	-

## Pre-Diabetes

Only 2,174 patients in the study, or 2.73% of the total population, were diagnosed with pre-diabetes. This perhaps reflects the relatively recent definition of the diagnosis. Unlike diabetes, the FQHCs in this study are diagnosing pre-diabetes in females at a higher rate (2.94%) than they are males (2.41%).

Pre-Diabetes Rates by Gender		
Gender	% of Total Patients	% of Total Pre-Diabetes
Male	2.41%	35.69%
Female	2.94%	64.31%
<b>Total</b>	<b>2.73%</b>	<b>100.00%</b>

The rate of pre-diabetes is nearly identical between age groups 50-64 (5.48%) and 65 and over (5.58%). However, patients between 18 and 49 make up a slightly larger share of pre-diabetic patients (43.51%) than those 50 to 64 (41.03%).

Pre-Diabetes Rates by Age		
Age	% of Total Patients	% of Total Pre-Diabetes
<18	0.02%	0.23%
18-49	3.02%	43.51%
50-64	5.48%	41.03%
65+	5.58%	15.23%
<b>Total</b>	<b>2.73%</b>	<b>100.00%</b>

It is notable how different rates of pre-diabetes are across races and ethnicities compared to diabetes in this population. Asians, Native Hawaiians, and Other Pacific Islanders are among the most likely to be diagnosed as diabetic, but less likely to be identified as pre-diabetic. Blacks and African Americans are less likely to be diagnosed with diabetes, but more likely to be diagnosed with pre-diabetes. Once again, due to known technical reporting issues, the highest rate is observed in non-Hispanics of unknown race. Patients identifying with Multiple Races were the most likely to be diagnosed as pre-diabetic (4.00%).



<b>Pre-Diabetes Rates by Race Ethnicity (highest rates in red, lowest in blue)</b>				
<b>Patient Race</b>	<b>Hispanic or Latino</b>	<b>Not Hispanic or Latino</b>	<b>Unreported</b>	<b>Total Race</b>
<b>American Indian or Alaska Native</b>	1.24%	1.01%	-	1.23%
<b>Asian</b>	1.64%	2.06%	-	2.14%
<b>Black or African American</b>	1.19%	3.85%	-	3.74%
<b>Multiple Races</b>	4.72%	3.19%	-	4.00%
<b>Native Hawaiian or Other Pacific Islander</b>	0.00%	1.05%	-	0.98%
<b>White</b>	2.50%	2.49%	-	2.52%
<b>Unreported</b>	3.43%	12.15%	0.56%	3.86%
<b>Total Ethnicity</b>	2.62%	2.89%	1.83%	2.73%

The largest share of patients with pre-diabetes in this study identified as White Hispanic or Latino (39.14%), followed by White non-Hispanic or Latino (30.40%).

<b>Race and Ethnicity of Pre-Diabetic Patients</b>				
<b>Patient Race</b>	<b>Hispanic or Latino</b>	<b>Not Hispanic or Latino</b>	<b>Unreported</b>	<b>Total Race</b>
<b>American Indian or Alaska Native</b>	0.28%	0.23%	0.05%	0.55%
<b>Asian</b>	0.05%	1.98%	0.09%	2.12%
<b>Black or African American</b>	0.18%	10.72%	0.09%	10.99%
<b>Multiple Races</b>	0.46%	0.28%	0.00%	0.74%
<b>Native Hawaiian or Other Pacific Islander</b>	0.00%	0.23%	0.05%	0.28%
<b>White</b>	39.14%	30.40%	0.55%	70.10%
<b>Unreported</b>	9.89%	4.97%	0.37%	15.23%
<b>Total Ethnicity</b>	50.00%	48.80%	1.20%	100.00%

More than two in five pre-diabetic patients (43.19%) are also hypertensive, and nearly three in five (59.38%) are obese. More than a quarter (26.95%) are tobacco users, and a similar share (26.59%) are both obese and hypertensive.

<b>Comorbidities of Pre-Diabetic Patients</b>			
	<b>Hypertension</b>	<b>Obesity</b>	<b>Tobacco use</b>
<b>Pre-diabetes and</b>	43.19%	59.38%	26.95%
<b>Pre-diabetes/Obesity and</b>	26.59%	-	15.82%
<b>Pre-diabetes/Tobacco Use and</b>	14.08%	15.82%	-
<b>Pre-diabetes/Obesity/Tobacco Use and</b>	8.19%	-	-

## Hypertension

Approximately one in ten (13.01%) patients were diagnosed with hypertension. Men (14.90%) were considerably more likely than women (11.73%) to be diagnosed with hypertension, although women made up the majority (53.79%) of hypertensive patients. Men made up 46.21% of hypertensive patients.

<b>Hypertension Rates by Gender</b>		
<b>Gender</b>	<b>% of Total Patients</b>	<b>% of Total Hypertension</b>
<b>Male</b>	14.90%	46.21%
<b>Female</b>	11.73%	53.79%
<b>Total</b>	13.01%	100.00%

Hypertension rates increase markedly with age from one in a thousand under age 18 (0.10%), to nearly one in three between 50 and 64 (31.46%), and approaching half of patients 65 and over. The largest age group of hypertensive patients in this study was 50-64 (49.43%) followed by 65 and older (26.62%).

<b>Hypertension Rates by Age</b>		
<b>Age</b>	<b>% of Total Patients</b>	<b>% of Total Hypertension</b>
<b>&lt;18</b>	0.10%	0.26%
<b>18-49</b>	7.84%	23.69%
<b>50-64</b>	31.46%	49.43%
<b>65+</b>	46.55%	26.62%
<b>Total</b>	13.01%	100.00%

Non-Hispanics in the study group are much more likely to be hypertensive (17.42%) compared to Hispanics (9.39%), a finding that holds across every racial group. More than a quarter of Asians (25.93%) in the study were hypertensive, with Native Hawaiians and Other Pacific Islanders not far behind (18.24%). As with diabetes and pre-diabetes, there is technical issue affecting the rate of non-Hispanics or Latinos of unknown race.

<b>Hypertension Rates by Race and Ethnicity (highest rates in red, lowest in blue)</b>				
<b>Patient Race</b>	<b>Hispanic or Latino</b>	<b>Not Hispanic or Latino</b>	<b>Unreported</b>	<b>Total Race</b>
<b>American Indian or Alaska Native</b>	1.24%	7.86%	-	4.60%
<b>Asian</b>	11.48%	26.30%	-	25.93%
<b>Black or African American</b>	5.36%	15.45%	-	15.06%
<b>Multiple Races</b>	12.74%	14.36%	-	13.50%
<b>Native Hawaiian or Other Pacific Islander</b>	11.59%	19.54%	-	18.24%
<b>White</b>	9.41%	15.68%	-	12.20%
<b>Unreported</b>	9.90%	66.59%	2.40%	14.56%
<b>Total Ethnicity</b>	9.39%	17.42%	5.22%	13.01%

Hypertensive patients are much more likely to be non-Hispanics or Latinos (61.66%) than Hispanics or Latinos (37.62%). Whites of both ethnicities make up the vast majority of diagnoses (71.26%).

<b>Race and Ethnicity of Hypertensive Patients</b>				
<b>Patient Race</b>	<b>Hispanic or Latino</b>	<b>Not Hispanic or Latino</b>	<b>Unreported</b>	<b>Total Race</b>
<b>American Indian or Alaska Native</b>	0.06%	0.38%	0.00%	0.43%
<b>Asian</b>	0.07%	5.31%	0.01%	5.38%
<b>Black or African American</b>	0.17%	9.03%	0.09%	9.29%
<b>Multiple Races</b>	0.26%	0.26%	0.00%	0.52%
<b>Native Hawaiian or Other Pacific Islander</b>	0.15%	0.90%	0.03%	1.08%
<b>White</b>	30.92%	40.08%	0.26%	71.26%
<b>Unreported</b>	5.99%	5.71%	0.33%	12.03%
<b>Total Ethnicity</b>	37.62%	61.66%	0.71%	100.00%

More than half of hypertensive patients are obese (51.95%), and more than a third are diabetic (36.15%). More than a fifth are both obese and diabetic (20.90%), and a similar share are obese and tobacco users (18.98%).

<b>Comorbidities of Hypertensive Patients</b>				
	<b>Diabetes</b>	<b>Pre-Diabetes</b>	<b>Obesity</b>	<b>Tobacco Use</b>
<b>Hypertension and</b>	36.15%	9.06%	51.95%	27.79%
<b>Hypertension/obesity and</b>	20.90%	5.58%	-	18.98%
<b>Hypertension/tobacco use and</b>	7.75%	2.95%	18.98%	-
<b>Hypertension/obesity/tobacco use and</b>	6.22%	2.35%	-	-

## Obesity

Obesity affects almost 12% of the study group patients (11.69%), a total of 9,315. The rate between genders is nearly even, with females (11.91%) affected slightly more than males (11.37%). Women make up the majority (60.76%) of obese patients in this population.

Obesity Rates by Gender		
Gender	% of Total Patients	% of Total Obesity
Male	11.37%	39.24%
Female	11.91%	60.76%
Total	11.69%	100.00%

Patients in the 50 to 64 (24.67%) and 65+ (25.32%) age groups also have a nearly even rate of obesity that is more than twice the rate of 18 to 49 year olds (11.98%). It is notable that, despite much publicity for youth obesity, only 0.17% of minors in the study are identified as obese.

Obesity Rates by Age		
Age	% of Total Patients	% of Total Obesity
<18	0.17%	0.47%
18-49	11.98%	40.28%
50-64	24.67%	43.13%
65+	25.32%	16.11%
Total	11.69%	100.00%

Native Hawaiians and Other Pacific Islanders are heavily impacted by obesity, with about one in five (20.03%) exhibiting obesity and the non-Hispanic cohort (20.80%) suffering more than the Hispanic (15.94%). Non-Hispanics of every race except Multiple Races experience obesity more than Hispanics of the same race. As noted above, there is technical issue affecting the rate of non-Hispanics or Latinos of unknown race.

<b>Obesity Rates by Race and Ethnicity, (highest rates in red, lowest in blue)</b>				
<b>Patient Race</b>	<b>Hispanic or Latino</b>	<b>Not Hispanic or Latino</b>	<b>Unreported</b>	<b>Total Race</b>
<b>American Indian or Alaska Native</b>	3.11%	10.08%	-	6.74%
<b>Asian</b>	1.64%	7.65%	-	7.53%
<b>Black or African American</b>	5.36%	11.64%	-	11.42%
<b>Multiple Races</b>	13.68%	12.23%	-	13.00%
<b>Native Hawaiian or Other Pacific Islander</b>	15.94%	20.80%	-	20.03%
<b>White</b>	8.77%	15.31%	-	11.67%
<b>Unreported</b>	10.67%	48.59%	1.20%	13.05%
<b>Total Ethnicity</b>	9.00%	15.06%	3.31%	11.69%

The highest share of obese patients are Whites of both ethnicities (75.83%) followed by all non-Hispanics (59.35%), White non-Hispanics (43.57%), and all Hispanics (40.15%).

<b>Race and Ethnicity of Obese Patients</b>				
<b>Patient Race</b>	<b>Hispanic or Latino</b>	<b>Not Hispanic or Latino</b>	<b>Unreported</b>	<b>Total Race</b>
<b>American Indian or Alaska Native</b>	0.16%	0.54%	0.01%	0.71%
<b>Asian</b>	0.01%	1.72%	0.01%	1.74%
<b>Black or African American</b>	0.19%	7.57%	0.08%	7.84%
<b>Multiple Races</b>	0.31%	0.25%	0.00%	0.56%
<b>Native Hawaiian or Other Pacific Islander</b>	0.24%	1.06%	0.02%	1.32%
<b>White</b>	32.06%	43.57%	0.20%	75.83%
<b>Unreported</b>	7.18%	4.64%	0.18%	12.00%
<b>Total Ethnicity</b>	40.15%	59.35%	0.50%	100.00%

In this population, obesity is most associated with hypertension (57.81%) followed by diabetes (39.80%) and tobacco use (25.98%). Substantial numbers of obese patients exhibit both hypertension and diabetes (23.26%), and hypertension and tobacco use (14.30%).

<b>Comorbidities of Obese Patients</b>				
	<b>Diabetes</b>	<b>Pre-Diabetes</b>	<b>Hypertension</b>	<b>Tobacco use</b>
<b>Obesity and</b>	39.80%	13.86%	57.81%	25.98%
<b>Obesity/hypertension and</b>	23.26%	6.21%	-	14.30%
<b>Obesity/tobacco use and</b>	7.56%	3.69%	14.30%	-
<b>Obesity/hypertension/tobacco use and</b>	4.87%	1.91%	-	-

## Tobacco Use

The figures for tobacco use exclude patients from HOPES from the analysis. This FQHC changed to a new EHR in October 2015, and tobacco use records from before that time are unable to be reported. Denominators have been adjusted to provide accurate aggregate rates for the other three FQHCs. Total tobacco users in the study numbered 5,840, or 7.73% of total patients.

Males demonstrated a higher use of tobacco products (9.84%) than females (6.33%), and they made up a slightly larger share of tobacco users (50.80%) than females (49.20%).

<b>Tobacco Use Rates by Gender</b>		
<b>Gender</b>	<b>% of Total Patients</b>	<b>% of Total Tobacco Use</b>
<b>Male</b>	9.84%	50.80%
<b>Female</b>	6.33%	49.20%
<b>Total</b>	7.73%	100.00%

Patients in the 50-64 age range demonstrated the highest percentage of tobacco use (18.65%), while patients under the age of 18 demonstrated the lowest rates of tobacco use (0.12%). Among tobacco users, a plurality were in the 50-64 category (47.62%) followed by the 18-49 category (38.51%).

<b>Tobacco Use Rates by Age</b>		
<b>Age</b>	<b>% of Total Patients</b>	<b>% of Total Tobacco Use</b>
<b>&lt;18</b>	0.03%	0.12%
<b>18-49</b>	7.75%	38.51%
<b>50-64</b>	18.65%	47.62%
<b>65+</b>	14.29%	13.75%
<b>Total</b>	7.73%	100.00%

White non-Hispanics had the highest rates of tobacco use (15.65%) followed by non-Hispanics of Multiple Races (13.83%) and non-Hispanic Native Hawaiians and Other Pacific Islanders (10.18%). All non-Hispanics (14.28%) used tobacco at a rate nearly seven times higher than all Hispanics or Latinos (2.38%). As noted above, there is technical issue affecting the rate of non-Hispanics or Latinos of unknown race.



<b>Tobacco Use Rates by Race and Ethnicity</b> (highest rates in red, lowest in blue)				
<b>Patient Race</b>	<b>Hispanic or Latino</b>	<b>Not Hispanic or Latino</b>	<b>Unreported</b>	<b>Total Race</b>
<b>American Indian or Alaska Native</b>	0.21%	6.22%	-	3.23%
<b>Asian</b>	3.28%	5.59%	-	5.52%
<b>Black or African American</b>	1.81%	9.61%	-	9.22%
<b>Multiple Races</b>	6.13%	13.83%	-	9.75%
<b>Native Hawaiian or Other Pacific Islander</b>	3.79%	10.18%	-	8.90%
<b>White</b>	2.26%	15.65%	-	7.95%
<b>Unreported</b>	3.10%	35.80%	0.93%	6.02%
<b>Total Ethnicity</b>	2.38%	14.28%	2.37%	7.73%

The largest share of tobacco users are all non-Hispanics (83.01%) followed by Whites of both ethnicities (77.53%) and White non-Hispanics (64.52%).

<b>Race and Ethnicity of Patients Using Tobacco</b>				
<b>Patient Race</b>	<b>Hispanic or Latino</b>	<b>Not Hispanic or Latino</b>	<b>Unreported</b>	<b>Total Race</b>
<b>American Indian or Alaska Native</b>	0.02%	0.51%	-	0.53%
<b>Asian</b>	0.03%	1.93%	-	1.97%
<b>Black or African American</b>	0.10%	9.67%	-	9.81%
<b>Multiple Races</b>	0.22%	0.45%	-	0.67%
<b>Native Hawaiian or Other Pacific Islander</b>	0.09%	0.79%	-	0.89%
<b>White</b>	12.72%	64.52%	-	77.53%
<b>Unreported</b>	3.24%	5.14%	0.22%	8.60%
<b>Total Ethnicity</b>	16.42%	83.01%	0.57%	100.00%

Nearly half of patients who use tobacco products are hypertensive (48.84%), and two in five (40.84%) of them are obese. More than one in five of them have diabetes (22.05%) or have both hypertension and obesity (22.57%).

<b>Comorbidities of Patients Using Tobacco</b>				
	<b>Diabetes</b>	<b>Pre-Diabetes</b>	<b>Hypertension</b>	<b>Obesity</b>
<b>Tobacco Use and</b>	22.05%	9.95%	48.84%	40.84%
<b>Tobacco Use/Hypertension and</b>	13.66%	5.22%	-	22.57%
<b>Tobacco Use/Obesity and</b>	11.97%	5.87%	22.57%	-
<b>Tobacco Use/Hypertension/Obesity and</b>	7.71%	3.05%	-	-

# Cardiovascular Disease

Data for cardiovascular disease was not available from all of the FQHCs, including the largest. Also, the two health centers that were able to submit data did not report on the same diagnoses, and the incidence rates found in the diagnosis codes are much less than expected. The results should be interpreted with caution due to the absence of complete data. The table below shows the diagnoses reported from each health center for the purpose of this analysis. Rate denominators have been adjusted to reflect that only two health centers are considered. There are 30,370 patients in this set, and 56, or 0.18%, have one of these diagnoses.

Men are 47% more likely to have cardiovascular disease in this sample (0.22%) compared to women (0.15%) and they make up a majority (55.36%) of the diagnoses.

Cardiovascular Disease Rates by Gender		
Gender	% of Total Patients	% of Total Cardiovascular Disease
Male	0.22%	55.36%
Female	0.15%	44.64%
<b>Total</b>	<b>0.18%</b>	<b>100.00%</b>

The largest share of patients with these diagnoses are between the ages of 50 and 64 (48.21%), but patients over 65 are twice as likely to be diagnosed with cardiovascular disease (1.01%) compared to the 50 to 64 cohort (0.45%). It is notable that, although the rate of cardiovascular disease is rather low among 18 to 49 year olds (0.10%), they do account for one in five cardiovascular disease patients (19.64%).

Cardiovascular Disease Rates by Age		
Age	% of Total Patients	% of Total Cardiovascular Disease
<18	0.00%	0.00%
18-49	0.10%	19.64%
50-64	0.45%	48.21%
65+	1.01%	32.14%
<b>Total</b>	<b>0.18%</b>	<b>100.00%</b>

Reported Cardiovascular Disease Diagnoses by Health Center			
Clinic A		Clinic B	
429.9	Heart disease, unspecified	I01.1	Acute rheumatic endocarditis
434.11	Cerebral infarction due to embolism of unspecified cerebral artery	I10	Essential (primary) hypertension
		I11.0	Hypertensive heart disease with heart failure
		I12.0	Hypertensive chronic kidney disease with stage 5 chronic kidney disease or end stage renal disease
		I20.1	Angina pectoris with documented spasm
		I21.02	STEMI involving left anterior descending coronary artery
		I26.99	Other pulmonary embolism without acute cor pulmonale
		I27.0	Primary pulmonary hypertension
		I27.2	Other secondary pulmonary hypertension
		I34.1	Non-rheumatic mitral (valve) prolapse
		I35.0	Non-rheumatic aortic (valve) stenosis
		I42.9	Cardiomyopathy, unspecified
		I44.0	Atrioventricular block, first degree
		I44.4	Left anterior fascicular block
		I44.7	Left bundle-branch block, unspecified
		I45.6	Pre-excitation syndrome, Wolff-Parkinson-White Syndrome
		I47.1	Supraventricular tachycardia
		I48.2	Chronic atrial fibrillation
		I48.91	Unspecified atrial fibrillation
		I49.1	Atrial premature depolarization
		I49.3	Ventricular premature depolarization
		I49.8	Other specified cardiac arrhythmias
		I49.9	Cardiac arrhythmia, unspecified
		I50.30	Unspecified diastolic (congestive) heart failure
		I50.9	Heart failure, unspecified
		I51.7	Cardiomegaly

Non-Hispanic Black patients are more than twice as likely to be diagnosed with one of these conditions (0.68%) as the next highest groups (0.33%). All Hispanics (0.08%) are much less likely to be diagnosed than all Non-Hispanics (0.33%). Whites (0.33%), and Native Hawaiians and Other Pacific Islanders (0.33%) also exhibit high rates among Non-Hispanics.

<b>Cardiovascular Disease Rates by Race and Ethnicity, (highest rates in red, lowest in blue)</b>				
<b>Patient Race</b>	<b>Hispanic or Latino</b>	<b>Not Hispanic or Latino</b>	<b>Unreported</b>	<b>Total Race</b>
<b>American Indian or Alaska Native</b>	0.00%	0.00%	-	0.00%
<b>Asian</b>	0.00%	0.09%	-	0.09%
<b>Black or African American</b>	0.00%	0.68%	-	0.66%
<b>Multiple Races</b>	0.00%	0.00%	-	0.00%
<b>Native Hawaiian or Other Pacific Islander</b>	0.00%	0.33%	-	0.24%
<b>White</b>	0.08%	0.33%	-	0.18%
<b>Unreported</b>	0.07%	0.00%	0.00%	0.07%
<b>Total Ethnicity</b>	0.08%	0.33%	0.00%	0.18%

Among cardiovascular disease patients, Whites of both ethnicities make up the largest share (78.57%), followed by all Non-Hispanics (76.79%) and White Non-Hispanics (58.93%). Even though rates of cardiovascular disease are low among Hispanics, they make up nearly a quarter (23.21%) of cardiovascular disease patients.

<b>Race and Ethnicity of Cardiovascular Disease Patients</b>				
<b>Patient Race</b>	<b>Hispanic or Latino</b>	<b>Not Hispanic or Latino</b>	<b>Unreported</b>	<b>Total Race</b>
<b>American Indian or Alaska Native</b>	0.00%	0.00%	0.00%	0.00%
<b>Asian</b>	0.00%	1.79%	0.00%	1.79%
<b>Black or African American</b>	0.00%	14.29%	0.00%	14.29%
<b>Multiple Races</b>	0.00%	0.00%	0.00%	0.00%
<b>Native Hawaiian or Other Pacific Islander</b>	0.00%	1.79%	0.00%	1.79%
<b>White</b>	19.64%	58.93%	0.00%	78.57%
<b>Unreported</b>	3.57%	0.00%	0.00%	3.57%
<b>Total Ethnicity</b>	23.21%	76.79%	0.00%	100.00%

Almost three out of five (58.93%) cardiovascular disease patients are also diagnosed with hypertension, and one in five (21.43%) are hypertensive and obese. Another fifth (21.43%) are diabetic, and 7.14% are hypertensive, obese and diabetic.

<b>Comorbidities of Cardiovascular Disease Patients</b>				
	Diabetes	Pre-Diabetes	Hypertension	Obesity
<b>Cardiovascular disease and</b>	21.43%	1.79%	58.93%	30.36%
<b>Cardiovascular disease/Hypertension and</b>	14.29%	0.00%	-	21.43%
<b>Cardiovascular disease/Obesity and</b>	10.71%	0.00%	21.43%	-
<b>Cardiovascular disease/Hypertension/Obesity and</b>	7.14%	0.00%	-	-

Because of the limitations of this data set, it is worth looking at measures of cardiovascular disease beyond these diagnoses. FQHCs are required to report two relevant measures as part of the annual Uniform Data System (UDS). For this analysis, First Person Care Clinic must be excluded because they have yet to report UDS data. These measures are not cross-tabbed with demographics, but they do include a measurement of quality. There are 77,508 patients in this sample. The first measure is Coronary Artery Disease (CAD) patients who are prescribed a lipid lowering therapy. The second is Ischemic Vascular Disease (IVD) patients who are prescribed aspirin or antithrombotic therapy\*. The results show that the rate of CAD (1.46% of all patients), and IVD and associated diagnoses (1.50% of all patients) is more than seven times the rate of the diagnoses considered above (0.18% of all patients). Health centers prescribe the recommended therapy better for CAD (78.64%) than for IVD (57.71%).

<b>2015 UDS Measures of Cardiovascular Disease</b>		
	Compliance Rate	Incidence Rate
<b>Coronary Artery Disease (CAD): Lipid Therapy</b>		
Total Patients 18 and Older with CAD Diagnosis	-	1.46%
CAD Patients prescribed a lipid-lowering medication	78.64%	-
<b>Ischemic Vascular Disease* (IVD): Aspirin or Antithrombotic Therapy</b>		
Total Patients 18 and Older with IVD Diagnosis	-	1.50%
IVD Patients with Aspirin or other Antithrombotic Therapy	57.71%	-

\*This measure also includes acute myocardial infarction, coronary artery bypass graft, and percutaneous transluminal coronary angioplasty patients.

## Meaningful Use Reporting

Three health centers were examined to determine their progress in attesting to Meaningful Use of Electronic Health Records and their clinical quality measures associated with reports required by this attestation. For each the most recently submitted report was considered.

<b>Clinic A</b>			
Meaningful Use Stage 1 Year 2015			
Measure	2015	Goal for 2016	Action
<b>Antiplatelet Therapy (NQF 67)</b>	Report Not Available	50%	<ul style="list-style-type: none"> <li>• Develop Report with EHR Vendor</li> <li>• Provide Staff Training</li> </ul>
<b>Current Medications (NQF 419)</b>	79.86%	95%	<ul style="list-style-type: none"> <li>• Provide Staff Training</li> </ul>
<b>Medication Reconciliation (NQF 97)</b>	No Data Reported	50%	<ul style="list-style-type: none"> <li>• Provide Staff Training</li> </ul>
<b>BMI (NQF 421)</b>	Report Not Available	50%	<ul style="list-style-type: none"> <li>• Develop Report with EHR Vendor</li> <li>• Provide Staff Training</li> </ul>
<b>Tobacco Screen (NQF 28)</b>	Report Not Available	50%	<ul style="list-style-type: none"> <li>• Develop Report with EHR Vendor</li> <li>• Provide Staff Training</li> </ul>

Meaningful Use reports for antiplatelet therapy, BMI, and tobacco screen will need to be developed by the clinic's EHR vendor. Staff training will need to be provided to ensure proper documentation is recorded in the EHR in order to capture data required for these reports. Medication reconciliation is one measure that was built into the EHR, however, no data has been captured. Staff will need to be trained on proper documentation of medication reconciliation within the EHR. Overall, the clinic will strive to meet the goals by 2016 reporting of Meaningful Use by quality improvement initiatives specific to the above measures.

<b>Clinic B</b>				
Meaningful Use Reporting				
Measure	2016 Q1	CY2015 UDS Data	Goal for 2016	Action
<b>Antiplatelet Therapy (NQF 67)</b>	7.14%	41.56%	50%	<ul style="list-style-type: none"> <li>• Provide Staff Training</li> <li>• Data validation to ensure structured field for this measure in EHR is populating report accurately.</li> </ul>
<b>Current Medications (NQF 419)</b>	82.13%	--	95%	<ul style="list-style-type: none"> <li>• Provide Staff Training</li> </ul>
<b>Medication Reconciliation (NQF 97)</b>	94.28%	--	stable	<ul style="list-style-type: none"> <li>• Provide Staff Training</li> </ul>
<b>BMI (NQF 421)</b>	94.97%	94.58%	stable	<ul style="list-style-type: none"> <li>• Ensure each Eligible Provider exceeds the threshold %.</li> </ul>
<b>Tobacco Screen (NQF 28)</b>	*	87.74%	stable	<ul style="list-style-type: none"> <li>• Develop Report with EHR Vendor</li> <li>• Provide Staff Training</li> </ul>

Clinic B has most of their eligible providers enrolled in the MU program at the Adopt, Implement, Upgrade (AIU) stage and they have never had anyone pass all of the core measures in any given 90-day period that they have sampled in 2015 nor in Q1 2016. Therefore, no one has been submitted for Year 2 (Stage 1 or Stage 2 modified) to receive the incentive payments. This is a point of contention and Clinic B providers and administration would like to obtain these funds. The biggest barrier is the interface to the state Immunization Information System. A change must be made to the health center’s immunization inventory tracking in order to go live with the interface. Due to issues within the EHR on that topic and staff’s reluctance to make the change, this has not happened. The goal is to attest for MU in 2016.

\*There is an error with this report that Clinic B is unable to correct at this time.



<b>Clinic C</b>			
Meaningful Use Reporting			
<b>Measure</b>	<b>2014</b>	<b>Goal for 2016</b>	<b>Action</b>
<b>Antiplatelet Therapy (NQF 67)</b>	63.86%	50%	<ul style="list-style-type: none"> <li>• Validate report with EHR</li> <li>• Provide Staff Training</li> </ul>
<b>Current Medications (NQF 419)</b>	NA	95%	<ul style="list-style-type: none"> <li>• Validate report with EHR</li> <li>• Provide Staff Training</li> </ul>
<b>Medication Reconciliation (NQF 97)</b>	NA	50%	<ul style="list-style-type: none"> <li>• Validate report with EHR</li> <li>• Provide Staff Training</li> </ul>
<b>BMI (NQF 421)</b>	45.65%*	Stable	<ul style="list-style-type: none"> <li>• Validate report with EHR</li> <li>• Provide Staff Training</li> </ul>
<b>Tobacco Screen (NQF 28)</b>	84.95%*	Stable	<ul style="list-style-type: none"> <li>• Validate report with EHR</li> <li>• Provide Staff Training</li> </ul>

In 2015, Clinic C reported for AIU using 2014 data. In October 2015 this health center changed to a new EHR. They are working to attest in 2016 for Stage 1.

\* CY2015 UDS Data

## Health Center Processes, EHR, and Team-Based Care

Staff at three health centers were interviewed to gain insight into their workflow managing chronic diseases. Their responses have been anonymized, and labels do not correspond to previous sections of this report.

### Clinic A

- Patient record has visible “Problem List” that shows Diabetes.
- Vital signs that are out of range are displayed in red. The MA puts in the vitals, and the provider reviews these before meeting with the patient.
- EHR has a system that prompts A1C testing for patients with diagnosis of diabetes if test is due. This system is reviewed by the MA during pre-visit planning.
- Directive from CMO is to make sure to code pre-DM so those patients can be followed and reports can be run.
- Some staff received pre-DM educator training.
- All referrals go to single staff-member to manage the external referral and loop closure.
- EHR has built in treatment protocols managed by third party vendor.
- EHR can store screening results in social history, query them for risk, then filter results by diagnoses, vitals, test results, etc.
- “What’s nice is [MAs] don’t have to wait for the reporting department to have time to create lists for them which then slows down the whole process of getting information and being able to do things for the patients and follow up on care that needs to be given.”
- Health center has been looking into take-home blood pressure monitor.

### Clinic B

- EHR has a patient registry for diabetics with standardized treatment plans and templates to keep track of all associated testing and treatment. This looks more like a checklist than a real-time clinical decision support tool, but it is interactive and can call up other prompts based on information entered.
  - Staff can run reports based on patients in the group.
  - Patients are manually associated to the group.
  - Offer to refer to DSME is part of every diabetic care plan.
- Monthly QI report for diabetics with uncontrolled A1C and patients with uncontrolled hypertension. These are run at organization level and by provider.
- There is a diabetic retinopathy screener in house. These go to online cloud analysis by external ophthalmologists. The EHR keeps track of when the next one is due.
- The MA looks through the screening and testing schedule and flags necessary tests for provider.
- Referrals go to chronic disease-specific care coordinators who help patient connect to outside providers including internal and external DSME. This is managed by task assignment in the EHR.
  - Designated hypertension care coordinator is in planning and should be implemented within 3 months.
- Health center has been looking into take-home blood pressure monitor.

- Flagging of BP or BMI is through MA notification to provider. There is no highlighting of out of range measures in the EHR.

#### Clinic C

- Health center uses a DSME-certified board member for English classes and refers to outside educator for Spanish classes.
- Care coordinator manages referrals with patients and outside providers. This is a very proactive process that takes place mostly by phone. The care coordinator is a CHW, and is not medically-trained, although she is trained in education—suicide and domestic violence prevention, and HIV management.