Chronic Diseases in the Coachella Valley

2007-2019

Trend Reporting Based on Five Cycles of HARC's Coachella Valley Community Health Survey

FUNDED BY:

DESERT HEALTHCARE DISTRICT & FOUNDATION

CREATED BY:

HARC
HEALTH ASSESSMENT AND RESEARCH FOR COMMUNITIES

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Executive Summary

Background

The Coachella Valley is a unique community located within Riverside County in Inland Southern California. In the past, local organizations found that County-level data did not adequately tell the story of the health needs of those living in the Coachella Valley. Service providers in the region struggled for years to monitor population trends including health disparities, inequities, and health behaviors. HARC, Inc., a nonprofit research organization, was founded in 2006 to fill this gap and provide objective, reliable data that are specific to the Coachella Valley.

In 2007, HARC conducted the first health survey in the region via a random-digit-dial telephone survey, now known as the Coachella Valley Community Health Survey. The results of this survey provided vital information about health and quality of life in the region across topics such as healthcare access, healthcare utilization, health behaviors, major diseases, mental health, and much more. It was determined that the survey would be revised and repeated every three years in order to measure progress over time and to provide data that is as current as possible. To date, the survey has been conducted five times: 2007, 2010, 2013, 2016, and 2019.

Trend Reports

This report is part of series of four trend reports commissioned by Desert Healthcare District/Foundation (DHCD/F), which has been the primary funder of the Coachella Valley Community Health Survey since its inception. DHCD/F requested four trend reports that examine data across all five surveys. These four reports include:

1. Socioeconomic needs
2. Healthcare access
3. Major disease (this report)
4. Mental health

A total of five cycles of surveys are included in this report. This report includes topics covering socioeconomic needs in regard to food security and community needs in any services, such as housing, rental assistance, financial assistance, utility assistance, and transportation. Each topic is analyzed in a variety of ways, including comparisons by age, geography, ethnicity, education, and household income. For geographic comparisons, the Coachella Valley was split into three regions to include the West Valley, Mid Valley, and East Valley.

Results

Chronic Disease in Adults

Some of the major themes that stand out in this report are that over a third of Coachella Valley survey respondents indicated they had been diagnosed with high blood pressure. Of those adults with high blood pressure, adults ages 18 to 39 saw a percentage increase in diagnosis between 2007 and 2019. Nearly a third of adults have been diagnosed with high blood cholesterol. The percentage of seniors with high cholesterol has increased over the years.

Fortunately, the vast majority of adults have not been diagnosed with major diseases such as heart disease (the leading cause of death among Americans), cancer, stroke, respiratory disease, bone disease, asthma, or suffered from a heart attack. However, a quarter of adults indicated they are living with arthritis. Of those diagnosed with arthritis, over half of them are over the age

of 65. Lastly, there was a spike in adults diagnosed with arthritis with an education level less than high school between 2007 and 2019.

Most adults in the Coachella Valley have not been diagnosed with diabetes. However, the rate of diabetes among adults in our community is higher than the county, state, and national averages. Of those with diabetes, the majority of adults live in Mid Valley.

Chronic Disease in Children

The vast majority of Coachella Valley children have not been diagnosed for asthma. Hispanic/Latino children have lower rates of asthma compared to their non-Hispanic/Latino counterparts. Survey responses indicated an overwhelming majority of children with asthma did not miss school or daycare as a result of their asthma.

Introduction

About HARC

HARC, Inc. is a 501(c)(3) nonprofit organization that specializes in research and evaluation services. HARC was founded to help tell the story of the Coachella Valley through a quantitative lens, as the only data available to our region was at the county-level. Having a local research firm enables health leaders and service providers to identify health disparities, inequities, unhealthy behaviors, and trends.

HARC has since expanded to not only continue the survey, but to provide other research and evaluation-based services. These services include, but are not limited to needs assessments, program evaluations, analyses of existing data, and much more. HARC provides customized analytical consulting services, tailored to the needs of its clients to help them answer important questions regarding those they serve. Doing so enables our clients to evaluate the great work that they do and to make the Inland Empire a healthier, and ultimately, happier place to live.

About the Coachella Valley Community Health Survey

The Coachella Valley is a unique community located within Riverside County in Inland Southern California. In the past, local organizations found that County-level data did not adequately tell the story of the health needs of those living in the Coachella Valley. Service providers in the region struggled for years to monitor population trends including health disparities, inequities, and health behaviors. HARC was founded in 2006 to fill this gap and provide objective, reliable data that are specific to the Coachella Valley.

In 2007, HARC conducted the first health survey in the region via a random-digit-dial telephone survey. The results of this survey provided vital information about health and quality of life in the region across topics such as healthcare access, healthcare utilization, health behaviors, major diseases, mental health, and much more. It was determined that the survey would be revised and repeated every three years in order to measure progress over time and to provide data that is as current as possible. To date, the survey has been conducted five times: 2007, 2010, 2013, 2016, and 2019.

HARC's Coachella Valley data are used by nonprofit health and human services agencies, hospitals, federally qualified health centers, institutions of higher education, K-12 education, governmental agencies, and media organizations, among others. These organizations use the data to better understand the people who live in our region, and also to apply for funding, prioritize health needs, develop programs to address those needs, create presentations/lectures, write articles, design and conduct trainings, and make/change policy.

Most notable among these uses is how the data have strengthened local nonprofits' requests for funding. Dozens of nonprofits have used this data over the last decade to make compelling requests for funding and have successfully generated millions of dollars each survey cycle. These funds have provided support for critically important programs and services, such as mental health counseling for children, pregnancy prevention education for teens, medical care for uninsured adults, meal delivery for homebound seniors, and HIV testing for all.

About Trend Reports

Desert Healthcare District/Foundation (DHCD/F) has been the primary funder of the Coachella Valley Community Health Survey since its inception, typically funding about half of the cost of this undertaking. When providing funding for the 2019 survey, DHCD/F asked for the creation not only of the typical Executive Report, but also for four trend reports to compare data points over survey cycles. The four reports include:

1. Socioeconomic needs
2. Healthcare access
3. Major disease (this report)
4. Mental health

This particular report covers major diseases such as asthma, arthritis, cancer, diabetes, heart disease, high blood pressure, high blood cholesterol, and stroke, among others.

It is important to be aware of the population being assessed within each section. For example, in some cases, the entire adult population may receive a question, and in other circumstances, only a portion of the adult population receives a question. To illustrate, all adults are asked whether they have health insurance. Following this, only adults who report having insurance are asked questions about who pays for the insurance. Thus, the entire adult population may not be compared each time, and the reader should take caution in understanding which portion of the adult population is being analyzed.

It is worth noting that the survey methodology changes, and thus, comparisons across survey cycles should be interpreted with caution. HARC chooses to continue to model the survey based on emerging best practices, which means that methods change. See the methodology section of this report for more detail on these differences.

Additionally, not all questions are asked on all five survey cycles. The survey content is community-driven; that is, adapted each year to provide data that local organizations need and cannot find elsewhere. Due to funding restrictions, questions have to be cut in order to add new topics, and thus, some topics may not be included on all five surveys. For example, a question may be asked in 2010, 2013, and 2019, but not in 2007 or 2016. When that occurs, the years in which the question was not asked is simply not included in the figures/tables.

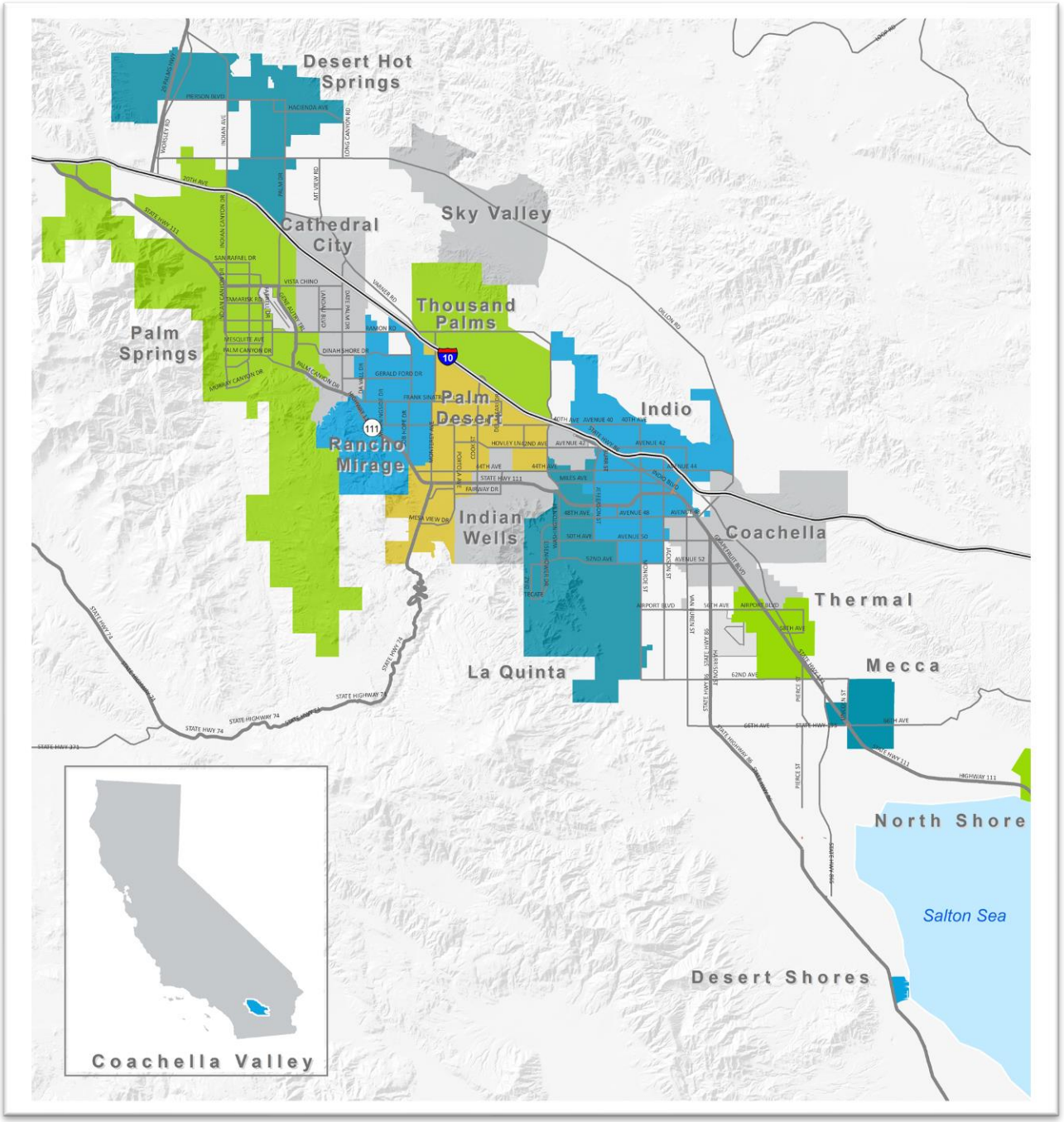
In addition to comparisons over the years, demographic comparisons are also included in this report, per the request of DHCD/F. For the adult data, comparisons of geography, age, ethnicity, education, and income are included. For the child data, comparisons of geography, age, ethnicity, and income are included.

On the note of comparing topics over the years, in the 2007, 2010, and 2013 surveys, race/ethnicity was assessed using a single question. In 2016, based on the advice of data users and potential funders, HARC shifted to the method utilized by the U.S. Census Bureau, which asks two separate questions on race and ethnicity. Because there was a change in how these topics were assessed, race/ethnicity can only be compared from 2016 to 2019.

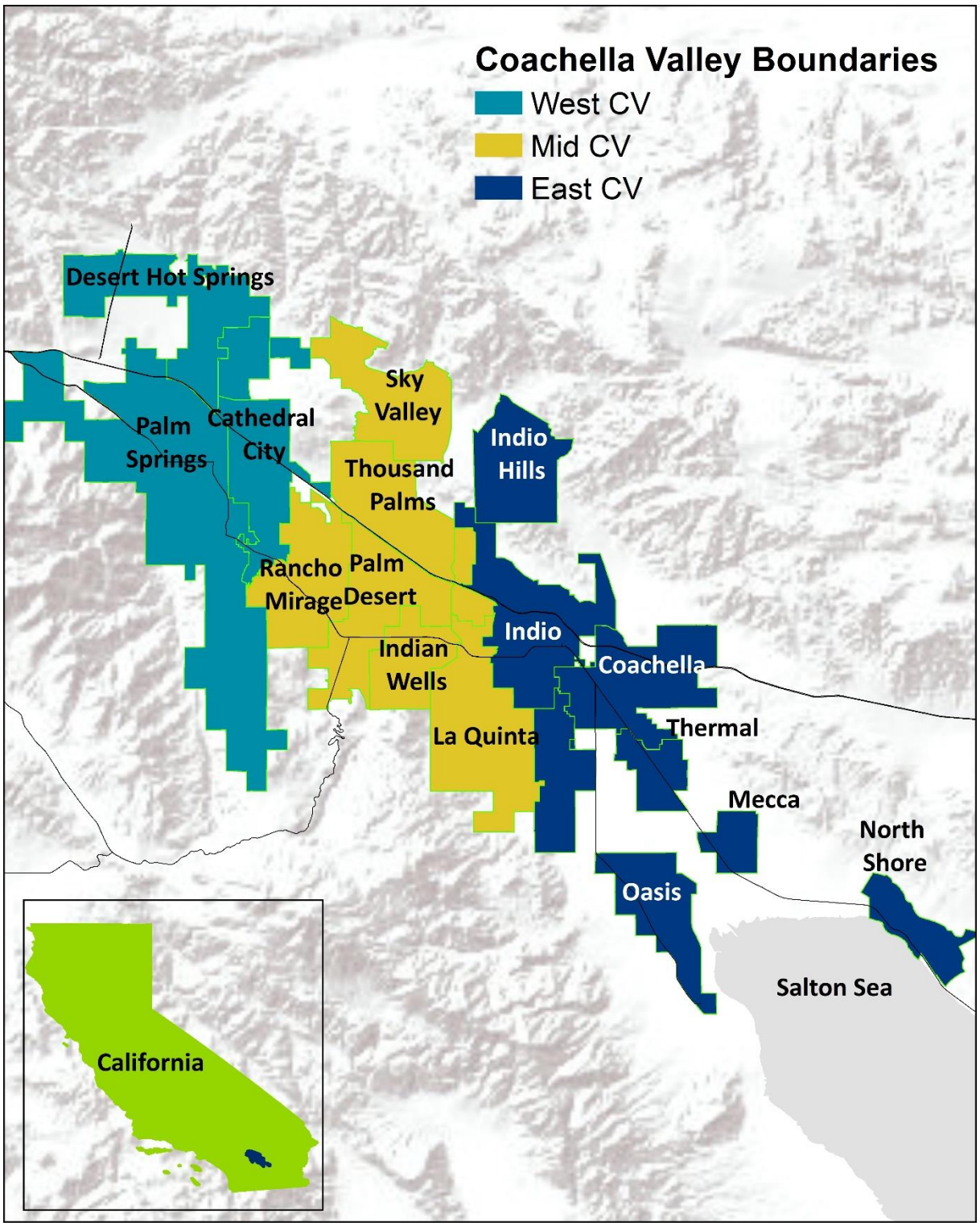
To provide context for these comparisons, each report has an identical section in the results section on adult demographics and child demographics. This presents a picture of the population changes (or lack thereof) over time.

Coachella Valley Geography

This report focuses on the health status of the Coachella Valley in Eastern Riverside County, California. Tribal areas within the Coachella Valley include the reservations of the Agua Caliente Band of Cahuilla Indians, the Augustine Band of Mission Indians, the Cahuilla Band of Mission Indians, and the Torres-Martinez Desert Cahuilla Indians. The Coachella Valley is made up of nine major cities (Cathedral City, Coachella, Desert Hot Springs, Indian Wells, Indio, La Quinta, Palm Desert, Palm Springs, and Rancho Mirage) as well as several unincorporated areas (such as Bermuda Dunes, Mecca, Thermal, and Thousand Palms, among others).



As mentioned earlier, the survey includes residents living in the Coachella Valley. However, one of the demographic comparisons made throughout the report includes geography. Specifically, the Coachella Valley was split into three regions to include the West Valley (Desert Hot Springs, Palm Springs, Cathedral City, Garnet CDP, Desert Edge CDP), Mid Valley (Rancho Mirage, Thousand Palms CDP, Sky Valley CDP, Palm Desert, Desert Palms CDP, Bermuda Dunes CDP, Indian Wells, La Quinta), and East Valley (Indio, Indio Hills CDP, Coachella, Mecca CDP, Oasis CDP, Thermal CDP, North Shore CDP, Vista Santa Rosa CDP). See the map below for a visual representation of the Coachella Valley geography split into three regions.



Methods

Data Collection

The survey instruments were modeled after the well-respected Centers for Disease Control and Prevention's (CDC) Behavioral Risk Factor Surveillance System (BRFSS) and the California Health Interview Survey (CHIS) conducted by UCLA. The instruments assessed topics such as access to and utilization of healthcare, health status indicators, health insurance coverage, and health related behaviors.

For each survey cycle, the data were collected by telephone with randomly selected adults, or randomly selected children (by proxy interview with an adult determined to be the most knowledgeable about the selected child). Surveys were conducted in English or Spanish, based on the preferences of the participant. Surveys were restricted to private residences (such as apartments, houses, or mobile homes) within the geographic area of the Coachella Valley with landlines and/or cell phones. This survey does not include people who live in group home settings (such as nursing homes, assisted living facilities, jails, or prisons, etc.), or those who do not have a landline or a cell phone (which is an estimated 3.1% of U.S. households, according to the National Health Interview Survey).[1] Also, the survey likely does not represent those who are homeless.

Phone calls were conducted by ICF Macro (2007 and 2010) and then by Kent State University (2013, 2016, 2019) using computer assisted telephone interviewing (CATI) labs.

One change that has occurred in the methods is the inclusion of cell phones in data collection. It is critically important to include cell phone respondents, as recent estimates from the National Health Interview Survey shows that more than half of American homes are now cell phone only (57.1%), and cannot be reached by a landline.[2] Another 15.0% of households are defined as "wireless *mostly*", that is, while they do *have* landlines, they receive all or almost all of their calls on cell phones. Thus, approximately 72.1% of U.S. households take most or all of their calls on cell phones. In fact, only 5.3% of American households are landline only (i.e., no cell phones).[3]

It is especially critical to include people who do not have landlines, as they tend to be younger, more likely to be living in poverty, more likely to rent their home than own it, and more likely to be Hispanic/Latino than people with landlines. Including cell phone only respondents helps us to better represent the true needs of the community.[4]

[1] Blumberg, S.J., Luke, J.V. (June 2019). Wireless substitution: Early release of estimates from the National Health Interview Survey, July—December 2018. National Center for Health Statistics. Available online at https://www.cdc.gov/nchs/data/nhis/earlyrelease/wireless201906.pdf

[2] Blumberg, S.J., Luke, J.V. (June 2019). Wireless substitution: Early release of estimates from the National Health Interview Survey, July—December 2018. *National Center for Health Statistics*. Available online at https://www.cdc.gov/nchs/data/nhis/earlyrelease/wireless201906.pdf

[3] Ibid.

[4] Ibid.

In HARC's first survey in 2007, the sample included no cell phones. By the most recent survey in 2019, the sample was almost entirely made up of cell phone respondents, as illustrated in the table below. This may limit comparability over survey cycles.

Year	% of Completed Surveys Done on a Cell Phone	% of Completed Surveys Done on a Landline
2019	78.1%	21.9%
2016	59.6%	40.4%
2013	24.8%	75.2%
2010	7.5%	92.5%
2007	0.0%	100.0%

Weighted Data

Each cycle, once data collection was complete, statisticians employed by the survey vendors (ICF Macro and Kent State University) weighted the sample data to most accurately represent the entire Coachella Valley population.

The post-stratification weighting used an iterative proportional fitting (or raking) algorithm. The data were weighted according the most recently available U.S. Census Bureau's American Community Survey's five-year estimates, for the nine incorporated cities in the Coachella Valley combined with the 12 census-designated areas (CDPs; Bermuda Dunes, Desert Edge, Desert Palms, Indio Hills, Garnet, Mecca, North Shore, Oasis, Sky Valley, Thermal, Thousand Palms, and Vista Santa Rosa) to capture the Coachella Valley population. The weights were raked to age, sex, race, ethnicity and telephone use. In 2016 and 2019, HARC provided these weights to the statisticians; in prior cycles, the statisticians were responsible for obtaining the numbers themselves.

As an example of this weighting method, the 2019 sample included 2,521 survey respondents, and their responses are weighted to represent the approximately 430,000 people living in the Coachella Valley. As such, the weighted percentages represent estimates that are weighted from the 2,500+ respondents to the 430,000+ residents of the region and is the proportion of people that the population estimate represents.

It is worth noting that there are two major shifts in weighting between the earliest surveys—2007, 2010, and 2013—and the two most recent surveys, 2016 and 2019. In the first three survey cycles, the weighting procedure included weighting to the seasonal residents. This likely included both migrant farmworkers and those retirees who have chosen to make the Coachella Valley their second home during the winter months; it included anyone who stayed in the Valley more than 30 days. In early survey cycles, HARC weighted the data to represent these seasonal residents based on the Wheeler's Report. However, in 2016 HARC made the decision to stop weighting the seasonal resident data because of the relative age of the reference data (the 2009 Wheeler's Report has not been updated since) and the lack of a clear explanation regarding the methods of the Wheeler's Report (HARC strives to weight the data to sources with extremely strong methods and high reliability).

HARC staff made this methodological decision in an effort to strengthen the reliability of the data and reduce reliance on outdated figures so that the 2016 and 2019 data could be as robust

and reliable as possible. Thus, population estimates in earlier cycles of 2007, 2010, and 2013 are different from those in 2016 and 2019 survey cycles.

Additionally, in the early survey cycles (2007, 2010, and 2013), race/ethnicity was asked as a combined question—and weighted as such. In the 2016 and 2019 cycles, the survey used the U.S. Census Bureau's protocol for asking race/ethnicity as two separate questions, with corresponding weights. As such, there may be some shifts in the population estimates in this aspect as well. While the lack of continuity is a disadvantage, HARC staff chose to make the switch to using the gold standard (U.S. Census Bureau) to increase the strength and reliability of HARC's data. Additionally, this now allows for easy comparisons between HARC's Coachella Valley data and Census Bureau data for other regions.

Thus, these changes may impact the comparability of estimates across survey cycles; the reader should keep these in mind when interpreting differences over time.

Adult Results

Adult Demographics

Gender

Since 2007, adult gender has remained roughly evenly split between male and female, although to some degree this is an artifact of weighting. In 2019, the option to answer to gender as "neither" was added and revealed 0.7% of participants identifying as "neither".

Table 1. Adult Gender

Gender	2007	2010	2013	2016	2019
Male	47.1%	50.0%	51.1%	49.7%	50.0%
Female	52.9%	50.0%	48.9%	50.3%	49.3%
Neither	-	-	-	-	0.7%

Age

Age has also remained unvaried throughout the years. However, in 2010, there was a small increase in the proportion of adults aged 65 and older, which has since deceased.

Table 2. Adult Age

Age Group	2007	2010	2013	2016	2019
18-39	31.5%	24.2%	29.4%	34.2%	30.9%
40-64	33.1%	35.2%	34.1%	39.4%	39.9%
65+	35.4%	40.5%	36.5%	26.4%	29.2%

Race/Ethnicity

From 2007 to 2013, race and ethnicity were assessed in a single question. However, in 2016, HARC separated these race and ethnicity questions to follow the same protocol as the U.S. Census.

Prior to 2016, race remained stable with majority of residents identifying as White/Caucasians and about a quarter identifying as Hispanic/Latino.

Table 3. Adult Race/Ethnicity – 2007 to 2013

Race	2007	2010	2013
White/Caucasian	63.9%	69.5%	67.4%
Black/African American	3.5%	2.1%	3.0%
Asian	1.3%	1.1%	1.5%
Native Hawaiian or Other Pacific Islander	0.7%	0.4%	0.6%
American Indian/Alaska Native	0.5%	0.5%	1.0%
Hispanic/Latino	28.8%	22.5%	24.5%
Other	1.2%	2.4%	2.1%

Using the new format dictated by the U.S. Census Bureau, the percent of local adults who identify as Hispanic/Latino increased, as illustrated below.

Table 4. Adult Ethnicity – 2016 to 2019

Ethnicity	2016	2019
Hispanic/Latino	55.3%	48.2%
Not Hispanic/Latino	44.7%	51.8%

There have not been many changes in race between 2016 and 2019. Two notable changes are in Asian and American Indian/Alaska Native populations: the Asian population in decreased while American Indian/Alaska Native population increased.

Table 5. Adult Race – 2016 to 2019

Race	2016	2019
White/Caucasian	68.6%	66.2%
Black/African American	2.9%	2.8%
Asian	3.4%	0.6%
American Indian/Alaska Native	0.7%	3.3%
Other	24.4%	27.2%

Income

Since 2007, the percent of people in the lowest income bracket ($0 to $19,999) has increased overall.

Table 6. Adult Income

Income Level	2007	2010	2013	2016	2019
$0 to $19,999	13.1%	15.5%	14.9%	27.7%	21.1%
$20,000 to $49,999	37.2%	38.9%	27.0%	31.6%	29.9%
$50,000 to $99,999	33.1%	24.5%	46.2%	21.8%	24.4%
$100,000 or more	16.6%	21.0%	12.2%	18.9%	24.5%

Education

As illustrated in the table below, educational attainment has remained relatively stable from 2007 to 2019.

Table 7. Adult Education Level

Education Level	2007	2010	2013	2016	2019
Less than high school	16.8%	9.5%	12.2%	19.7%	14.9%
High school or GED	22.8%	21.2%	17.9%	19.2%	18.1%
Some college	27.3%	25.6%	29.9%	25.6%	28.1%
College	21.6%	29.8%	24.8%	20.5%	23.6%
Postgraduate	11.5%	14.0%	15.3%	15.1%	15.3%

Geography

City and CDP (census designated place) boundaries of the Coachella Valley were chosen by HARC in consultation with DHCD/F to represent western, middle, and eastern portions of the Valley.

The Coachella Valley was split into three regions to include the West Valley (Desert Hot Springs, Palm Springs, Cathedral City, Garnet CDP, Desert Edge CDP), Mid Valley (Rancho Mirage, Thousand Palms CDP, Sky Valley CDP, Palm Desert, Desert Palms CDP, Bermuda Dunes CDP, Indian Wells, La Quinta), and East Valley (Indio, Indio Hills CDP, Coachella, Mecca CDP, Oasis CDP, Thermal CDP, North Shore CDP, Vista Santa Rosa CDP).

As illustrated in the table below, between 2007 to 2019, there have been some changes in the geographic distribution of participants, going from predominantly West Valley in 2007 to an even distribution across the three regions in 2019.

Note that these differences may be a legitimate representation of population shifts over time (that is, the East Valley has become more populated in recent years) or it may simply be an artifact of data collection (that is, recent surveys have done a better job of recruiting participants from the East Valley than early surveys).

Table 8. Adult Geography

Gender	2007	2010	2013	2016	2019
West Valley	49.3%	34.8%	31.9%	36.0%	33.2%
Mid Valley	29.9%	41.4%	39.9%	30.1%	32.3%
East Valley	20.8%	23.8%	28.1%	33.9%	34.5%

Adult Major Disease

To assess major disease diagnoses, adult participants were asked, "Have you ever been told by a doctor, nurse, or other health care professional that you have any of the following medical conditions…" followed by a list of common major diseases. Note that this series was not asked in 2010.

The first question asked was whether they had ever been **diagnosed with high blood pressure/hypertension.**

Overall

From 2007 to 2019, high blood pressure diagnoses have remained relatively the same with a slight increase in 2013 (37.8%) and 2019 (35.7%) compared to 2007 (32.3%). All in all, over one-third of Coachella Valley adults have been diagnosed with high blood pressure/hypertension.

Table 9. Adult – Diagnosed with High Blood Pressure

Diagnosed with High Blood Pressure	2007	2013	2016	2019
Yes	32.3%	37.8%	34.0%	35.7%
No	67.7%	62.2%	66.0%	64.3%

Figure 1. Adult – Diagnosed with High Blood Pressure

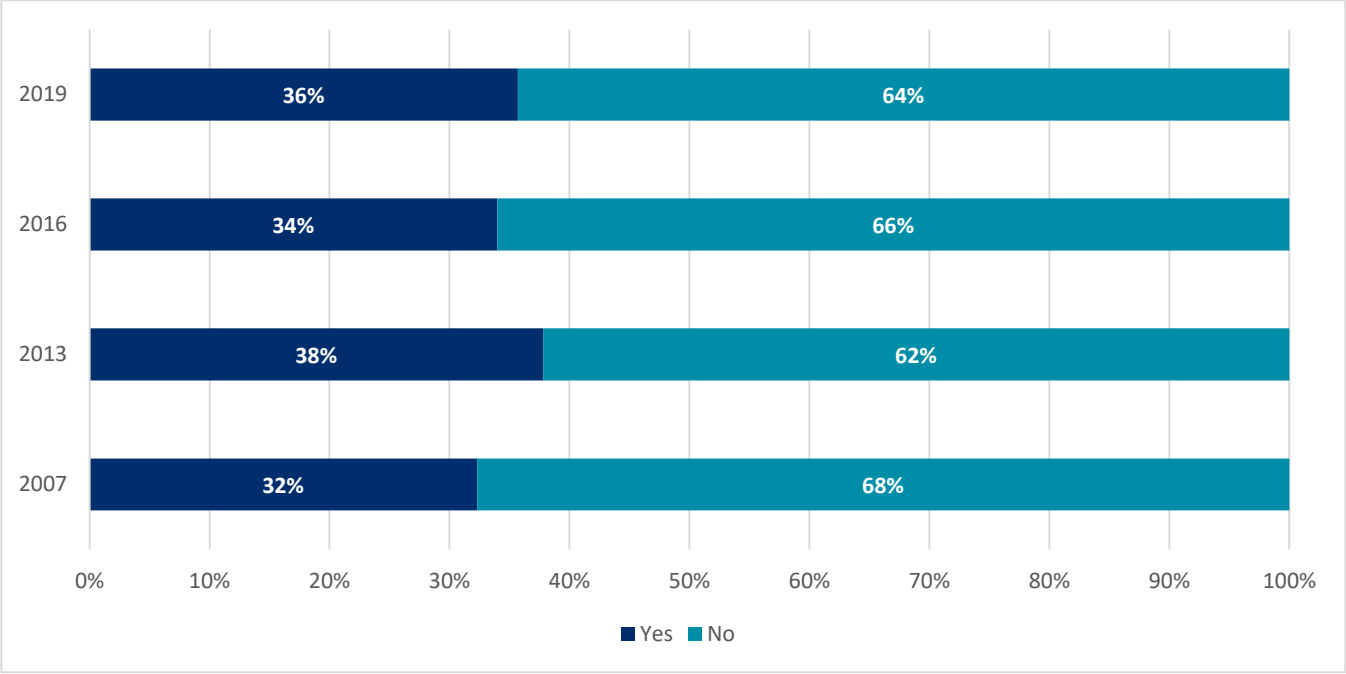


Table 10. Adults Diagnosed with High Blood Pressure Across Regions

Region	2007	2013	2016	2019
Coachella Valley	32.3%	27.8%	34.0%	35.7%
Riverside County	27.1%	28.3%	28.4%	30.0%
California	26.1%	27.6%	28.4%	25.9%

Note: Riverside County and California data are from the California Health Interview Survey (CHIS). No CHIS data was available for the year 2010, and thus, no comparisons are provided for that year.

Comparisons

Age Comparisons

The percentage of adults (18-39) diagnosed with high blood pressure nearly doubled from 2007 (8.9%) to 2013 (16.4%). It slightly decreased in 2019 to (12.6%) but was still higher compared to the percentage in 2007. All other age groups regardless of high blood pressure diagnosis remained relatively unvaried with respect to high blood pressure diagnosis.

Table 11. Adult – Diagnosed with High Blood Pressure by Age

Age Group	2007	2013	2016	2019
18-39	8.9%	16.4%	11.0%	12.6%
40-64	30.1%	34.9%	37.5%	38.5%
65+	55.4%	57.9%	58.5%	56.4%

Geographic Comparisons

Geography status by high blood pressure diagnosis has slightly varied for adults diagnosed with blood pressure. For instance, there was a slight increase in adults with high blood pressure living in West Valley from 2007 (33.5%) to 2013 (44.9%). However, that percentage decreased to 36.8% in 2019.

Table 12. Adult – Diagnosed with High Blood Pressure by Geography

Geography	2007	2013	2016	2019
West Valley	33.5%	44.9%	35.9%	36.8%
Mid Valley	36.3%	36.0%	38.8%	35.0%
East Valley	24.7%	32.1%	27.7%	35.4%

Hispanic/Latino Comparisons

Ethnicity status by high blood pressure diagnosis has been relatively unvaried between 2016 and 2019.

Table 13. Adult – Diagnosed with High Blood Pressure by Ethnicity

Ethnicity	2016	2019
Not Hispanic/Latino	41.3%	44.1%
Hispanic/Latino	24.7%	28.1%

Income Comparisons

The table below shows high blood pressure diagnosis by income has slightly varied. For adults with high blood pressure earning $0-$19,999, the percentage with high blood pressure has increased from 2007 (30.5%) to 2019 (41.6%).

Table 14. Adult – Diagnosed with High Blood Pressure by Income

Income Level	2007	2013	2016	2019
$0 - $19,999	30.5%	35.5%	34.2%	41.6%
$20,000 - $49,999	29.2%	30.4%	30.2%	34.2%
$50,000 - $99,999	32.5%	42.7%	35.9%	38.2%
$100,000 or more	32.6%	39.3%	34.2%	36.3%

Education Comparisons

With respect to educational attainment by high blood pressure diagnosis, the percentage of adults with high blood pressure with less than a high school education level has increased from 2007 (31.1%) to 2019 (40.6%).

Table 15. Adult – Diagnosed with High Blood Pressure by Education Level

Education Level	2007	2013	2016	2019
Less than high school	31.1%	40.8%	31.1%	40.6%
High school or GED	27.5%	40.4%	26.3%	31.9%
Some college	32.3%	37.9%	33.4%	33.1%
College	33.8%	28.7%	36.1%	34.6%
Post-graduate	40.4%	47.1%	46.6%	42.1%

Next, participants were asked whether they had ever been **diagnosed with high blood cholesterol.**

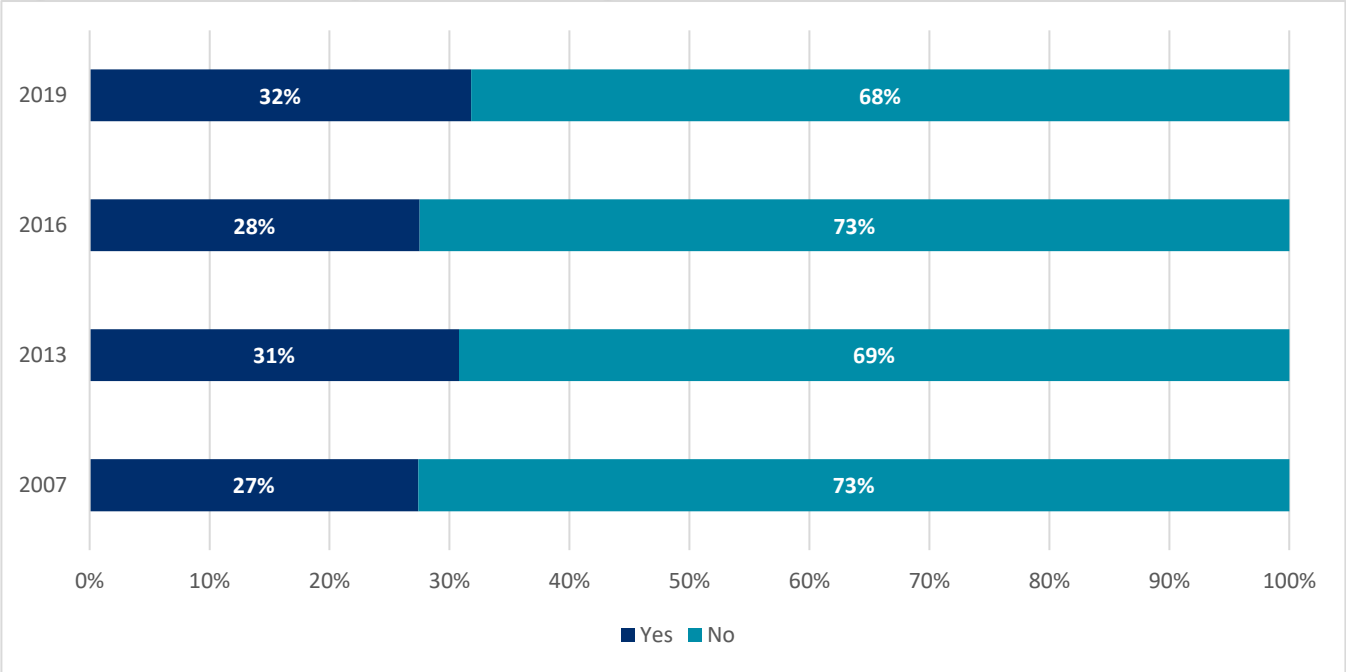
Overall

Slightly less than one-third of Coachella Valley adults have been diagnosed with high blood cholesterol. The percentage of adults diagnosed with high blood cholesterol has only slightly increased between 2007 (27.4%) to 2019 (31.8%).

Table 16. Adult – Diagnosed with High Blood Cholesterol

High Cholesterol	2007	2013	2016	2019
Yes	27.4%	30.8%	27.5%	31.8%
No	72.6%	69.2%	72.5%	68.2%

Figure 2. Adult – Diagnosed with High Blood Cholesterol



Comparisons

Age Comparisons

High blood cholesterol by age has varied for adults in the age group 65+. There has been an increase in the percentage of adults age 65+ with cholesterol; the rate increased from 2007 (41.4%) to 2019 (50.2%). For those aged 65+ without high blood cholesterol, there has been a decrease in the rate from 2007 (58.6%) to 2019 (49.8%).

Table 17. Adult – Diagnosed with High Blood Cholesterol by Age

Age Group	2007	2013	2016	2019
18-39	6.4%	9.2%	8.4%	10.8%
40-64	32.3%	34.5%	29.3%	34.6%
65+	41.4%	45.1%	49.7%	50.2%

Geographic Comparisons

The percentage of adults with high blood cholesterol living in West Valley increased between 2007 (26.2%) and 2019 (34.2%).

Table 18. Adult – Diagnosed with High Blood Cholesterol by Geography

Geography	2007	2013	2016	2019
West Valley	26.2%	33.3%	31.1%	34.2%
Mid Valley	31.7%	32.6%	33.5%	33.3%
East Valley	23.1%	25.3%	18.3%	28.0%

Hispanic/Latino Comparisons

Over three-quarters of adults identifying as "Hispanic/Latino" have not been diagnosed with high blood cholesterol. There has been an increase in the percentage of adults with high blood cholesterol identifying as "Not Hispanic/Latino" between 2016 (33.8%) and 2019 (40.6%).

Table 19. Adult – Diagnosed with High Blood Cholesterol by Ethnicity

Ethnicity	2016	2019
Not Hispanic/Latino	33.8%	40.6%
Hispanic/Latino	19.3%	23.8%

Income Comparisons

For adults diagnosed with high blood cholesterol earning between $50,000-$99,999, there was an increase in the rate of diagnosis between 2007 (29.4%) and 2019 (41.6%).

Table 20. Adult – Diagnosed with High Blood Cholesterol by Income

Income Level	2007	2013	2016	2019
$0 - $19,999	25.5%	23.2%	26.3%	32.7%
$20,000 - $49,999	24.9%	26.6%	27.7%	30.4%
$50,000 - $99,999	29.4%	36.4%	28.2%	41.6%
$100,000 or more	27.0%	30.1%	29.4%	29.1%

Education Comparisons

There has been a spike in the percentage of adults with high blood cholesterol with less a high school education between 2007 (18.3%) and 2019 (37.1%).

Table 21. Adult – Diagnosed with High Blood Cholesterol by Education Level

Education Level	2007	2013	2016	2019
Less than high school	18.3%	32.0%	27.9%	37.1%
High school or GED	27.2%	25.7%	22.6%	24.3%
Some college	30.6%	28.4%	25.4%	29.4%
College	28.4%	27.7%	27.3%	35.1%
Post-graduate	32.0%	45.2%	37.5%	35.1%

Next, participants were asked whether they had ever been **diagnosed with heart disease.**

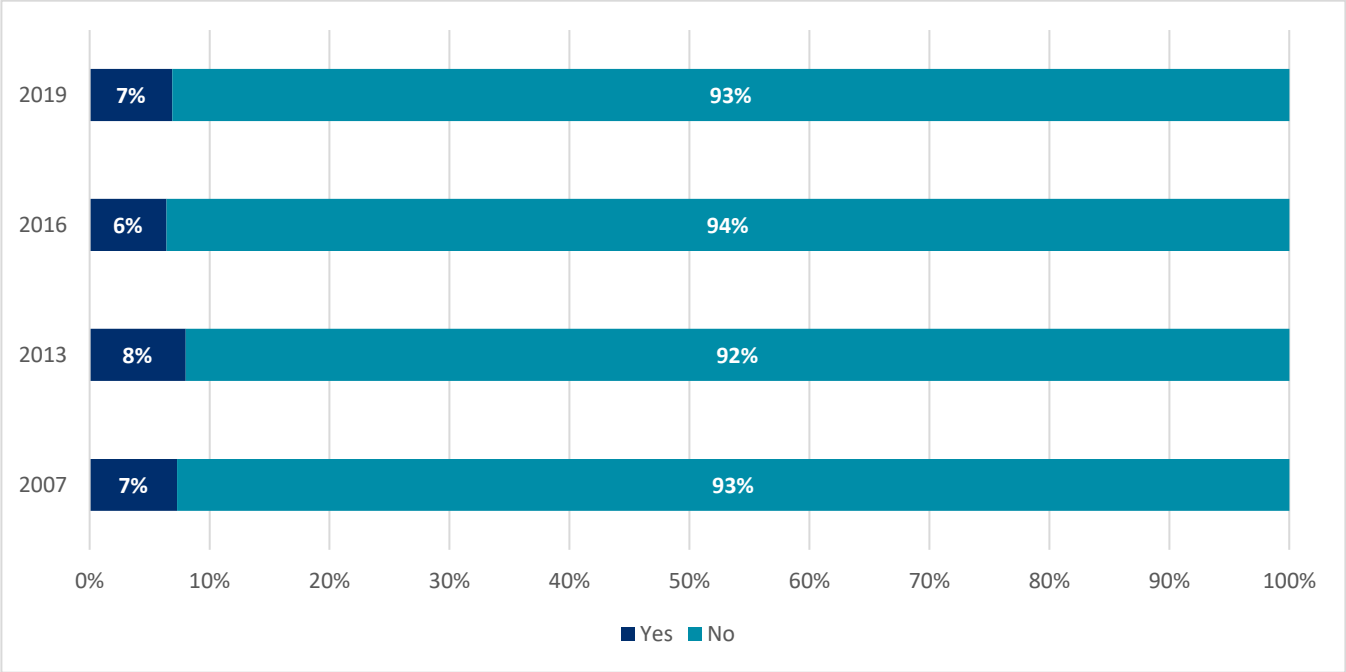
Overall

Between 6% and 8% of local adults have been diagnosed with heart disease, as illustrated in the table and chart below. The rate of heart disease has not changed significantly over time.

Table 22. Adult – Diagnosed with Heart Disease

Diagnosed with Heart Disease	2007	2013	2016	2019
Yes	7.3%	8.0%	6.4%	6.9%
No	92.7%	92.0%	93.6%	93.1%

Figure 3. Adult – Diagnosed with Heart Disease



The chart below compares heart disease diagnoses across local-level, county-level, state-level, and national-level data. It illustrates that in 2016 the Coachella Valley (6.4%) has a slightly higher percentage of heart disease diagnoses compared Riverside County (6.2%), however it is lower than the US (11.5%).

Table 23. Adult – Diagnosed with Heart Disease Across Regions

Region	2007	2013	2016	2019
Coachella Valley	7.3%	8.0%	6.4%	6.9%
Riverside County	6.1%	4.8%	6.2%	5.7%
California	6.3%	5.6%	6.2%	7.0%

Note: Riverside County-level data and state-level data are from California Health Interview Survey (CHIS).

Comparisons

Age Comparisons

There was a slight increase in the age group 40-64 for those diagnosed with heart disease between 2007 (3.8%) and 2019 (6.0%). Thus, there was a slight decrease in the age group 40-64 for those not diagnosed with heart disease between 2007 (96.2%) and 2019 (94.0%).

Table 24. Adult – Diagnosed with Heart Disease by Age

Age Group	2007	2013	2016	2019
18-39	*	*	*	*
40-64	3.8%	3.7%	4.7%	6.0%
65+	15.7%	16.5%	16.1%	14.4%

Note: Statistically unstable estimates are marked by a red asterisk.

Geographic Comparisons

The table below illustrates there was a slight decrease in the percentage of people diagnosed with heart disease living in Mid Valley between 2007 (8.9%) and 2019 (7.0%). There was a slight increase in the percentage of people living with heart disease residing in East Valley in 2007 (3.5%) compared to 2019 (5.9%).

Table 25. Adult – Diagnosed with Heart Disease by Geography

Geography	2007	2013	2016	2019
West Valley	7.9%	10.1%	6.5%	7.9%
Mid Valley	8.9%	8.5%	9.3%	7.0%
East Valley	3.5%	4.7%	3.7%	5.9%

Hispanic/Latino Comparisons

The table below shows that there an increase in the percentage of adults living with heart disease that identify as “Hispanic/Latino” from 2016 (2.5%) to 2019 (4.1%).

Table 26. Adult – Diagnosed with Heart Disease by Ethnicity

Ethnicity	2016	2019
Not Hispanic/Latino	9.5%	10.0%
Hispanic/Latino	2.5%	4.1%

Income Comparisons

Heart disease by income remained relatively unvaried between 2007 and 2019.

Table 27. Adult – Diagnosed with Heart Disease by Income

Income Level	2007	2013	2016	2019
$0 - $19,999	8.6%	5.3%	6.5%	8.7%
$20,000 - $49,999	6.9%	6.4%	4.3%	5.6%
$50,000 - $99,999	8.0%	9.8%	7.1%	7.2%
$100,000 or more	5.3%	9.1%	7.0%	6.6%

Education Comparisons

Heart disease by education level has remained relatively unchanged. However, there is a slight percentage decrease for adults with heart disease receiving a post-graduate education between 2007 (12.4%) and 2019 (10.4%). Thus, there was a slight percentage increase in adults without heart disease receiving a post-graduate education between 2007 (87.6%) and 2019 (89.6%).

Table 28. Adult – Diagnosed with Heart Disease by Education Level

Education Level	2007	2013	2016	2019
Less than high school	5.2%	5.6%	4.7%	5.9%
High school or GED	3.9%	7.5%	4.9%	3.7%
Some college	9.6%	7.6%	5.3%	8.3%
College	6.8%	6.9%	8.4%	6.3%
Post-graduate	12.4%	13.1%	10.0%	10.4%

Next, participants were asked whether they had ever been **diagnosed with cancer.**

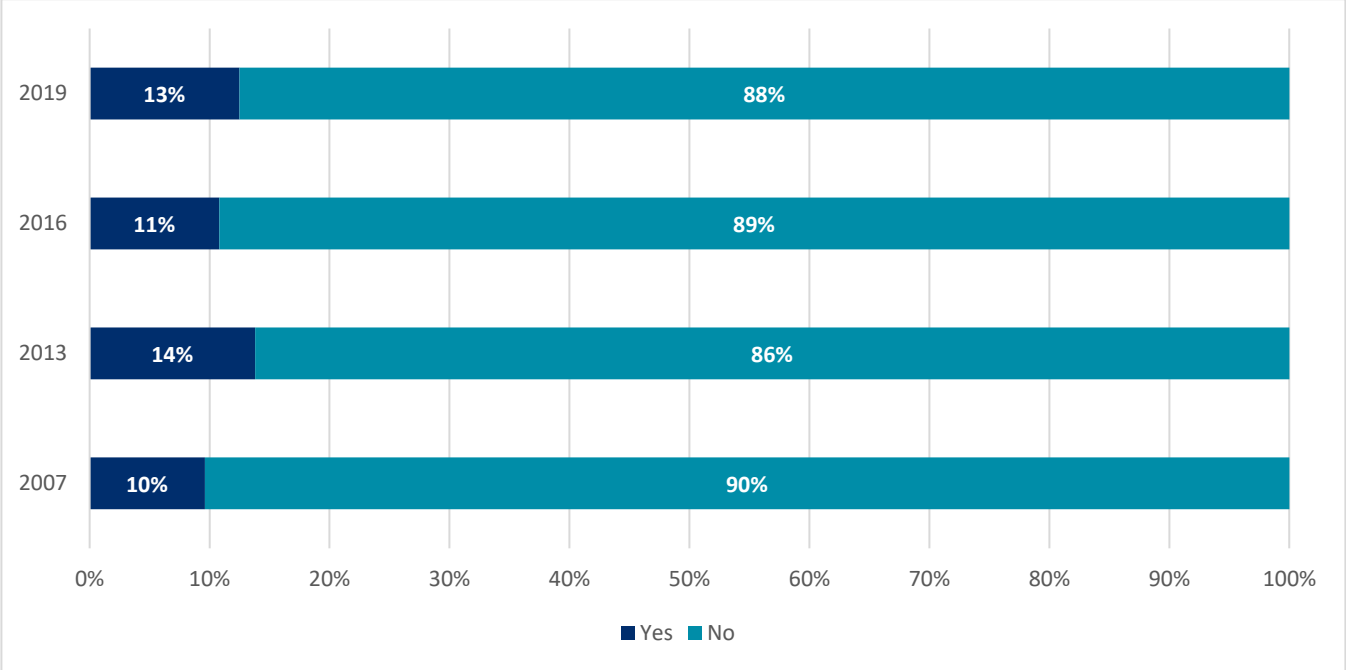
Overall

Depending on the year, between 9.6% and 13.8% of local adults have been diagnosed with cancer. Cancer diagnoses have been relatively stable over time.

Table 29. Adult – Diagnosed with Cancer

Cancer Diagnosis	2007	2013	2016	2019
Yes	9.6%	13.8%	10.8%	12.5%
No	90.4%	86.2%	89.2%	87.5%

Figure 4. Adult – Diagnosed with Cancer



Comparisons

Age Comparisons

The table below shows a percentage increase in the age group 65+ for adults diagnosed with cancer. Specifically, in 2007, 19.2% of adults received a cancer diagnosis while in 2019 this rate increased to 29.6%.

Table 30. Adult – Diagnosed with Cancer by Age

Age Group	2007	2013	2016	2019
18-39	*	*	*	*
40-64	7.2%	9.0%	8.5%	9.2%
65+	19.2%	28.7%	27.1%	29.6%

Note: Statistically unstable estimates are marked by a red asterisk.

Geographic Comparisons

There has been a percentage increase for adults with cancer living in West Valley between 2007 (8.3%) and 2019 (13.7%). There has also been a percentage increase for adults with a cancer diagnosis living in Mid Valley between 2007 (13.7%) and 2019 (18.7%).

Table 31. Adult – Diagnosed with Cancer by Geography

Geography	2007	2013	2016	2019
West Valley	8.3%	12.0%	12.2%	13.7%
Mid Valley	13.7%	19.9%	16.5%	18.7%
East Valley	6.0%	7.5%	4.3%	5.7%

Hispanic/Latino Comparisons

The table below illustrates there has been a percentage increase in adults with cancer identifying as "Not Hispanic/Latino" between 2016 (17.3%) and 2019 (22.8%).

Table 32. Adult – Diagnosed with Cancer by Ethnicity

Ethnicity	2016	2019
Not Hispanic/Latino	17.3%	22.8%
Hispanic/Latino	2.7%	3.1%

Income Comparisons

The table below illustrates there has been a spike in adults with cancer making $50,000-$99,999 between 2007 (8.0%) and 2019 (15.0%). There has also been a slight increase in adults with cancer who earn $100,000 or more between 2007 (14.3%) and 2013 (20.3%).

Table 33. Adult – Diagnosed with Cancer by Income

Income Level	2007	2013	2016	2019
$0 - $19,999	7.8%	7.7%	8.2%	8.2%
$20,000 - $49,999	9.1%	7.4%	9.0%	9.1%
$50,000 - $99,999	8.0%	18.4%	11.0%	15.0%
$100,000 or more	14.3%	20.3%	17.3%	18.2%

Education Comparisons

There has been a percentage increase in adults with cancer receiving a college-level education between 2007 (10.3%) and 2019 (15.3%). There has also been a percentage increase for adults with cancer with a post-graduate education between 2007 (17.3%) and 2019 (22.5%).

Table 34. Adult – Diagnosed with Cancer by Education Level

Education Level	2007	2013	2016	2019
Less than high school	6.5%	6.3%	4.6%	6.5%
High school or GED	5.4%	9.5%	7.5%	4.2%
Some college	11.1%	14.4%	9.9%	13.6%
College	10.3%	15.9%	13.8%	15.3%
Post-graduate	17.3%	20.6%	21.0%	22.5%

Next, participants were asked whether they had **had a stroke.**

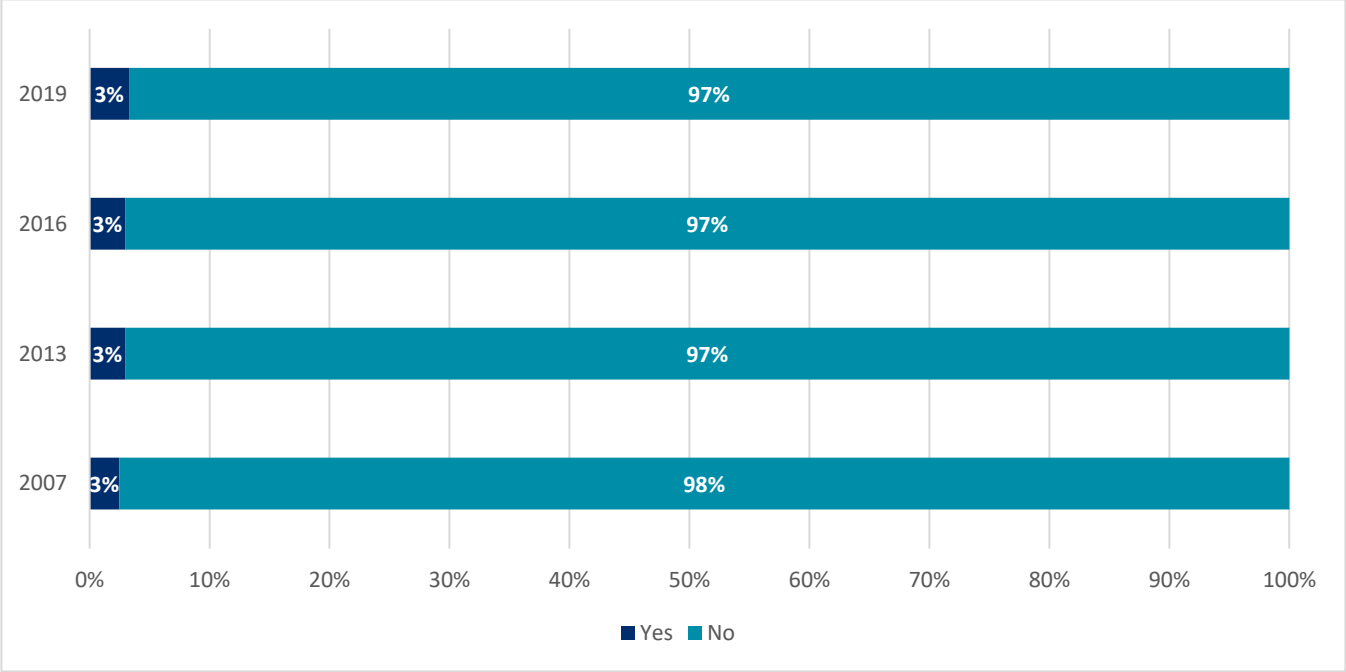
Overall

Approximately 3.0% of local adults are stroke survivors, as illustrated in the table and chart below. This rate has not varied over time.

Table 35. Adult – Diagnosed with Stroke

Had a stroke	2007	2013	2016	2019
Yes	2.5%	3.0%	3.0%	3.3%
No	97.5%	97.0%	97.0%	96.7%

Figure 5. Adult – Diagnosed with Stroke



Comparisons

Age Comparisons

Age comparisons by stroke have remained relatively unvaried throughout the years.

Table 36. Adult – Diagnosed with Stroke by Age

Age Group	2007	2013	2016	2019
18-39	*	*	*	*
40-64	1.2%	2.8%	2.3%	2.4%
65+	5.6%	5.3%	6.5%	6.7%

Note: Statistically unstable estimates are marked by a red asterisk.

Geographic Comparisons

The table below illustrates there was a slight percentage increase of people who had a stroke living in East Valley between 2007 (1.4%) and 2019 (3.4%).

Table 37. Adult – Diagnosed with Stroke by Geography

Geography	2007	2013	2016	2019
West Valley	3.4%	4.0%	2.1%	3.1%
Mid Valley	2.2%	2.9%	4.4%	3.5%
East Valley	1.4%	1.6%	2.6%	3.4%

Hispanic/Latino Comparisons

Ethnicity comparisons based on adults suffering from a stroke in the Coachella Valley has relatively remained unvaried between 2016 and 2019.

Table 38. Adult – Diagnosed with Stroke by Ethnicity

Ethnicity	2016	2019
Not Hispanic/Latino	4.2%	4.6%
Hispanic/Latino	1.4%	2.1%

Income Comparisons

The table below shows there has been a slight percentage increase for people who suffered from a stroke who earn $100,000 or more between 2007 (0.6%) and 2013 (2.4%).

Table 39. Adult – Diagnosed with Stroke by Income

Income Level	2007	2013	2016	2019
$0 - $19,999	3.8%	*	3.4%	4.9%
$20,000 - $49,999	2.0%	2.4%	2.5%	2.6%
$50,000 - $99,999	2.0%	4.5%	2.2%	2.7%
$100,000 or more	0.6%	2.4%	2.4%	2.4%

Note: Statistically unstable estimates are marked by a red asterisk.

Education Comparisons

Education level by stroke incidence has remained relatively unchanged between 2007 and 2019.

Table 40. Adult – Diagnosed with Stroke by Education Level

Education Level	2007	2013	2016	2019
Less than high school	1.8%	1.9%	1.3%	3.2%
High school or GED	1.4%	2.9%	2.3%	2.9%
Some college	3.1%	3.7%	2.5%	4.8%
College	3.6%	2.0%	4.2%	1.9%
Post-graduate	2.5%	4.1%	5.3%	3.4%

Next, participants were asked whether they had **been diagnosed with asthma.**

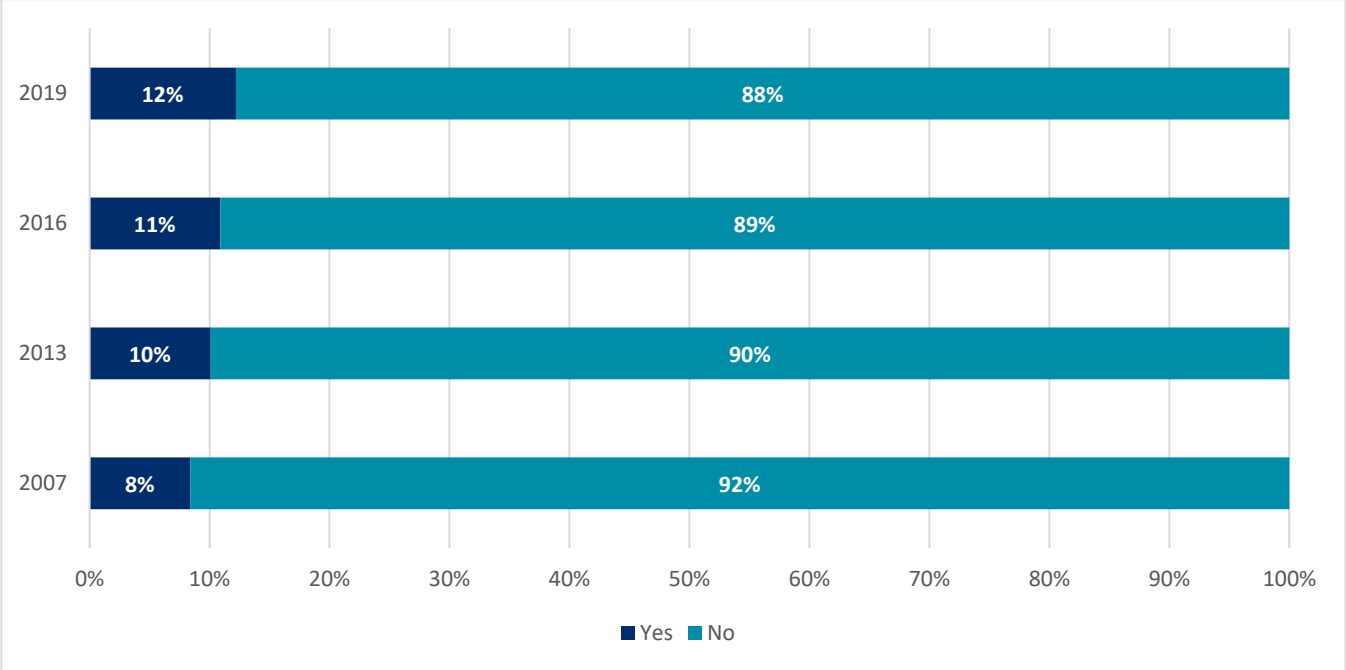
Overall

There has been a slight increase in diagnosis of adult asthma in the Coachella Valley over the years, as illustrated in the table and chart below.

Table 41. Adult – Diagnosed with Asthma

Diagnosed with Asthma	2007	2013	2016	2019
Yes	8.4%	10.1%	10.9%	12.2%
No	91.6%	89.9%	89.1%	87.8%

Figure 6. Adult – Diagnosed with Asthma



Overall, Coachella Valley adults have fewer asthma diagnoses than adults in Riverside and California as a whole, as illustrated in the table below.

Table 42. Adult – Diagnosed with Asthma by Region

Diagnosed with Asthma	2007	2013	2016	2019
Coachella Valley	8.4%	10.1%	10.9%	12.2%
Riverside County	11.7%	11.5%	15.0%	11.6%
California	13.0%	14.1%	14.3%	16.0%

Note: Riverside County and California data are from the California Health Interview Survey (CHIS). No CHIS data was available for the year 2010, and thus, no comparisons are provided for that year.

Comparisons

Age Comparisons

The table below shows a percentage increase for adults with asthma in the age group 18-39 between 2007 (10.8%) and 2013 (15.8%).

Table 43. Adult – Diagnosed with Asthma by Age

Age Group	2007	2013	2016	2019
18-39	10.8%	15.8%	12.2%	14.8%
40-64	9.3%%	7.9%	10.5%	12.2%
65+	5.7%	7.9%	9.8%	9.4%

Geographic Comparisons

There was a percentage increase for adults diagnosed with asthma living in Mid Valley between 2007 (6.2%) and 2019 (15.5%).

Table 44. Adult – Diagnosed with Asthma by Geography

Geography	2007	2013	2016	2019
West Valley	8.6%	11.0%	10.3%	11.6%
Mid Valley	6.2%	8.6%	10.3%	15.5%
East Valley	8.3%	11.1%	12.0%	9.6%

Hispanic/Latino Comparisons

Ethnicity comparisons by asthma diagnosis remained relatively unvaried between 2016 and 2019.

Table 45. Adult – Diagnosed with Asthma by Ethnicity

Ethnicity	2016	2019
Not Hispanic/Latino	11.9%	13.9%
Hispanic/Latino	9.6%	10.3%

Income Comparisons

The table below illustrates a decrease in the percentage of adults with asthma who earn less than $19,999 from the year 2007 (19.4%) to 2013 (10.6%). There was a percentage increase for adults with asthma with an income of $20,000-$49,999 between 2007 (7.3%) and 2019 (13.6%). Similarly, there was an increase for adults with asthma with an income of $100,000 or more between 2007 (9.7%) and 2016 (17.3%).

Table 46. Adult – Diagnosed with Asthma by Income

Income Level	2007	2013	2016	2019
$0 - $19,999	19.4%	10.6%	11.5%	13.6%
$20,000 - $49,999	7.3%	10.6%	10.2%	13.6%
$50,000 - $99,999	5.3%	8.9%	6.6%	10.6%
$100,000 or more	9.7%	11.9%	17.3%	11.1%

Education Comparisons

There was an increase in the percentage of adults with a high school or GED education diagnosed with asthma between 2007 (9.5%) and 2019 (14.6%). Similarly, there was an increase in adults with a college-level education diagnosed with asthma between 2007 (6.4%) and 2019 (13.7%). There was also an increase in the proportion of adults with a post-graduate degree and that have been diagnosed with asthma between 2007 (6.1%) and 2016 (15.8%).

Table 47. Adult – Diagnosed with Asthma by Education Level

Education Level	2007	2013	2016	2019
Less than high school	10.5%	11.9%	8.4%	7.7%
High school or GED	9.5%	13.0%	10.7%	14.6%
Some college	8.9%	10.9%	11.3%	11.0%
College	6.4%	7.9%	9.4%	13.7%
Post-graduate	6.1%	7.6%	15.8%	13.9%

Next, participants were asked whether they had **been diagnosed with a respiratory disease other than asthma,** such as chronic obstructive pulmonary disease (COPD).

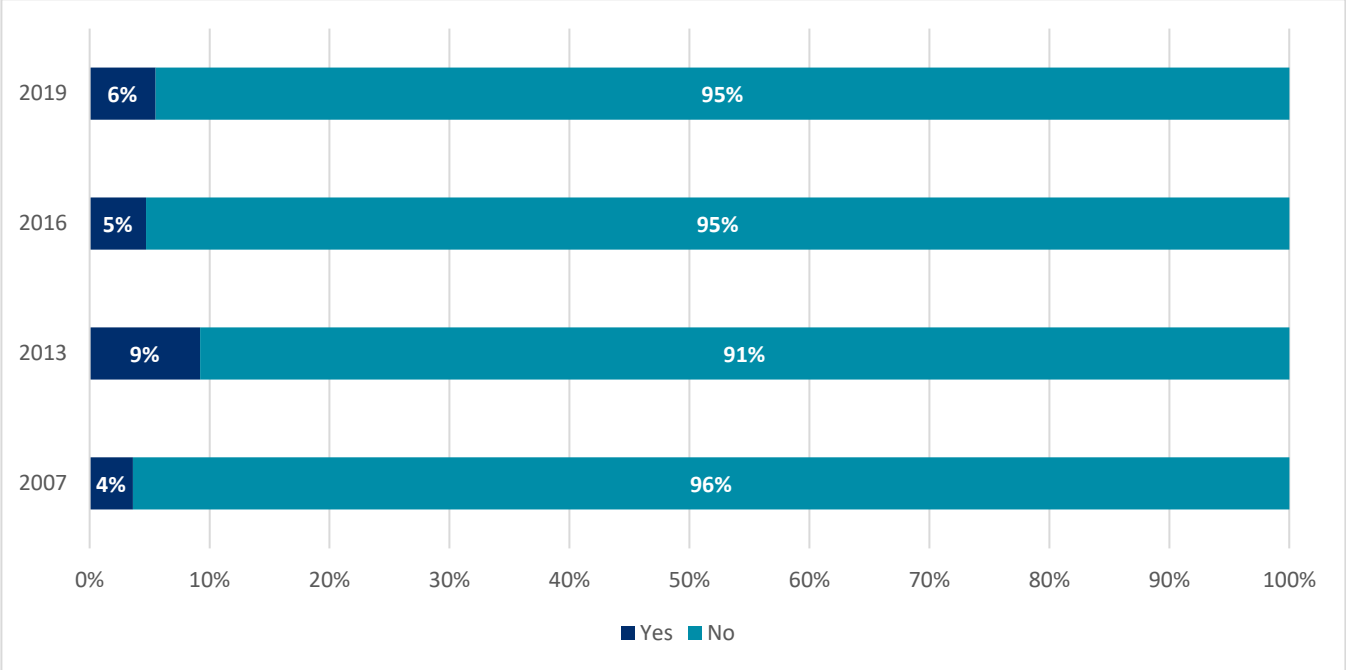
Overall

Overall, the vast majority of Coachella Valley adults have not been diagnosed with a respiratory disease such as emphysema or chronic obstructive pulmonary disease (COPD). The table below illustrates there has been an increase in the percentage of adults diagnosed with a respiratory disease between 2007 (3.6%) and 2013 (9.2%). However, the figure decreased to 5.5% in 2019.

Table 48. Adult – Diagnosed with Respiratory Disease Other than Asthma

Diagnosed with Respiratory Disease	2007	2013	2016	2019
Yes	3.6%	9.2%	4.7%	5.5%
No	96.4%	90.8%	95.3%	94.5%

Figure 7. Adult – Diagnosed with Respiratory Disease Other than Asthma



Comparisons

Age Comparisons

The table below demonstrates that there has been a percentage increase for adults with a respiratory disease diagnosis in the age group 65+ between 2007 (4.9%) and 2013 (12.2%). Thus, there has been a decrease in the percentage of adults without a respiratory disease in the age group 65+ between 2007 (95.1%) and 2013 (87.8%).

Table 49. Adult – Diagnosed with Respiratory Disease by Age

Age Group	2007	2013	2016	2019
18-39	*	6.7%	*	2.2%
40-64	4.1%	8.1%	3.7%	3.7%
65+	4.9%	12.2%	11.3%	11.3%

Note: Statistically unstable estimates are marked by a red asterisk.

Geographic Comparisons

There was been an increase in the percentage of adults with a respiratory disease living in West Valley between 2007 (5.6%) and 2013 (10.5%). Similarly, the percentage of adults living in Mid Valley with a respiratory disease also increased between 2007 (2.2%) and 2013 (9.9%). Lastly, the East Valley also had a percentage increase of adults with a respiratory disease between 2007 (1.6%) and 2013 (6.7%).

Table 50. Adult – Diagnosed with Respiratory Disease by Geography

Geography	2007	2013	2016	2019
West Valley	5.6%	10.5%	6.5%	6.6%
Mid Valley	2.2%	9.9%	5.0%	5.9%
East Valley	1.6%	6.7%	2.4%	4.0%

Hispanic/Latino Comparisons

Ethnicity by respiratory diagnosis has remained relatively static between 2016 and 2019.

Table 51. Adult – Diagnosed with Respiratory Disease by Ethnicity

Ethnicity	2016	2019
Not Hispanic/Latino	7.4%	8.0%
Hispanic/Latino	1.2%	3.1%

Income Comparisons

The percent of low-income adults ($0 to $19,999) who have been diagnosed with respiratory disease has dropped over the years.

Table 52. Adult – Diagnosed with Respiratory Disease by Income

Income Level	2007	2013	2016	2019
$0 - $19,999	12.2%	7.3%	4.7%	6.4%
$20,000 - $49,999	2.7%	12.0%	4.0%	8.3%
$50,000 - $99,999	2.3%	8.4%	2.9%	4.7%
$100,000 or more	2.3%	7.7%	4.3%	3.5%

Education Comparisons

As illustrated below, respiratory disease does not appear to change substantially over time based on educational level.

Table 53. Adult – Diagnosed with Respiratory Disease by Education Level

Education Level	2007	2013	2016	2019
Less than high school	6.1%	10.6%	2.4%	5.3%
High school or GED	2.7%	10.1%	3.6%	3.3%
Some college	4.3%	10.8%	6.4%	7.0%
College	2.6%	6.4%	4.8%	4.5%
Post-graduate	2.4%	8.5%	5.6%	6.5%

Next, participants were asked whether they had **been diagnosed with bone disease**, such as osteoporosis**.**

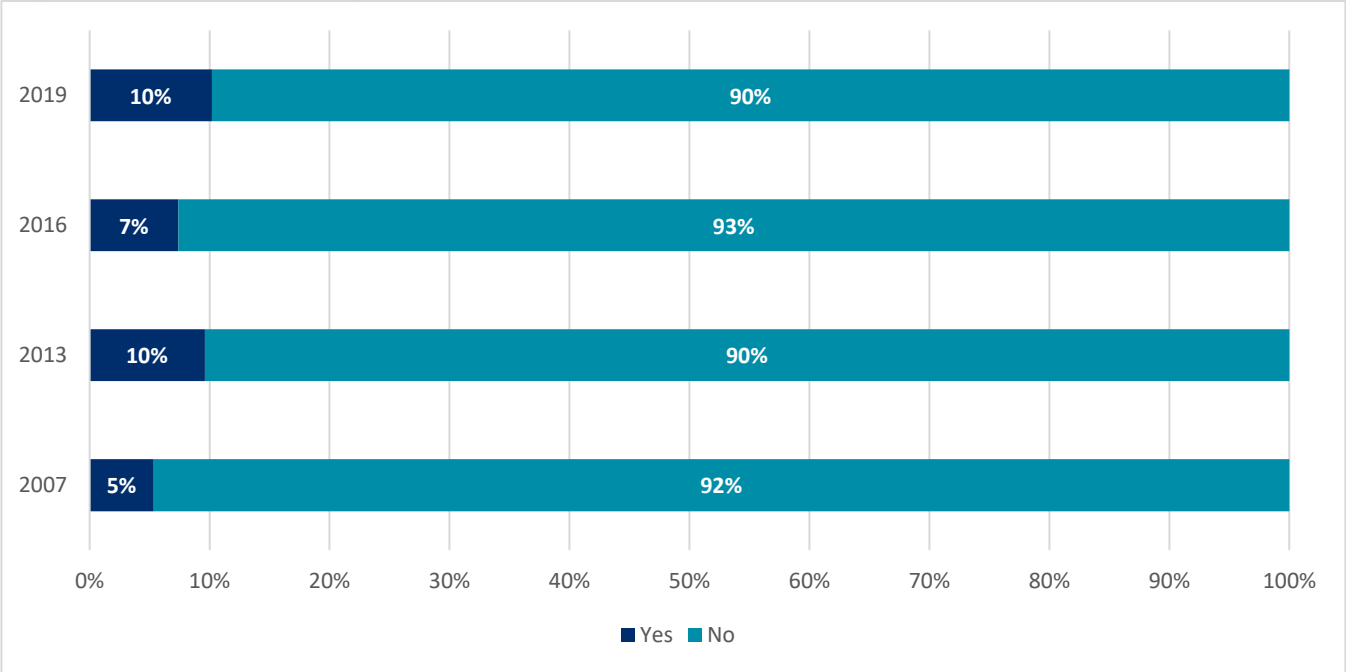
Overall

The table below shows bone disease diagnoses nearly doubled between 2007 (5.2%) and 2019 (10.2%). Despite that overwhelming statistic, the vast majority of Coachella Valley adults have not been diagnosed with a bone disease such as osteoporosis.

Table 54. Adult – Diagnosed with Bone Disease

Diagnosed with Bone Disease	2007	2013	2016	2019
Yes	5.2%	9.6%	7.4%	10.2%
No	92.2%	90.4%	92.6%	89.8%

Figure 8. Adult – Diagnosed with Bone Disease



Comparisons

Age Comparisons

There has been a slight percentage increase for adults with a bone disease diagnosis in the age group 40-64 between 2007 (5.2%) and 2013 (9.7%). There was a spike in adults with a bone disease in the age group 65+ between 2007 (11.8%) and 2019 (22.7%).

Table 55. Adult – Diagnosed with Bone Disease by Age

Age Group	2007	2013	2016	2019
18-39	*	*	*	*
40-64	5.2%	9.7%	7.5%	8.4%
65+	11.8%	16.7%	16.7%	22.7%

Note: Statistically unstable estimates are marked by a red asterisk.

Geographic Comparisons

The table below shows there was a percentage increase for adults with a bone disease living in Mid Valley between 2007 (7.3%) and 2019 (13.1%). Similarly, there was a percentage increase for adults living with a bone disease residing in East Valley between 2007 (3.8%) and 2019 (8.6%).

Table 56. Adult – Diagnosed with Bone Disease Geography

Geography	2007	2013	2016	2019
West Valley	6.8%	10.5%	9.5%	9.1%
Mid Valley	7.3%	10.3%	8.7%	13.1%
East Valley	3.8%	7.4%	4.2%	8.6%

Hispanic/Latino Comparisons

There was a percentage increase in adults with a bone disease reporting their ethnicity as "Not Hispanic/Latino" between 2016 (10.0%) and 2019 (13.8%).

Table 57. Adult – Diagnosed with Bone Disease by Ethnicity

Ethnicity	2016	2019
Not Hispanic/Latino	10.0%	13.8%
Hispanic/Latino	4.2%	7.0%

Income Comparisons

The table below illustrates a percentage increase for adults with a bone disease making an income of $100,000 or more between 2007 (3.1%) and 2013 (8.7%).

Table 58. Adult – Diagnosed with Bone Disease by Income

Income Level	2007	2013	2016	2019
$0 - $19,999	11.0%	7.2%	6.3%	8.7%
$20,000 - $49,999	5.9%	7.2%	6.9%	8.5%
$50,000 - $99,999	6.0%	12.3%	6.0%	10.1%
$100,000 or more	3.1%	8.7%	6.5%	8.5%

Education Comparisons

The table below shows there was a significant percentage increase for adults living with a bone disease receiving less than a high school education between 2007 (4.1%) and 2019 (15.5%). Similarly, there was a percentage increase for adults living with a bone disease receiving a post-graduate education between 2007 (8.1%) and 2019 (12.7%).

Table 59. Adult – Diagnosed with Bone Disease by Education Level

Education Level	2007	2013	2016	2019
Less than high school	4.1%	13.5%	8.5%	15.5%
High school or GED	7.6%	7.7%	5.6%	7.0%
Some college	7.5%	9.6%	8.5%	9.9%
College	4.5%	8.0%	5.7%	8.2%
Post-graduate	8.1%	11.0%	9.2%	12.7%

Next, participants were asked whether they had **been diagnosed with arthritis.**

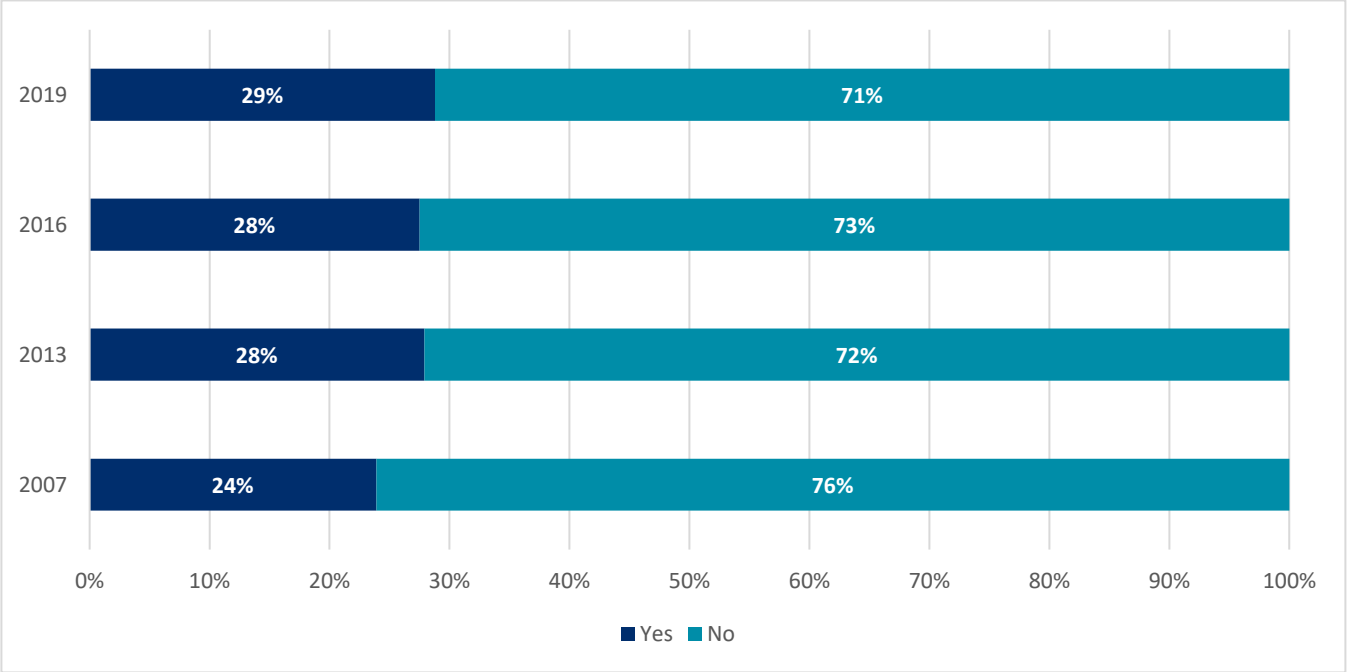
Overall

The table below shows adults living with arthritis has slightly increase between 2007 (23.9%) to 2019 (28.8%). A little less than three-quarters of Coachella Valley adults have not been diagnosed with arthritis.

Table 60. Adult – Diagnosed with Arthritis

Arthritis Diagnosis	2007	2013	2016	2019
Yes	23.9%	27.9%	27.5%	28.8%
No	76.1%	72.1%	72.5%	71.2%

Figure 9. Adult – Diagnosed with Arthritis



Overall, the percent of local adults diagnosed with arthritis is higher in Coachella Valley than in California as a whole, as illustrated in the table below.

Table 61. Adults Diagnosed with Arthritis Across Regions

Region	2013	2016	2019
Coachella Valley	27.9%	27.5%	28.8%
California	20.4%	19.0%	19.8%
United States	25.3%	25.8%	-

Note: California and United States Data are from the Behavioral Risk Factor Surveillance Survey, conducted by the Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Division of Population Health. Data was missing for the U.S. for 2019; it may be that the question was not assessed for that group that year.

Comparisons

Age Comparisons

There was a percentage increase of adults diagnosed with arthritis in the age group 18-39 between 2007 (1.7%) and 2016 (8.8%). Similarly, there was also a percentage increase for adults with arthritis in the age group 65+ between 2007 (43.1%) and 2019 (54.6%).

Table 62. Adult – Diagnosed with Arthritis by Age

Age Group	2007	2013	2016	2019
18-39	1.7%	3.2%	8.8%	6.7%
40-64	24.4%	25.1%	26.9%	27.2%
65+	43.1%	50.5%	52.8%	54.6%

Geographic Comparisons

The table below illustrates there was a percentage increase of adults with arthritis living in Mid Valley between 2007 (27.5%) and 2016 (35.5%). Similarly, there was a percentage increase of adults with arthritis living in East Valley between 2007 (16.5%) and 2019 (25.3%).

Table 63. Adult – Diagnosed with Arthritis by Geography

Geography	2007	2013	2016	2019
West Valley	25.4%	28.0%	28.3%	28.6%
Mid Valley	27.5%	30.9%	35.5%	32.9%
East Valley	16.5%	23.1%	19.4%	25.3%

Hispanic/Latino Comparisons

Ethnicity comparisons by arthritis diagnosis remained relatively unvaried between 2016 and 2019.

Table 64. Adult – Diagnosed with Arthritis by Ethnicity

Ethnicity	2016	2019
Not Hispanic/Latino	36.8%	39.1%
Hispanic/Latino	15.8%	19.3%

Income Comparisons

There was a spike in adults with arthritis with an income less than $19,999 between 2013 (16.4%) and 2019 (31.5%). Similarly, there was a percentage increase for adults with arthritis with an income of $20,000-$49,999 between 2013 (18.9%) and 2016 (25.9%). There was also a percentage increase for adults with arthritis between 2007 (24.0%) and 2013 (34.2%). Similarly, there was a percentage increase for adults with arthritis with an income of $100,000 or more between 2007 and 2013 as well.

Table 65. Adult – Diagnosed with Arthritis by Income

Income Level	2007	2013	2016	2019
$0 - $19,999	24.5%	16.4%	26.2%	31.5%
$20,000 - $49,999	19.9%	18.9%	25.9%	25.6%
$50,000 - $99,999	24.0%	34.2%	29.2%	30.6%
$100,000 or more	22.2%	31.8%	31.4%	31.0%

Education Comparisons

There was a significant percentage increase of adults diagnosed with arthritis receiving less than a high school education between 2007 (10.7%) and 2019 (32.9%). Thus, there was a significant percentage decrease for adults without arthritis receiving less than a high school education between 2007 (89.3%) and 2019 (67.1%).

Table 66. Adult – Diagnosed with Arthritis by Education Level

Education Level	2007	2013	2016	2019
Less than high school	10.7%	26.4%	24.4%	32.9%
High school or GED	22.2%	25.4%	20.7%	19.3%
Some college	28.3%	32.0%	29.5%	29.3%
College	26.5%	22.3%	30.2%	28.0%
Post-graduate	31.0%	32.7%	33.7%	36.9%

Next, participants were asked whether they had **ever had a heart attack.**

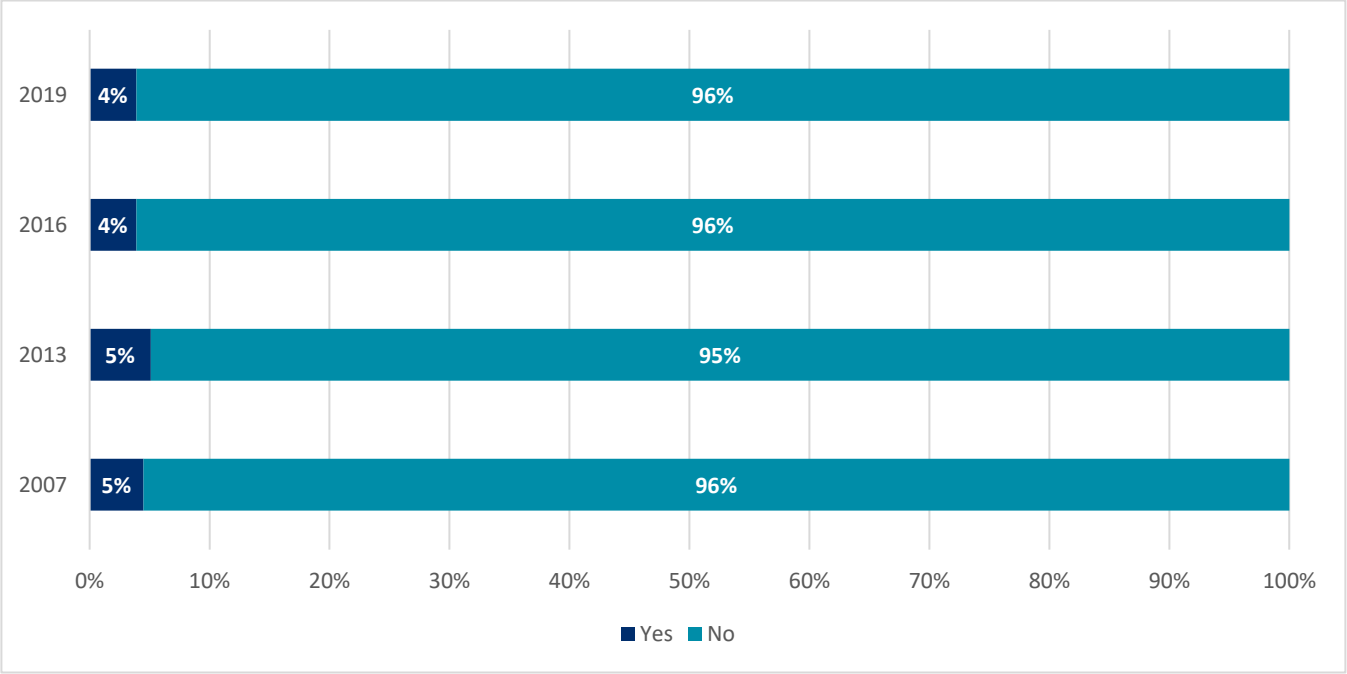
Overall

To assess heart attack incidences among Coachella Valley adults, participants were asked, "Has a doctor, nurse, or other health professional ever told you that you had a heart attack, also called a myocardial infarction?" The table below shows there has been a percentage decrease in adults who had a heart attack between 2007 (4.5%) and 2019 (3.9%). The vast majority of adults in the Coachella Valley have not had a heart attack.

Table 67. Adult – Diagnosed with Heart Attack

Had a Heart Attack	2007	2013	2016	2019
Yes	4.5%	5.1%	3.9%	3.9%
No	95.5%	94.9%	96.1%	96.1%

Figure 10. Adult – Diagnosed with Heart Attack



Comparisons

Age Comparisons

Heart attacks by age group are relatively unvaried over time, as illustrated in the table below.

Table 68. Adult – Diagnosed with Heart Attack by Age

Age Group	2007	2013	2016	2019
18-39	*	*	*	*
40-64	2.4%	3.8%	4.4%	3.1%
65+	9.2%	9.7%	7.6%	8.8%

Note: Statistically unstable estimates are marked by a red asterisk.

Geographic Comparisons

Geographic comparisons by heart attack incidences are relatively unvaried between the years 2007 to 2019.

Table 69. Adult – Diagnosed with Heart Attack by Geography

Geography	2007	2013	2016	2019
West Valley	5.4%	7.2%	4.3%	5.1%
Mid Valley	4.2%	4.3%	4.9%	4.6%
East Valley	2.8%	3.3%	2.6%	2.3%

Hispanic/Latino Comparisons

Ethnicity comparisons by heart attack incidences is relatively unvaried between the years 2016 to 2019.

Table 70. Adult – Diagnosed with Heart Attack by Ethnicity

Ethnicity	2016	2019
Not Hispanic/Latino	4.7%	6.1%
Hispanic/Latino	2.7%	1.9%

Income Comparisons

The table below illustrates a slight percentage decrease for adults who have had a heart attack with an income level less than $19,999 between from the year 2007 (6.3%) to 2013 (3.5%). Conversely, there was a slight percentage increase for adults who have had a heart attack with an income of $100,000 or more between 2007 (2.6%) and 2013 (5.5%).

Table 71. Adult – Diagnosed with Heart Attack by Income

Income Level	2007	2013	2016	2019
$0 - $19,999	6.3%	3.5%	4.9%	3.9%
$20,000 - $49,999	4.0%	1.8%	3.1%	3.6%
$50,000 - $99,999	4.8%	7.4%	3.6%	4.4%
$100,000 or more	2.6%	5.5%	3.4%	2.4%

Education Comparisons

There was a slight increase in the percentage of adults with a post-graduate education who have had a heart attack between 2007 (5.0%) to 2013 (8.1%); however, this rate has decreased in recent years.

Table 72. Adult – Diagnosed with Heart Attack by Education Level

Education Level	2007	2013	2016	2019
Less than high school	4.2%	5.2%	5.0%	5.0%
High school or GED	3.2%	4.0%	1.7%	1.3%
Some college	6.4%	5.3%	4.5%	4.8%
College	3.5%	3.9%	3.9%	3.3%
Post-graduate	5.0%	8.1%	4.1%	5.5%

To assess diabetes diagnoses for adults, participants were asked, "[Other than during pregnancy"], **has a doctor, nurse, or other health care professional ever told you that you have diabetes** or sugar diabetes?" This question was not asked in 2007.

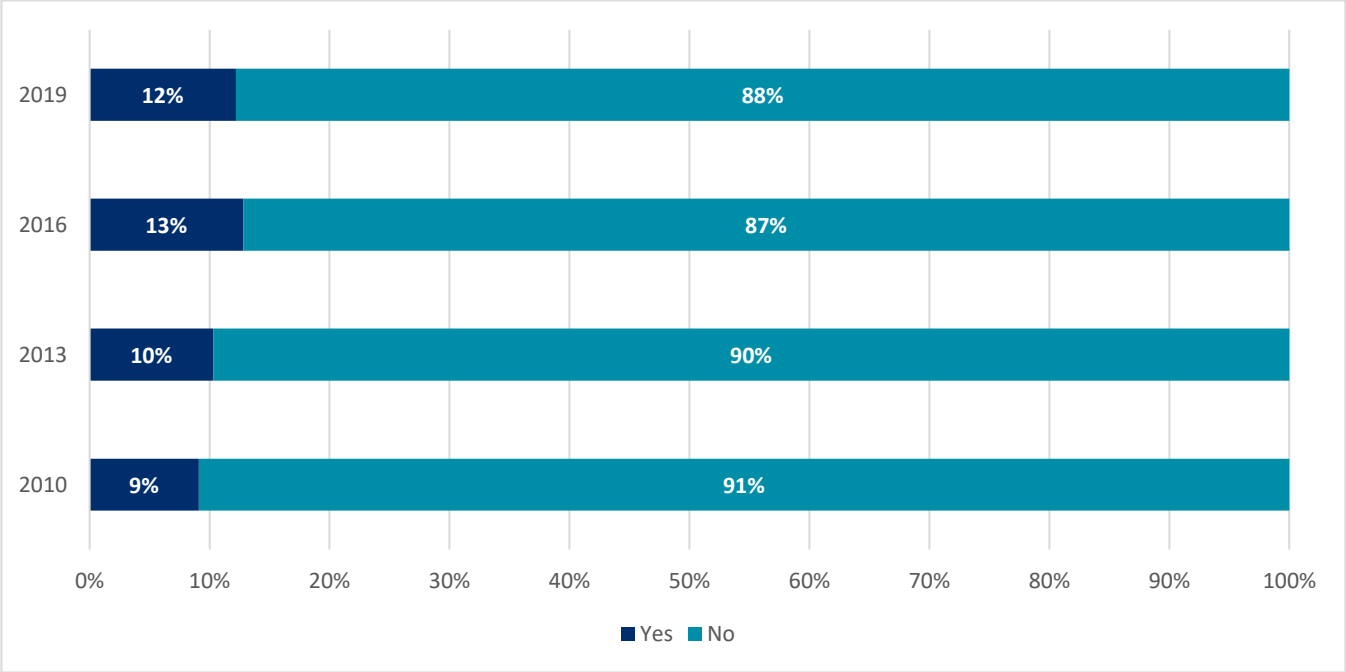
Overall

The rate of diabetes has slowly increased from 9.1% in 2019, to now 12.2% in 2019.

Table 73. Adult – Diagnosed with Diabetes

Diagnosed with Diabetes	2010	2013	2016	2019
Yes	9.1%	10.3%	12.8%	12.2%
No	90.9%	89.7%	87.2%	87.8%

Figure 11. Adult – Diagnosed with Diabetes



The table below draws comparisons at the local level, county level, state level, and national level with respect to diabetes diagnoses. As illustrated in the table below, in 2016, the Coachella Valley has a higher percentage of adults (12.8%) diagnosed with diabetes in comparison to Riverside County (10.1%), California (9.1%), and the United States (8.8%).

Table 74. Adults Diagnosed with Diabetes

Region	2013	2016	2019
Coachella Valley	10.3%	12.8%	12.2%
Riverside County	7.8%	10.1%	13.1%
California	8.7%	9.1%	9.9%

Note: Riverside County-level data and state-level data are from California Health Interview Survey (CHIS).

Comparisons

Age Comparisons

The table below illustrates adults with diabetes in the age group 40-64 has increased between 2010 (10.2%) and 2016 (16.2%). Similarly, adults with diabetes in the age group 65+ has also increased between 2010 (12.7%) and 2016 (19.9%).

Table 75. Adult – Diagnosed with Diabetes by Age

Age Group	2010	2013	2016	2019
18-39	*	2.9%	3.4%	4.0%
40-64	10.2%	10.7%	16.2%	14.6%
65+	12.7%	15.8%	19.9%	17.7%

Note: Statistically unstable estimates are marked by a red asterisk.

Geographic Comparisons

There has been a percentage increase for adults diagnosed with diabetes living in East Valley between 2010 (10.3%) and 2019 (16.0%). Thus, there was a percentage decrease for adults without diabetes in 2010 living in East Valley between 2010 (89.7%) and 2019 (84.0%).

Table 76. Adult – Diagnosed with Diabetes by Geography

Geography	2010	2013	2016	2019
West Valley	9.2%	12.4%	13.1%	11.7%
Mid Valley	8.5%	7.9%	13.5%	8.7%
East Valley	10.3%	10.9%	11.8%	16.0%

Hispanic/Latino Comparisons

Diabetes diagnosis by ethnicity has remained relatively unvaried between the years 2016 and 2019.

Table 77. Adult – Diagnosed with Diabetes by Ethnicity

Ethnicity	2016	2019
Not Hispanic/Latino	13.9%	10.6%
Hispanic/Latino	11.3%	13.9%

Income Comparisons

There has been a slight percentage increase in the diabetes rate for adults earning less than $19,999 from the years 2010 (11.9%) to 2019 (15.0%).

Table 78. Adult – Diagnosed with Diabetes by Income

Income Level	2010	2013	2016	2019
$0 - $19,999	11.9%	8.0%	14.5%	15.0%
$20,000 - $49,999	8.8%	10.3%	13.6%	11.5%
$50,000 - $99,999	6.6%	11.1%	9.0%	10.9%
$100,000 or more	9.1%	11.6%	11.3%	9.8%

Education Comparisons

There has been an increase in the rate of diabetes for adults with a high school education from the years 2010 (15.0%) to 2019 (26.0%).

Table 79. Adult – Diagnosed with Diabetes by Education Level

Education Level	2010	2013	2016	2019
Less than high school	15.0%	14.9%	18.8%	26.0%
High school or GED	8.6%	10.7%	8.1%	11.8%
Some college	6.9%	9.1%	12.3%	8.5%
College	9.6%	8.1%	12.0%	10.4%
Post-graduate	8.4%	11.6%	13.0%	9.2%

Child Results

Child Demographics

It is important to note here that children do not actually participate in the survey, but rather the questions are answered by an adult determined knowledgeable about the selected child. For each survey cycle, the vast majority of adults answering questions for their children are parents of the child. Sometimes, however, this person is an adoptive parent, grandparent, stepparent, etc. For brevity, the adult respondent will be referred to as the parent/guardian throughout the narratives.

Gender

The distribution of male and female children has not substantially changed over the years in the Coachella Valley; this is partially due to the weighting of the data. About half of children are males and the remaining half are females.

Table 80. Child Gender

Gender	2007	2010	2013	2016	2019
Male	56.6%	54.7%	48.6%	51.0%	50.7%
Female	43.4%	45.3%	51.4%	49.0%	49.3%

Age

Likewise, the percentage of children ages 0-5 and 6-17 has not substantially changed from 2007 to 2019.

Table 81. Child Age

Age Group	2007	2010	2013	2016	2019
0-5	31.5%	33.7%	35.7%	31.7%	37.6%
6-17	68.5%	66.3%	64.3%	68.3%	62.4%

Race/Ethnicity

From 2007 to 2013, race and ethnicity were assessed in a single question. However, from 2016 to 2019, HARC began asking questions pertaining to race and ethnicity using the same protocol as the U.S. Census, which is two separate questions.

Early measures of race/ethnicity illustrated that the majority of local children are Hispanic/Latino, as illustrated in the table below.

Table 82. Child Race/Ethnicity – 2007 - 2013

Race	2007	2010	2013
White/Caucasian	23.8%	19.2%	19.9%
Black/African American	5.6%	6.0%	6.2%
Asian	1.1%	1.6%	1.4%
Native Hawaiian or Other Pacific Islander	0.2%	1.4%	0.0%
American Indian/Alaska Native	1.1%	2.1%	0.7%
Hispanic/Latino	67.9%	65.2%	64.4%
Other	0.2%	4.5%	7.5%

From 2016 to 2019, there was a substantial change in the percentage of children who are Hispanic/Latino, as illustrated below.

Table 83. Child Ethnicity – 2016 - 2019

Ethnicity	2016	2019
Hispanic/Latino	76.9%	51.9%
Not Hispanic/Latino	23.1%	48.1%

From 2016 to 2019, there was a substantial change in the percentage of children who are White. That is, about 51.4% in 2016 were White/Caucasian, while about 66.6% were White/Caucasian in 2019. Conversely, there was a substantial drop in the percentage of children who are other, from 2016 (42.0%) to 2019 (25.1%).

Table 84. Child Race – 2016 - 2019

Race	2016	2019
White/Caucasian	51.4%	66.6%
Black/African American	3.0%	3.2%
Asian	2.7%	1.5%
American Indian/Alaska Native	0.8%	3.6%
Other	42.0%	25.1%

Household Income

From 2007 to 2019, income levels have changed. Specifically, the percentage of children living in households with incomes of $20,000 to $49,999 decreased from 55.2% in 2007 to 25.0% in 2019. Additionally, the percentage of children living in homes within $100,000 or more of household income increased from 11.5% in 2007 to 35.5% in 2019.

Table 85. Child Household Income

Income Level	2007	2010	2013	2016	2019
$0 to $19,999	16.8%	24.8%	31.4%	24.5%	18.6%
$20,000 to $49,999	55.2%	50.6%	44.5%	37.8%	25.0%
$50,000 to $99,999	16.4%	18.5%	15.9%	19.4%	20.9%
$100,000 or more	11.5%	6.0%	8.2%	18.4%	35.5%

Geography

In 2007, about half of children lived in West Valley; this shifted in 2010, where most children lived in East Valley. Like the geographic distribution of adults, this may represent an actual shift of the population (e.g., where children actually live) but is more likely to represent a shift in survey participants (e.g., better East Valley outreach over the years has led to a more representative sample in that geography).

Table 86. Child Geography

Gender	2007	2010	2013	2016	2019
West Valley	49.2%	28.6%	32.0%	25.2%	28.2%
Mid Valley	12.5%	22.6%	18.9%	19.5%	31.1%
East Valley	38.3%	48.8%	49.1%	55.3%	40.6%

Asthma

To assess asthma diagnoses given to children, parents/guardians/adults were asked the following about the children in their household, "**Has a doctor or other health professional ever told you that your child had asthma?**" This question was not asked in 2007.

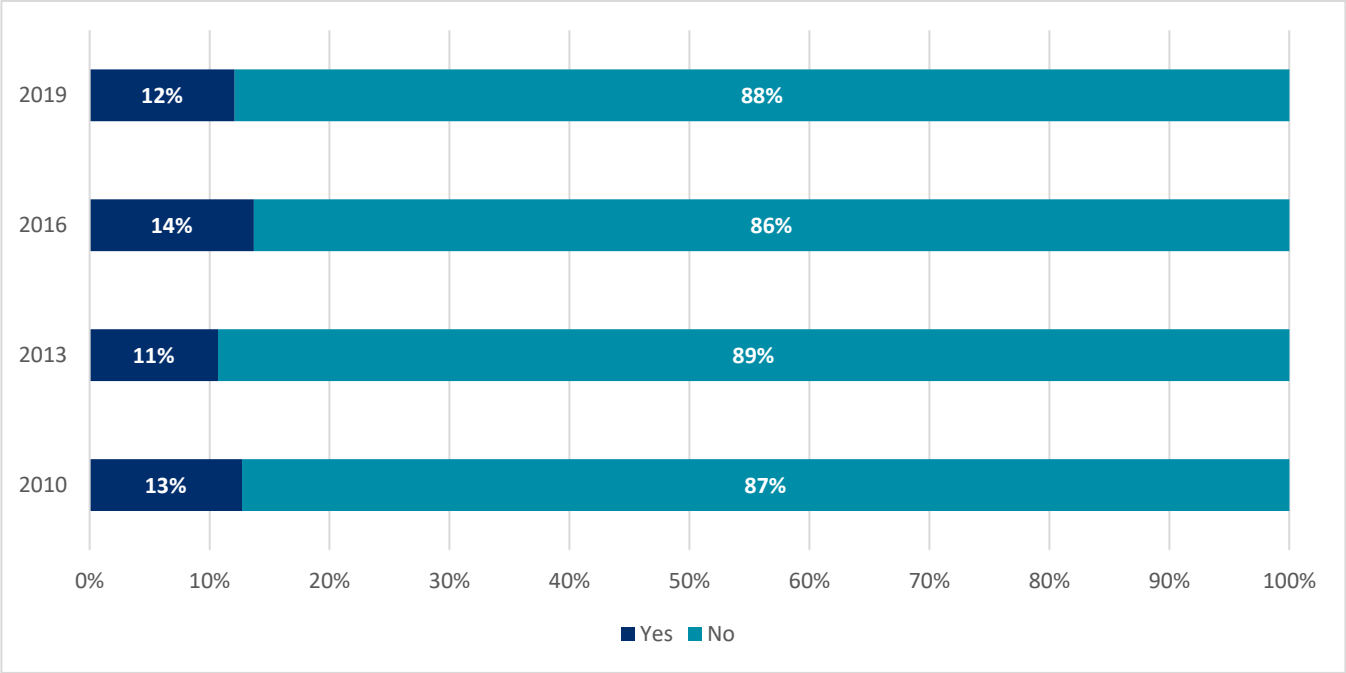
Overall

The asthma rate for children has remained relatively stable between 2010 to 2019.

Table 87. Child – Asthma Diagnosis

Diagnosed with Asthma	2010	2013	2016	2019
Yes	12.7%	10.7%	13.7%	12.1%
No	87.3%	89.3%	86.3%	87.9%

Figure 12. Child – Asthma Diagnosis



Overall, child asthma diagnoses in Coachella Valley appear to be slightly lower than diagnoses in Riverside County and California overall, as illustrated in the table below.

Table 88. Child – Diagnosed with Asthma Across Regions

Category Name	2013	2016	2019
Coachella Valley	10.7%	13.7%	12.1%
Riverside County	13.0%	18.4%	9.5%
California	15.9%	16.7%	12.3%

Note: Riverside County and California data are from California Health Interview Survey (CHIS). Data for 2010 was not available.

Comparisons

Age Comparisons

The table below illustrates that the vast majority of children ages 0-17 have not received an asthma diagnosis between 2007 and 2019.

Table 89. Child – Diagnosed with Asthma by Age

Age Group	2010	2013	2016	2019
0-5	8.2%	*	5.0%	5.1%
6-17	14.9%	14.9%	17.7%	16.4%

Note: Red indicates statistically unstable estimates.

Geographic Comparisons

The table below shows there has been a percentage increase of children diagnosed with asthma living in West Valley between 2010 (9.3%) and 2019 (17.0%). There has been a percentage decrease of children diagnosed with asthma living in Mid Valley between 2010 (16.8%) and 2019 (7.8%).

Table 90. Child – Diagnosed with Asthma by Geography

Geography	2010	2013	2016	2019
West Valley	9.3%	8.9%	11.4%	17.0%
Mid Valley	16.8%	9.6%	18.9%	7.8%
East Valley	11.0%	12.4%	12.9%	12.0%

Hispanic/Latino Comparisons

Ethnicity comparisons by asthma diagnosis among children has remained relatively unvaried between 2016 and 2019. The table below provides greater detail.

Table 91. Child – Diagnosed with Asthma by Ethnicity

Ethnicity	2016	2019
Not Hispanic/Latino	17.7%	15.0%
Hispanic/Latino	12.4%	9.4%

Income Comparisons

The table below suggests that there was a percentage increase in the asthma rate for children living in a household with an income of $50,000-$99,999 between 2013 (8.2%) and 2016 (21.9%). There was also a decrease in the percentage of children living with asthma residing in a household with an income of $100,000 or more between 2010 (6.1%) and 2019 (16.6%).

Table 92. Child – Diagnosed with Asthma by Income

Income Level	2010	2013	2016	2019
$0 - $19,999	11.8%	9.9%	6.3%	8.2%
$20,000 - $49,999	14.2%	11.7%	15.0%	13.8%
$50,000 - $99,999	14.6%	8.2%	21.9%	6.1%
$100,000 or more	*	*	17.3%	16.6%

Note: Red indicates statistically unstable estimates.

Survey participants were asked the following question about the children in their household, "During the last 12 months, **how many days of day care or school did your child miss due to asthma?**"

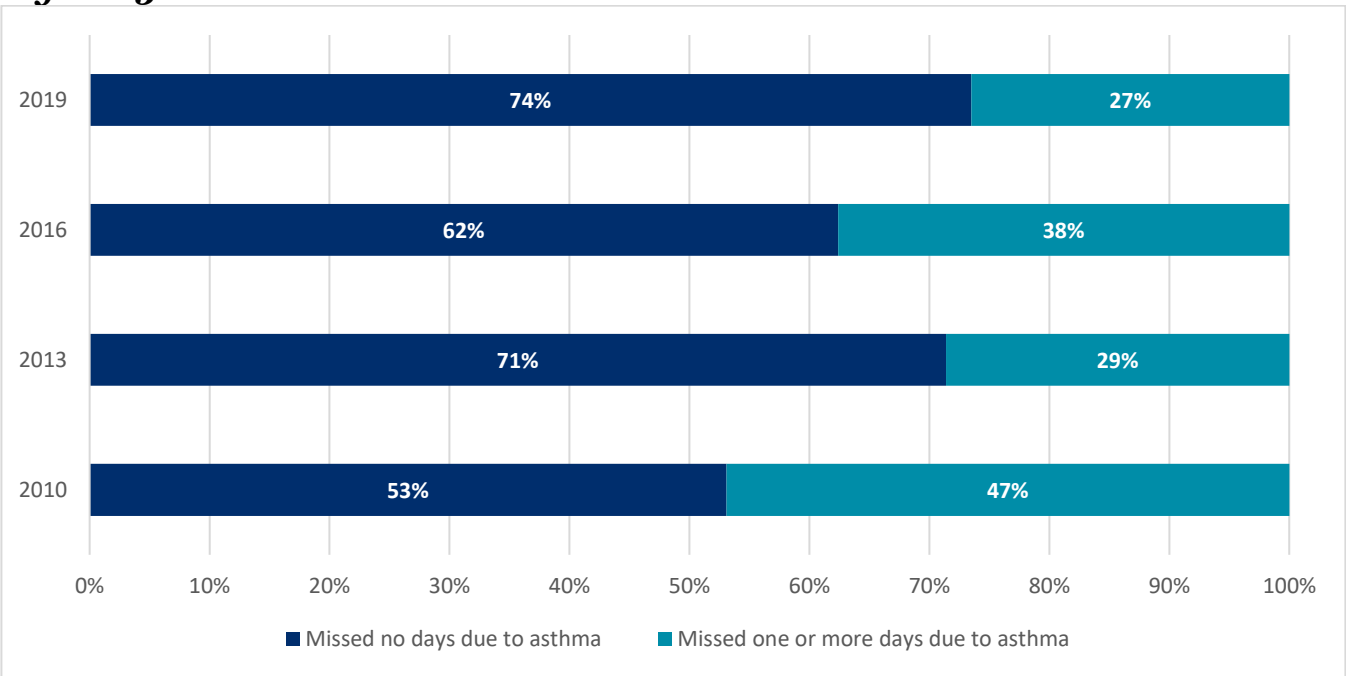
Overall

The table below illustrates that nearly three-quarters of children diagnosed with asthma were not absent from school or day care at all.

Table 93. Children with Asthma – Absenteeism due to Asthma

Days missed due to Asthma	2010	2013	2016	2019
Missed no days due to asthma	53.1%	71.4%	62.4%	73.5%
Missed one or more days due to asthma	46.9%	28.6%	37.6%	26.5%

Figure 13. Children with Asthma – Absenteeism due to Asthma



Comparisons

Age Comparisons

The table below shows that the vast majority of children diagnosed with asthma ages 0-17 did not miss school or day care due to asthma.

Table 94. Children with Asthma – Absenteeism due to Asthma by Age

Days missed due to Asthma	Age Group	2010	2013	2016	2019
Missed no days due to asthma	0-5	84.9%	*	*	*
	6-17	45.1%	70.9%	63.2%	71.7%
Missed one or more days due to asthma	0-5	*	*	*	*
	6-17	54.9%	29.1%	36.8%	28.3%

Note: Red indicates statistically unstable estimates.

Geographic Comparisons

One-third of children diagnosed with asthma who missed one or more days lived in East Valley during 2019. Thus, two-thirds of children diagnosed with asthma who did not miss any days also lived in East Valley.

Table 95. Children with Asthma – Absenteeism due to Asthma by Geography

Days missed due to Asthma	Geography	2010	2013	2016	2019
Missed no days due to asthma	West Valley	68.9%	85.8%	44.6%	76.4%
	Mid Valley	68.8%	76.6%	71.7%	81.6%
	East Valley	24.2%	65.1%	65.4%	66.9%
Missed one or more days due to asthma	West Valley	31.1%	*	55.4%	*
	Mid Valley	31.2%	*	*	*
	East Valley	75.8%	34.9%	34.6%	33.1%

Note: Red indicates statistically unstable estimates.

Hispanic/Latino Comparisons

The table below shows that there was a percentage increase of students with asthma who were not absent from school or day care that identified as "Hispanic/Latino" between 2016 (56.5%) and 2019 (70.0%).

Table 96. Children with Asthma – Absenteeism due to Asthma by Ethnicity

Days missed due to Asthma	Ethnicity	2016	2019
Missed no days due to asthma	Not Hispanic/Latino	77.1%	75.7%
	Hispanic/Latino	56.5%	70.0%
Missed one or more days due to asthma	Not Hispanic/Latino	*	24.3%
	Hispanic/Latino	43.5%	30.0%

Note: Red indicates statistically unstable estimates.

Income Comparisons

The table below shows there was a decrease in the percentage of students diagnosed with asthma living in a household with an income less than $19,999 between the years 2010 (87.4%) and 2019 (60.2%). The table also illustrates there was a percentage increase for students diagnosed with asthma living in a household that earned an income of $100,000 or more between the years 2010 (20.6%) and 2019 (67.8%).

Table 97. Children with Asthma – Absenteeism due to Asthma by Income

Days missed due to Asthma	Income Level	2010	2013	2016	2019
Missed no days due to asthma	$0 - $19,999	87.4%	67.1%	*	*
	$20,000 - $49,999	21.2%	68.0%	67.1%	*
	$50,000 - $99,999	*	*	45.9%	100.0%
	$100,000 or more	*	*	61.3%	67.8%
Missed one or more days due to asthma	$0 - $19,999	*	*	*	*
	$20,000 - $49,999	78.8%	32.0%	32.9%	41.8%
	$50,000 - $99,999	*	*	54.1%	*
	$100,000 or more	*	*	*	32.2%

Note: Red indicates statistically unstable estimates.

Conclusion

Overview

Adults

Over one-third of Coachella Valley adults have been diagnosed with high blood pressure. Similarly, about one-third of Coachella Valley adults have high blood cholesterol. With respect to heart disease, our community had lower rates compared to the US, but higher rates compared to Riverside County. The vast majority of adults in our Valley have not been diagnosed with cancer, have not had a stroke, have not been diagnosed with a respiratory disease, a bone disease, asthma, and have not had a heart attack. Finally, over a quarter of adults have been diagnosed with arthritis.

Our community had a higher percentage of adults diagnosed with diabetes compared to the county, state, and national level. The vast majority of adults living with diabetes were first diagnosed over the age of 35. Further, more than half of diabetics have been checked for hemoglobin one to three times within the past year. Similarly, nearly half of diabetics have had their feet checked for sores or irritations in the past 12 months.

Over half of adults diagnosed with diabetes have taken a course on diabetes to learn how to manage their health condition. Nearly half of diabetics have seen a doctor for diabetes one to three times in the past 12 months. Finally, nearly a quarter of adults have had their eyes examined within the past month.

Children

Coachella Valley children have lower rates of asthma compared to the county and state. However, our community has slightly higher rates of asthma compared to the national average. It is important to note the vast majority of children in our Valley have not been diagnosed with asthma. Nearly three-quarters of children with asthma have not missed school or day care because of their asthma.

Changes over the Years

Adults

The percent of adults ages 18-39 with high blood pressure nearly doubled from 2007 (8.9%) to 2013 (16.4%). Adults with the highest levels of education (post-graduate degrees) are more likely to have been diagnosed with high blood pressure than all other education levels.

The percentage of adults ages 65+ with high blood cholesterol has also increased between 2007 and 2019. Additionally, non-Hispanic/Latino adults had higher rates of high blood cholesterol compared to their Hispanic/Latino counterparts.

Seniors ages 65+ are leading cancer diagnoses in our Valley compared to other age groups. Although the vast majority of survey respondents indicated they did not have a bone disease, the percentage of diagnoses have nearly doubled between 2007 and 2019. Of those diagnosed with a bone disease, adults ages 65+ have seen a spike between 2007 and 2019. There has been a significant percentage increase for adults living with a bone disease with less than a high school education between 2007 and 2019.

Over a quarter of adults have been diagnosed with arthritis. Further, more than half of adults ages 65+ have been diagnosed with arthritis. Nearly a third of adults living in Mid Valley are living with arthritis. Additionally, more than one-third of adults with a post-graduate education level have arthritis. There was a significant percentage increase of adults diagnosed with arthritis receiving less than a high school education between 2007 and 2019.

There has been a slight increase in the percentage of adults who have been diagnosed with diabetes in our Valley over the years; currently about 12.2% of local adults have been diagnosed. Seniors and those living in East Valley are especially likely to have diabetes.

Children

Non-Hispanic/Latino children have higher rates of asthma compared to their Hispanic/Latino counterparts. Although the majority of children with asthma have not been absent because of their diagnosis, over a quarter of children ages six to 17 were absent because of their asthma. A third of children in East Valley missed one or more days because of asthma. Finally, over a third of children with asthma living in households with incomes of less than $50,000 missed one or more days because of their asthma.

Our hope is that by more closely examining the local data on major diseases that we can begin to identify inequities and make efforts to minimize these inequities. People should not experience subpar health simply because they live in a particular geographic region, earn a certain amount of money, or belong to a certain racial or ethnic group. This report is one step closer towards a widespread, healthy Coachella Valley community.