Rates of Respiratory and Cardiovascular Disease Emergency Department Visits and Hospitalizations in the Coachella Valley

Analysis of Emergency Department and Hospitalization Data, 2016-2018

January 2021

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Acknowledgements

This report was funded by the Desert Healthcare Foundation, and authored by Tracking California.

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Summary

Residents of the Coachella Valley had rates of respiratory and cardiovascular disease emergency department (ED) visits and hospitalizations that were, on average, similar or slightly better than the California average according to 2016-2018 patient encounter data collected by the State of California (the latest years for which data are available). However, when examining disease rates stratified by ZIP-code level rates of poverty, a different picture emerges. Hospitalization and ED rates in the Coachella Valley were higher across multiple health outcomes in ZIP codes with poverty rates ≥20% when compared to ZIP codes with poverty rates <20%.

- ED visits and hospitalizations for chronic obstructive pulmonary disease **(COPD)** were 70% and 85% higher, respectively, in higher-poverty ZIP codes compared to lower-poverty ZIP codes.
- ED visits and hospitalizations for **asthma** were 18% and 27% higher, respectively, in higher-poverty ZIP codes compared to lower-poverty ZIP codes.
- ED visits and hospitalizations and ED visits for **heart disease** were both 26% higher in higher-poverty ZIP codes compared to lower-poverty ZIP codes.
- ED visits and hospitalizations for **myocardial infarctions** were 41% and 44% higher, respectively, in higher-poverty ZIP codes compared to lower-poverty ZIP codes.

There are also health disparities by poverty among Coachella Valley youth, and disparities by sex among adults.

- **Pneumonia** hospitalizations among youth <18 years of age were 39% higher in higher-poverty ZIP codes compared to lower-poverty ZIP codes, and rates of **asthma** ED visits were 15% higher.
- Within higher-poverty ZIP codes, females had higher rates of **COPD** hospitalizations (39% higher) and ED visits (33% higher) compared to males.
- Within higher-poverty ZIP codes, females had higher rates of ED visits for **asthma** (26% higher) and **bronchitis** (49% higher) compared to males.
- However, within higher-poverty ZIP codes, males had higher rates of hospitalizations (46% higher) and ED visits (44% higher) for **heart disease**, and higher **myocardial infarction** ED visit rates (66% higher) compared to females.

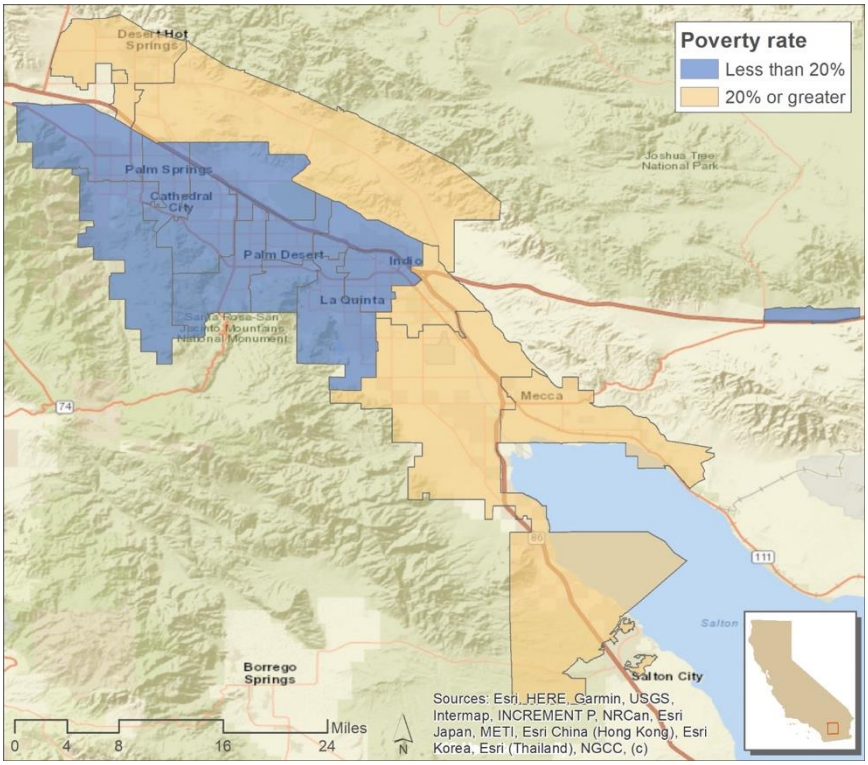
Patient ED visits and hospitalizations may indicate serious or poorly controlled illness, therefore this analysis cannot be used to assess any differences in symptoms, medication use, or other indicators of less serious or chronically managed disease. Nor does this analysis assess other potential contributors to severe illness, such as a lack of health insurance or lack of medication. A supplemental survey will be used to collect data on these conditions and illness symptoms, and we plan to conduct the survey during 2021.

Introduction

The Coachella Valley has high levels of air pollution, including ozone, and concerns have been raised about levels of respiratory and cardiovascular disease (CVD) in the Valley.[1] This report presents data for emergency department (ED) visits and hospitalizations for conditions related to high levels of air pollution, including multiple respiratory conditions and CVD. Respiratory conditions include **asthma**, **bronchitis**, **chronic obstructive pulmonary disease**, and **pneumonia**. Cardiovascular disease includes **heart disease** and **myocardial infarction**.[2] Data presented here are from the Office of Statewide Health and Planning Development (OHSPD) for 2016-2018, the most recent years of data available.

Sixteen ZIP codes[3] were included in this analysis when calculating rates of hospitalization and ED utilization. All hospitalization and ED rates were calculated using 2016-2018 ZIP code populations, and rates were age-adjusted to the 2000 U.S. standard population in order to control for differences in age distribution.[4] Data from these ZIP codes were sorted into lower-poverty and higher-poverty categories, using a 20% poverty rate as the cut-off, in order to assess any community-level health disparities by poverty (Map 1 and Table 1).[5]

Map 1. Coachella Valley ZIP codes included in the analysis, by poverty rate



[1] Barboza, Tony. "Coachella Valley smog has gotten worse, and climate change could be to blame." *Los Angeles Times*, 12 April 2019 https://www.latimes.com/local/lanow/la-me-coachella-smog-climate-change-20190412-story.html.

[2] Heart disease refers to several different heart conditions, the most common of which is coronary artery disease (CAD); myocardial infarction (MI), or a heart attack, occurs when a part of the heart does not receive enough blood. CAD is the main cause of MI.

[3] The 16 ZIP codes included in this analysis fell within Desert Healthcare Foundation district boundaries. One ZIP code, 92292, was excluded because only a small portion overlapped with district boundaries.

[4] Centers for Disease Control and Prevention. *Age Adjustment Using the 2000 Projected U.S. Population.* Healthy People 2010: Statistical Notes, Number 20. January 2001. Online at https://www.cdc.gov/nchs/data/statnt/statnt20.pdf, last accessed May 15, 2020.

[5] The U.S. Census Bureau designates any census tract with a poverty rate of 20.0 percent or more as a "poverty area": https://www.census.gov/library/publications/2014/acs/acs-27.html

Table 1. Coachella Valley ZIP codes and percent of population in poverty (2018 American Community Survey 5-year estimates and USPS ZIP Code Crosswalk Files-U.S. Department of Housing and Urban Development)

Lower-poverty ZIP codes (poverty rate <20%)		
ZIP	**City**	**Poverty rate (%)**
92201	Indio	18.7
92203	Indio	11.9
92210	Indian Wells	6.5
92211	Palm Desert	9.3
92234	Cathedral City	18.7
92253	La Quinta	11.5
92260	Palm Desert	13.7
92262	Palm Springs	19.4
92264	Palm Springs	14.8
92270	Rancho Mirage	13.5
92276	Thousand Palms	11.8

Higher-poverty ZIP codes (poverty rate ≥20%)		
ZIP	**City**	**Poverty rate (%)**
92236	Coachella	23.5
92240	Desert Hot Springs	31.1
92241	Desert Hot Springs	23.1
92254	Mecca	34.4
92274	Thermal	34.0

The Coachella Valley has over 450,000 residents, and approximately 77% of the population is over 18 years of age. Compared to lower-poverty ZIP codes (Table 2), ZIP codes with a poverty rate ≥20% had a lower median household income ($33,000 vs $59,000), a larger percentage of Hispanic residents (78% vs 39%), a smaller percentage of White residents (48% vs 75%), and lower rates of health insurance (83% vs 91%) and education attainment (59% vs 86% with a high school degree or higher).

Table 2. Demographic characteristics of Coachella Valley ZIP codes, by poverty rate (2018 American Community Survey 5-year estimates & ESRI 2018 population estimates)

	ZIP codes with a poverty rate <20%	ZIP codes with a poverty rate ≥20%	All ZIP codes
Total population	334,028	133,645	467,673
Median household income	$59,093	$32,933	$51,618
Hispanic	39.0%	78.1%	50.2%
Race			
White	75.4%	48.2%	67.6%
Black	2.6%	2.8%	2.7%
Asian	3.8%	1.0%	3.0%
Other	18.3%	48.1%	26.8%
Have health insurance	90.8%	82.7%	88.5%
High school graduate or higher (≥25 years old)	86.1%	59.2%	78.4%

Respiratory Disease

We analyzed ED visit (Figure 1) and hospitalization (Figure 2) rates of chronic obstructive pulmonary disease (COPD), asthma, bronchitis, and pneumonia. COPD is calculated for ages 25 years and older. Asthma, bronchitis, and pneumonia were calculated for all ages. All case counts, rates, and confidence intervals are included in Appendix.

COPD ED visit and hospitalization rates (age 25+) were lower, on average, in the Coachella Valley compared to California as a whole.

- COPD ED visit rates in the Coachella Valley were 38.0/10,000 persons, compared to 49.0/10,000 persons for California.
- COPD hospitalization rates were 12.9/10,000 persons in the Coachella Valley, compared to 14.6/10,000 for California.

Asthma ED and hospitalization rates (all ages) were lower, on average, in the Coachella Valley compared to California as a whole.

- Asthma ED visit rates in the Coachella Valley were 33.5/10,000 persons, compared to 44.9/10,000 persons for California.
- Asthma hospitalization rates were 4.0/10,000 persons in the Coachella Valley, compared to 4.6/10,000 persons for California.

Bronchitis ED visit rates (all ages) in the Coachella Valley were, on average, slightly lower compared to California as a whole; bronchitis hospitalizations (all ages), however, were slightly higher compared to statewide rates.

- Bronchitis ED visit rates in the Coachella Valley were 24.3/10,000 persons, compared to 25.8/10,000 persons in California.
- Bronchitis hospitalization rates were 1.4/10,000 persons in the Coachella Valley, compared to 0.9/10,000 In California.

Pneumonia ED and hospitalization rates (all ages) were slightly higher, on average, in the Coachella Valley compared to California as a whole.

- Pneumonia ED visit rates in the Coachella Valley were 35.7/10,000 persons, compared to 37.4/10,000 persons for California.
- Pneumonia hospitalization rates were 13.9/10,000 persons in the Coachella Valley, compared to 13.0/10,000 persons for California.

Figure 1. Age-adjusted respiratory disease ED visit rates per 10,000 in the Coachella Valley and California, 2016-2018. COPD is calculated for 25+; all other conditions are all ages. Includes 95% confidence intervals.

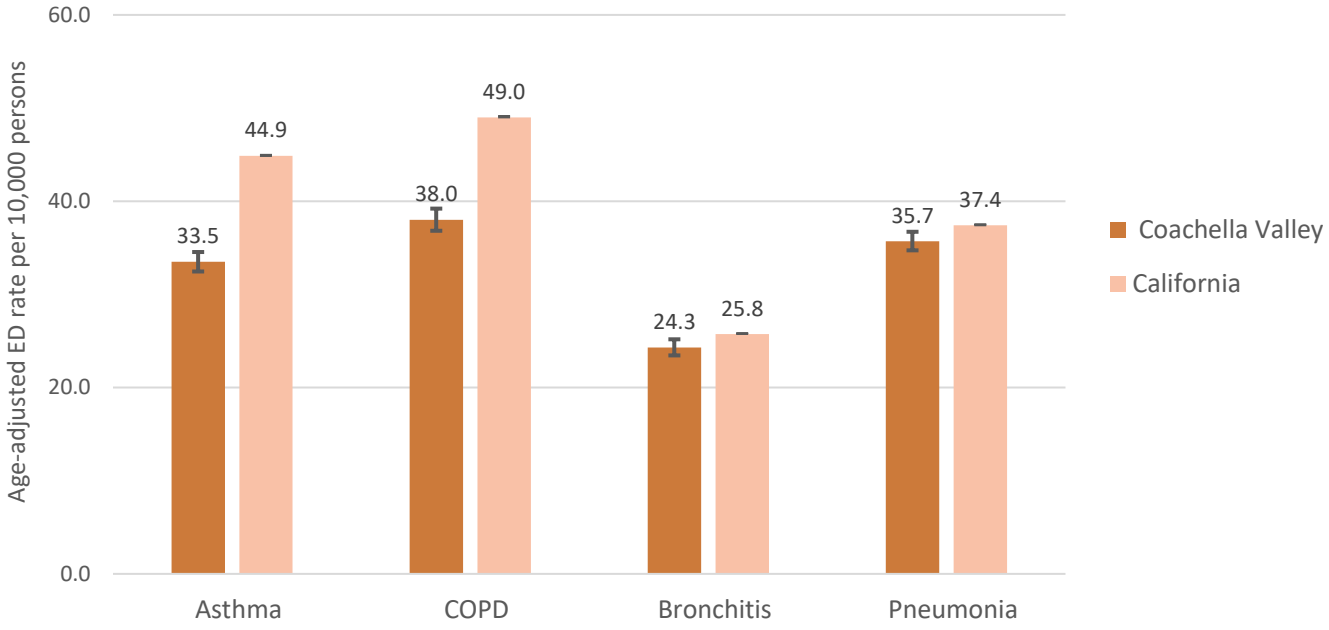
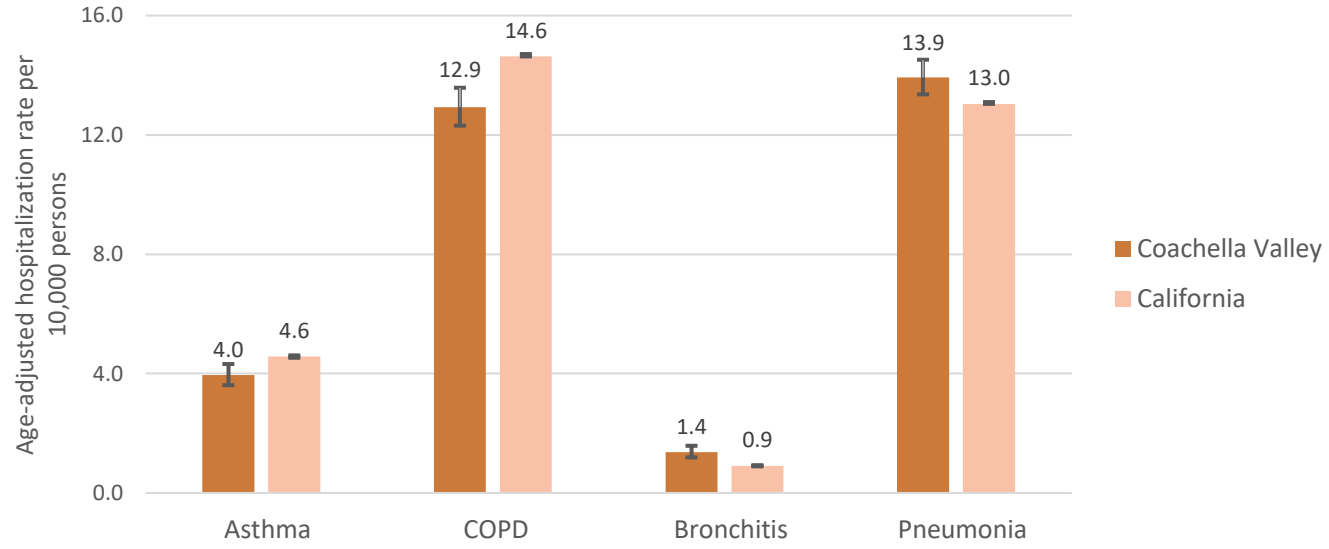


Figure 2. Age-adjusted respiratory disease hospitalization rates per 10,000 for in the Coachella Valley and California, 2016-2018. COPD is calculated for 25+; all other conditions are all ages. Includes 95% confidence intervals.



Cardiovascular Disease

Age-adjusted rates of ED visits (Figure 3) and hospitalizations (Figure 4) for heart disease and myocardial infarction (MI). Heart disease is calculated for all ages; MI includes ages 35 years and older. All case counts, rates, and confidence intervals are included in Appendix.

- ED visit rates for heart disease were lower in the Coachella Valley compared to California (74.0/10,000 vs. 81.7/10,000 persons). Heart disease hospitalization rates were also lower in the Coachella Valley compared to California (62.7/10,000 vs. 65.6/10,000 persons).
- ED visit rates for MI were similar for the Coachella Valley compared to California (24.0/10,000 vs 25.0/10,000 persons). MI hospitalization rates were also similar in the Coachella Valley compared to California (24.3 vs. 24.6/10,000 persons).

Figure 3. Age-adjusted cardiovascular disease ED visit rates per 10,000 in the Coachella Valley and California, 2016-2018. Heart disease includes all ages; MI is calculated for age 35+. Includes 95% confidence intervals.

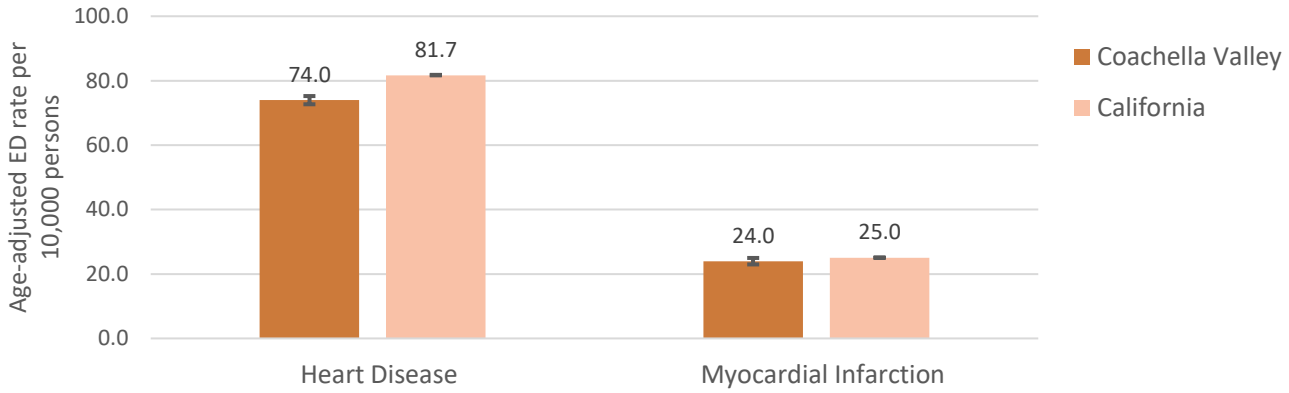
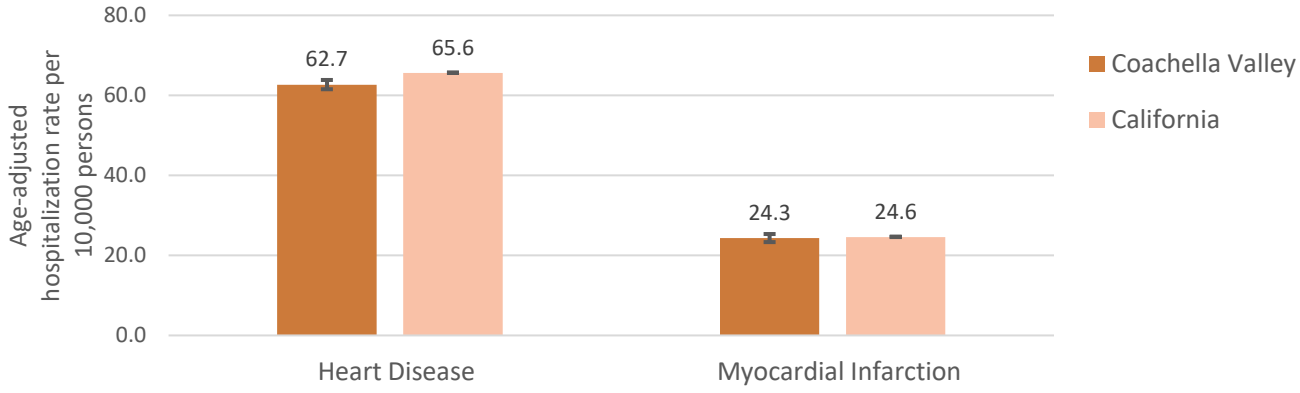


Figure 4. Age-adjusted cardiovascular disease hospitalization rates per 10,000 in the Coachella Valley and California, 2016-2018. Heart disease includes all ages; MI is calculated for age 35+. Includes 95% confidence intervals.

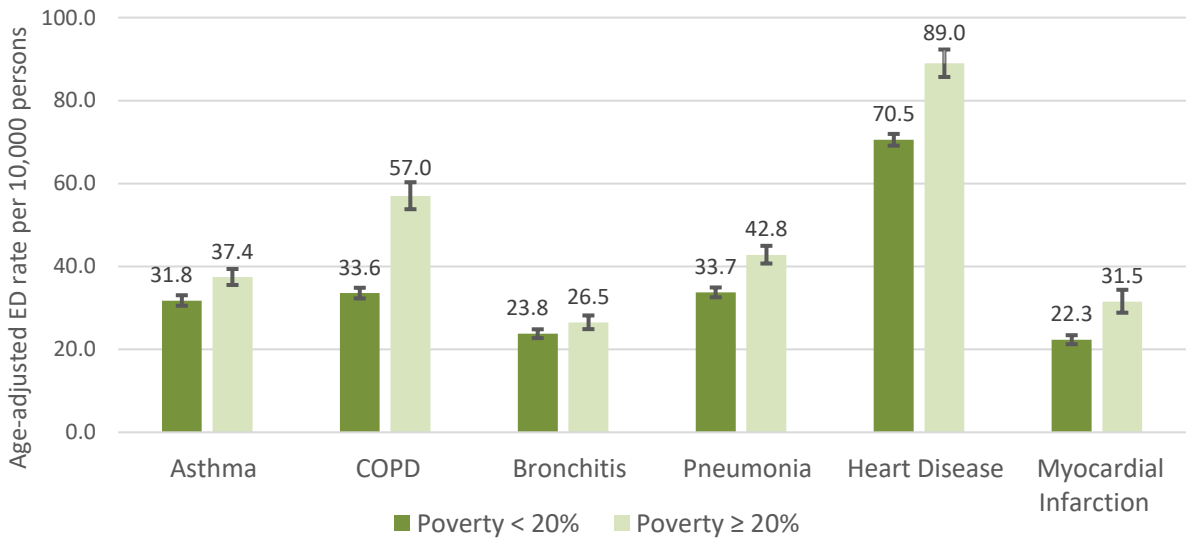


Analysis of Respiratory Illness and Cardiovascular Disease by Poverty

We compared ED visit and hospitalization rates for higher-poverty ZIP codes (poverty rate ≥20%) and lower-poverty ZIP codes (poverty rate <20%). ED visit rates for these respiratory and cardiovascular illnesses were higher in higher-poverty ZIP codes compared to lower-poverty ZIP codes (Fig 5).

- ED visit rates for COPD (25+) were 70% higher in higher- vs lower-poverty ZIP codes (57.0/10,000 vs. 33.6/10,000 persons, respectively).
- ED visit rates for pneumonia (all ages) were 27% higher in higher- vs. lower-poverty ZIP codes (42.8/10,000 vs. 33.7/10,000 persons, respectively).
- ED visit rates for both heart disease (all ages) and MI (age 35+) were 26% and 41% higher, respectively, in higher- vs. lower-poverty ZIP codes.

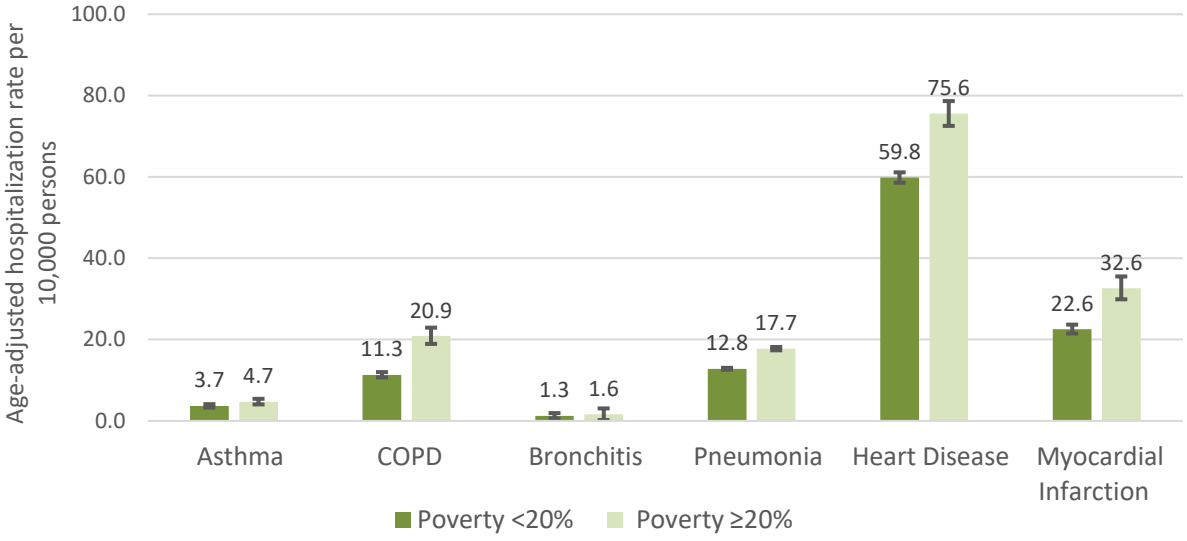
Figure 5. Age-adjusted ED visit rates per 10,000 for lower- and higher-poverty ZIP codes in the Coachella Valley, 2016-2018. COPD includes ages 25+ and MI includes ages 35+; all other conditions are all ages. Includes 95% confidence intervals.



Hospitalization rates for asthma, COPD, pneumonia, bronchitis, heart disease, and myocardial infarctions were also higher in higher-poverty ZIP codes compared to lower-poverty ZIP codes (Fig 6).

- COPD hospitalizations (ages 25+) were nearly two-fold in higher- vs. lower-poverty ZIP codes (20.9/10,000 vs. 11.3 /10,000 persons respectively).
- Heart disease hospitalizations (all ages) were 26% higher in higher- vs. lower-poverty ZIP codes (75.6 vs. 59.8 /10,000, respectively).
- MI hospitalizations (ages 35+) were 44% higher in higher- vs. lower-poverty ZIP codes (22.6/10,000 vs. 32.6/10,000 persons, respectively).

Figure 6. Age-adjusted hospitalization rates per 10,000 for lower-poverty and higher-poverty ZIP codes in the Coachella Valley, 2016-2018. COPD includes ages 25+ and MI includes ages 35+; all other conditions are all ages. Includes 95% confidence intervals.



Analysis of Youth Illness Rates (≤17 years of age) by Poverty

Among youth 17 years of age and younger, asthma ED visits were higher in higher- vs. lower-poverty areas (55.7/10,000 vs. 48.3/10,000 persons, respectively) (Figure 7). Differences in the remaining conditions were not statistically significant. Similarly, pneumonia hospitalizations were higher in higher- vs. lower-poverty ZIP codes (14.3/10,000 vs. 10.3/10,000 person, respectively) (Figure 8).

Figure 7. Age-adjusted ED visit rates per 10,000 lower- and higher-poverty ZIP codes for youth ≤17 years of age, 2016-2018. Includes 95% confidence intervals.

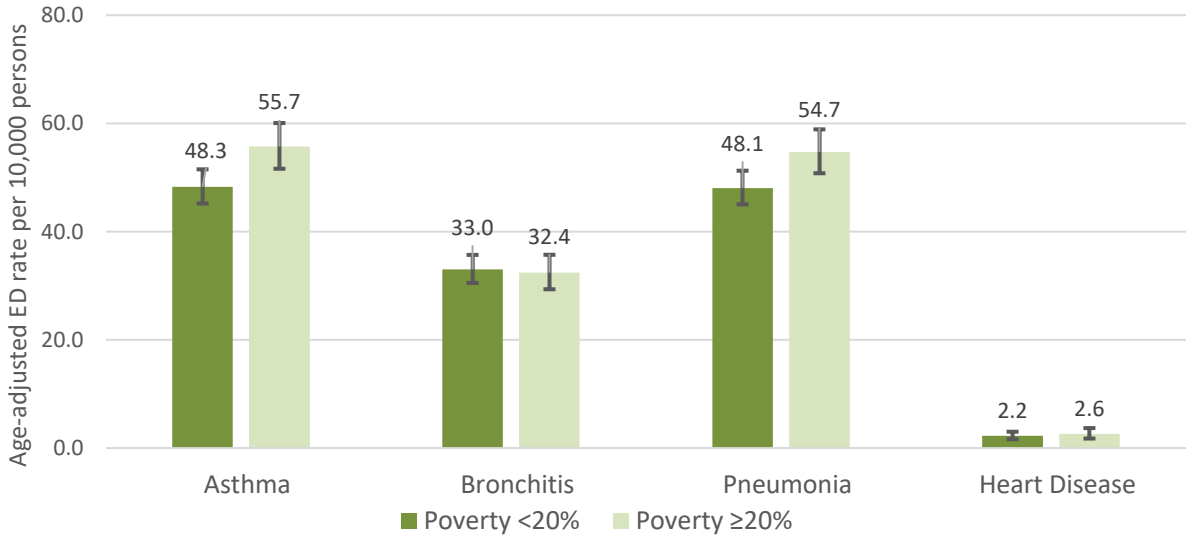
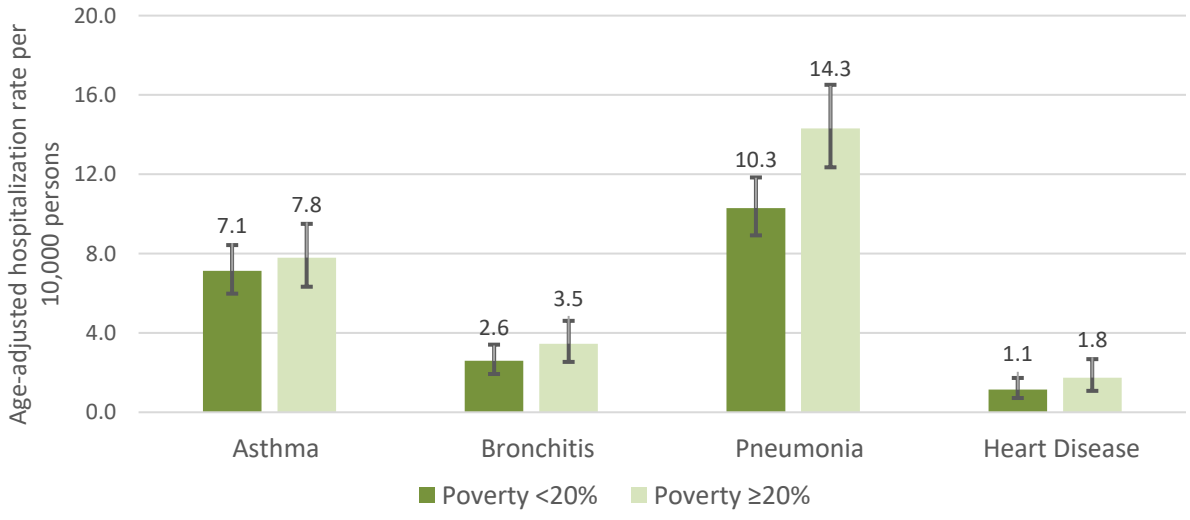


Figure 8. Age-adjusted hospitalization rates per 10,000 for lower- and higher-poverty ZIP codes for youth ≤17 years of age, 2016-2018. Includes 95% confidence intervals.



ED and Hospitalization Rates by Sex in Lower- and Higher-Poverty ZIP Codes

There were disparities by sex in ED visit and hospitalization rates within lower- and higher-poverty ZIP codes. Rate for COPD includes ages 25+ and rates for MI includes ages 35+; all other conditions are calculated for all ages.

- In higher-poverty ZIP codes, females had higher rates of ED visits across respiratory diseases compared to males (Figure 9). Males had higher rates of ED visits for cardiovascular disease compared to females.
- In higher-poverty ZIP codes, females had higher rates of hospitalization (Figure 10), compared to males, for COPD (24.3/10,000 vs. 17.5/10,000 persons) and asthma (5.2/10,000 vs 4.2/10,000). Males had higher rates of hospitalization, compared to females, for heart disease (89.6/10,000 vs. 61.5/10,000 persons) and MI (40.7/10,000 vs. 24.5/10,000 persons).

Figure 9. Age-adjusted ED visit rates per 10,000 in higher-poverty ZIP codes in the Coachella Valley, by sex, 2016-2018. COPD includes ages 25+ and MI includes ages 35+; all other conditions are all ages. Includes 95% confidence intervals.

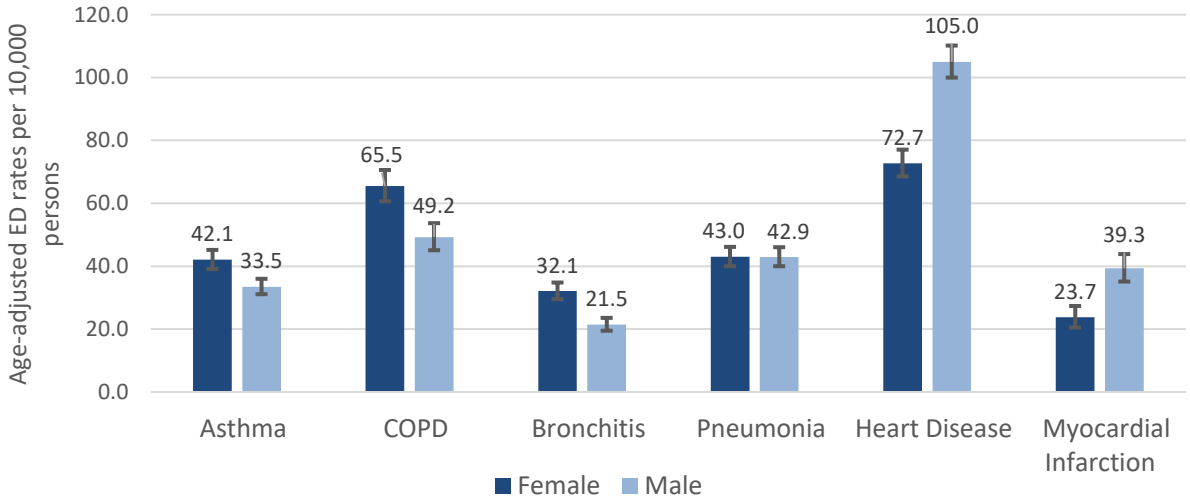
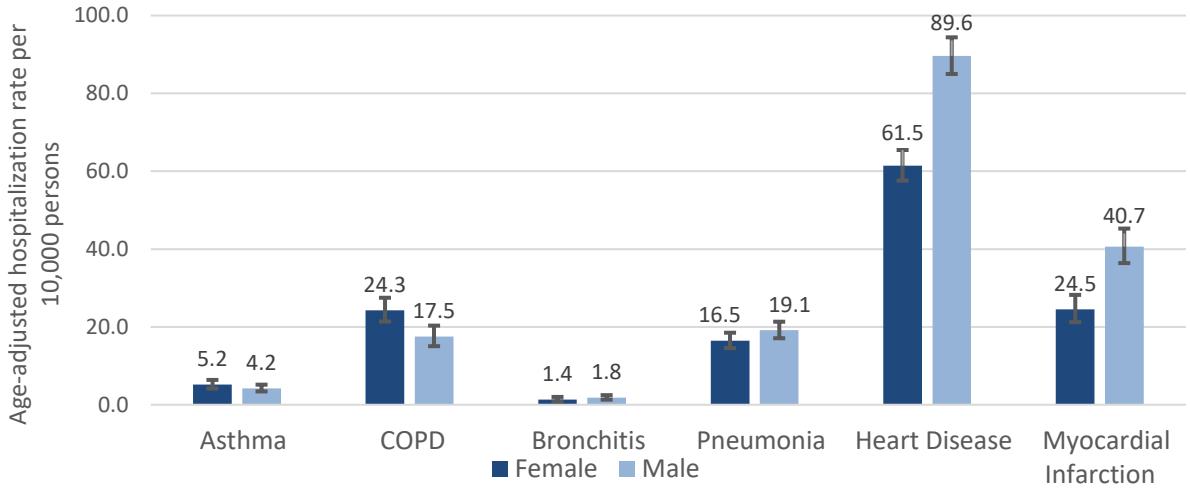


Figure 10. Age-adjusted hospitalization rates per 10,000 in higher-poverty ZIP codes in the Coachella Valley, by sex, 2016-2018. COPD includes ages 25+ and MI includes ages 35+; all other conditions are all ages. Includes 95% confidence intervals.



- In lower-poverty ZIP codes, females had higher rate of ED visits (Figure 11) for bronchitis (25.1/10,000 vs. 22.5/10,000 persons); males had higher ED visit rates for pneumonia (38.4/10,000 vs. 29.0/10,000 persons), heart disease (88.6/10,000 vs. 52.6/10,000 persons) and MI (31.1/10,000 vs. 13.6/10,000 persons).
- In lower-poverty ZIP codes, males had higher rates of hospitalizations (Figure 12) for all illnesses included in the analysis, compared to females, including pneumonia (15.1/10,000 vs. 10.6/10,000 persons), heart disease (78.5/10,000 vs. 41.5/10,000 persons) and MI (31.7/10,000 vs. 13.5/10,000 persons).

Figure 11. Age-adjusted ED Visit Rates per 10,000 in lower-poverty ZIP codes in the Coachella Valley, by sex, 2016-2018. COPD includes ages 25+ and MI includes ages 35+; all other conditions are all ages. Includes 95% confidence intervals.

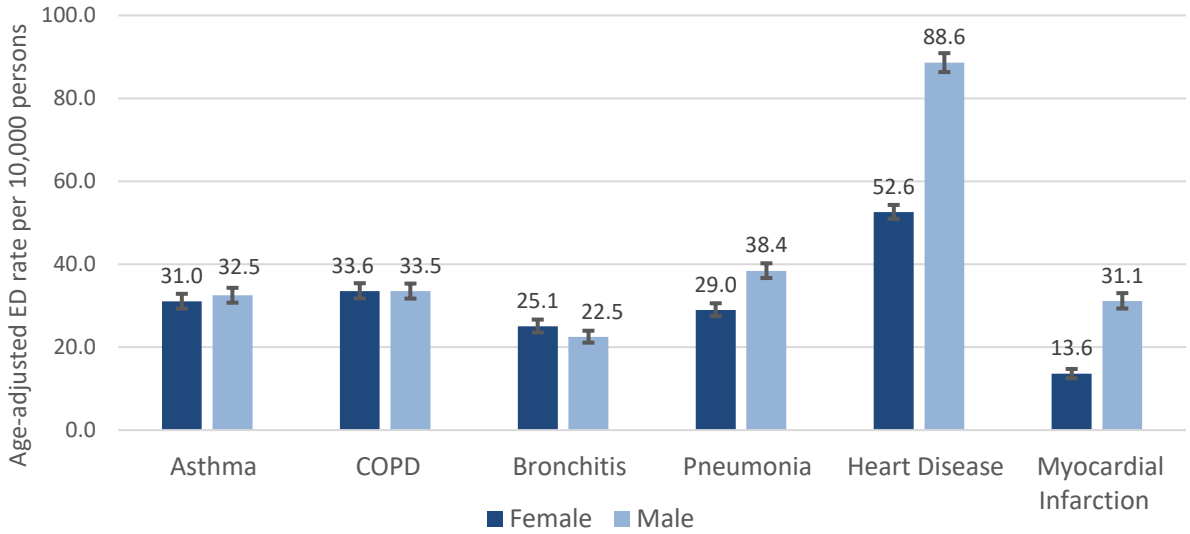
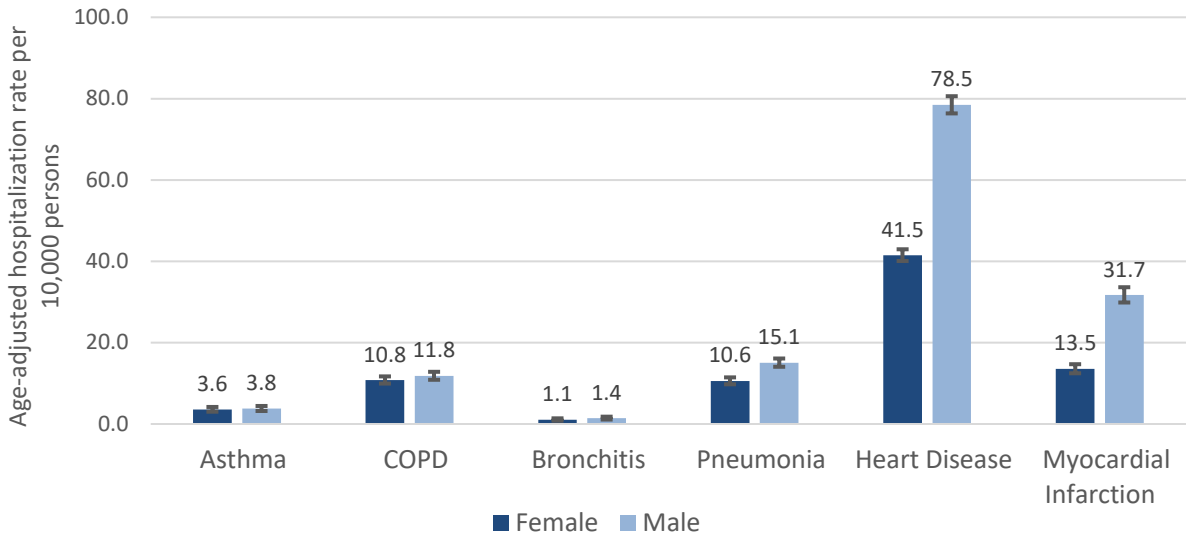


Figure 12. Age-adjusted hospitalization rates per 10,000 in lower-poverty ZIP codes in the Coachella Valley, by sex, 2016-2018. COPD includes ages 25+ and MI includes ages 35+; all other conditions are all ages. Includes 95% confidence intervals.



Discussion

In this analysis, we found disparities by poverty, by sex, and among youth in respiratory and cardiovascular disease patient encounter data for the Coachella Valley. Emergency department visits and hospitalizations may indicate serious disease, and this analysis does not assess any differences in symptoms, medication use, or other indicators of less serious or chronically managed illness. During 2021, we will conduct a sample survey on these conditions, including illness symptoms.

The denominator data used for this analysis only represents permanent residents of the Coachella Valley. Seasonal residents may have different disease profiles than permanent residents and may also utilize local health care services. The numerator used in these analyses is based on the patient's address as reported to OSHPD, and it is possible that the numerator may include seasonal residents. Therefore, the data presented may overestimate the true disease burden if seasonal residents are included in the numerator but excluded from the denominator.

Appendix

Data are included for emergency department (ED) visits and hospitalizations for **asthma**, **chronic obstructive pulmonary disease (COPD)**, **pneumonia**, **bronchitis**, **heart disease,** and **myocardial infarction**. Data were collected based on the following ICD-10 codes, for all ages unless otherwise noted.

Health condition	ICD-10: Primary diagnosis
Asthma	J45
COPD (≥25 years)	J40-J44
Pneumonia	J12-J18
(Acute) Bronchitis	J20
Heart disease	I00-I09, I11, I13, I20-I51
Myocardial infarction (≥35 years)	I21-I22

ED and hospitalization data were collected from the Office of Statewide Health and Planning Development (OHSPD) for 16 ZIP codes overlapping Desert Healthcare Foundation district boundaries. Data are from 2016-2018, the most recent years available. The following tables include all counts, rates, and confidence intervals. All hospitalization and ED rates were calculated using 2016-2018 ZIP code populations, and rates were age-adjusted to the 2000 U.S. standard population in order to control for differences in age distribution. Data are for all ages, unless otherwise noted.

A1. Respiratory and Cardiovascular Disease in the Coachella Valley

Emergency Department Visit Rates: Age-adjusted rates per 10,000 and 95% confidence interval, 2016-2018								
	Coachella Valley				California			
	Count	Rate	Lower 95% limit	Upper 95% limit	Count	Rate	Lower 95% limit	Upper 95% limit
Asthma	4,165	33.5	32.5	34.6	516,906	44.9	44.9	45.0
COPD (≥25 years)	4,495	38.0	36.8	39.2	417,039	49.0	49.0	49.2
Pneumonia	5,544	35.7	34.7	36.7	456,249	37.4	37.4	37.5
Bronchitis	3,311	24.3	23.5	25.2	306,436	25.8	25.8	25.9
Heart disease	14,556	74.0	72.7	75.2	1,080,095	81.7	81.7	81.8
Myocardial infarction (≥35 years)	2,470	24.0	23.0	25.0	172,056	25.0	25.0	25.1

Hospitalization Rates: Age-adjusted rates per 10,000 and 95% confidence interval, 2016-2018								
	Coachella Valley				California			
	Count	Rate	Lower 95% limit	Upper 95% limit	Count	Rate	Lower 95% limit	Upper 95% limit
Asthma	528	4.0	3.6	4.3	52,914	4.6	4.5	4.6
COPD (≥25 years)	1,743	12.9	12.3	13.6	128,740	14.6	14.6	14.7
Pneumonia	2,505	13.9	13.4	14.5	166,795	13.0	13.0	13.1
Bronchitis	214	1.4	1.2	1.6	11,706	0.9	0.9	0.9
Heart disease	12,597	62.7	61.5	63.9	872,575	65.6	65.6	65.7
Myocardial infarction (≥35 years)	2,512	24.3	23.3	25.4	169,336	24.6	24.6	24.7

A2. Respiratory and Cardiovascular Disease in the Coachella Valley, by Poverty

Coachella Valley Emergency Department Visit Rates for Lower- and Higher-Poverty ZIP codes: Age-adjusted rates per 10,000 and 95% confidence interval, 2016-2018								
	Lower-poverty ZIP codes with <20% poverty				Higher-poverty ZIP codes with ≥20% poverty			
	Count	Rate	Lower 95% limit	Upper 95% limit	Count	Rate	Lower 95% limit	Upper 95% limit
Asthma	2,617	31.8	30.5	33.1	1,548	37.4	35.5	39.4
COPD (≥25 years)	3,254	33.6	32.3	34.9	1,241	57.0	53.8	60.3
Pneumonia	3,866	33.7	32.6	34.9	1,678	42.8	40.7	45.0
Bronchitis	2,241	23.8	22.7	24.8	1,070	26.5	24.9	28.2
Heart disease	11,652	70.5	69.1	72.0	2,904	89.0	85.7	92.3
Myocardial infarction (≥35 years)	1,939	22.3	21.2	23.4	531	31.5	28.8	34.4

Coachella Valley Hospitalization Rates for Lower- and Higher-Poverty ZIP codes: Age-adjusted rates per 10,000 and 95% confidence interval, 2016-2018								
	Lower-poverty ZIP codes with <20% poverty				Higher-poverty ZIP codes with ≥20% poverty			
	Count	Rate	Lower 95% limit	Upper 95% limit	Count	Rate	Lower 95% limit	Upper 95% limit
Asthma	331	3.7	3.3	4.1	197	4.7	4.1	5.4
COPD (≥25 years)	1,300	11.3	10.7	12.0	443	20.9	18.9	22.9
Pneumonia	1,861	12.8	12.2	13.5	644	17.7	16.3	19.2
Bronchitis	144	1.3	1.0	1.5	70	1.6	1.2	2.0
Heart disease	10,135	59.8	58.6	61.1	2,462	75.6	72.5	78.7
Myocardial infarction (≥35 years)	1,963	22.6	21.5	23.7	549	32.6	29.9	35.5

A3. Respiratory and Cardiovascular Disease in the Coachella Valley, by Poverty and by Age

Coachella Valley Emergency Department Visit Rates for Low and High Poverty ZIP codes by Age: Age-adjusted rates per 10,000 and 95% confidence interval, 2016-2018									
	Age	Lower-poverty ZIP codes with <20% poverty				Higher-poverty ZIP codes with ≥20% poverty			
		Count	Rate	Lower 95% limit	Upper 95% limit	Count	Rate	Lower 95% limit	Upper 95% limit
Asthma	0-17	916	48.3	45.2	51.5	684	55.7	51.6	60.1
	18+	1,701	26.0	24.7	27.4	864	31.1	29.0	33.3
Pneumonia	0-17	935	48.1	45.0	51.3	718	54.7	50.8	58.9
	18+	2,931	28.7	27.6	29.9	960	38.7	36.2	41.2
Bronchitis	0-17	635	33.0	30.5	35.7	412	32.4	29.4	35.7
	18+	1,606	20.5	19.5	21.7	658	24.4	22.6	26.4
Heart disease	0-17	43	2.2	1.6	3.0	31	2.6	1.8	3.7
	18+	11,609	94.3	92.4	96.2	2,873	118.9	114.6	123.5

Coachella Valley Hospitalization Rates for Low and High Poverty ZIP codes by Age: Age-adjusted rates per 10,000 and 95% confidence interval, 2016-2018									
	Age	Lower-poverty ZIP codes with <20% poverty				Higher-poverty ZIP codes with ≥20% poverty			
		Count	Rate	Lower 95% limit	Upper 95% limit	Count	Rate	Lower 95% limit	Upper 95% limit
Asthma	0-17	136	7.1	6.0	8.4	99	7.8	6.3	9.5
	18+	195	2.5	2.1	2.9	98	3.6	2.9	4.5
Pneumonia	0-17	200	10.3	8.9	11.8	190	14.3	12.4	16.5
	18+	1,661	13.7	13.0	14.4	454	18.9	17.2	20.8
Bronchitis	0-17	51	2.6	1.9	3.4	47	3.5	2.5	4.6
	18+	93	0.8	0.6	1.0	23	1.0	0.6	1.4
Heart disease	0-17	22	1.1	0.7	1.7	21	1.8	1.1	2.7
	18+	10,113	80.2	78.5	81.9	2,441	101.2	97.1	105.4

A4. Respiratory and Cardiovascular Disease in the Coachella Valley, by Poverty and by Sex

Coachella Valley Emergency Department Visit Rates for Lower- and Higher-Poverty ZIP codes by Sex: Age-adjusted rates per 10,000 and 95% confidence interval, 2016-2018									
	Sex	Lower-poverty ZIP codes with <20% poverty				Higher-poverty ZIP codes with ≥20% poverty			
		Count	Rate	Lower 95% limit	Upper 95% limit	Count	Rate	Lower 95% limit	Upper 95% limit
Asthma	Female	1,283	31.0	29.3	32.9	784	42.1	39.1	45.2
	Male	1,334	32.5	30.7	34.3	764	33.5	31.1	36.0
COPD (≥25 years)	Female	1,663	33.6	31.8	35.4	700	65.5	60.6	70.6
	Male	1,591	33.5	31.7	35.3	541	49.2	45.1	53.7
Pneumonia	Female	1,682	29.0	27.5	30.6	815	43.0	40.0	46.1
	Male	2,184	38.4	36.7	40.2	863	42.9	40.0	46.0
Bronchitis	Female	1,186	25.1	23.6	26.7	606	32.1	29.5	34.8
	Male	1,055	22.5	21.1	24.0	464	21.5	19.5	23.6
Heart disease	Female	4,710	52.6	51.0	54.3	1,172	72.7	68.6	77.1
	Male	6,938	88.6	86.3	90.9	1,732	105.0	100.0	110.2
Myocardial infarction (≥35 years)	Female	662	13.6	12.5	14.8	196	23.7	20.5	27.4
	Male	1,275	31.1	29.3	33.0	335	39.3	35.1	43.9

Coachella Valley Hospitalization Rates for Lower- and Higher-Poverty ZIP codes by Sex: Age-adjusted rates per 10,000 and 95% confidence interval, 2016-2018									
	Sex	Lower-poverty ZIP codes with <20% poverty				Higher-poverty ZIP codes with ≥20% poverty			
		Count	Rate	Lower 95% limit	Upper 95% limit	Count	Rate	Lower 95% limit	Upper 95% limit
Asthma	Female	174	3.6	3.0	4.2	95	5.2	4.2	6.4
	Male	157	3.8	3.2	4.4	102	4.2	3.4	5.2
COPD (≥25 years)	Female	660	10.8	9.9	11.7	258	24.3	21.4	27.5
	Male	640	11.8	10.9	12.8	185	17.5	15.1	20.3
Pneumonia	Female	804	10.6	9.8	11.5	292	16.5	14.6	18.5
	Male	1,057	15.1	14.1	16.1	352	19.1	17.1	21.3
Bronchitis	Female	69	1.1	0.8	1.4	26	1.4	0.9	2.0
	Male	75	1.4	1.1	1.8	44	1.8	1.3	2.5
Heart disease	Female	3,844	41.5	40.1	43.0	985	61.5	57.6	65.5
	Male	6,289	78.5	76.4	80.6	1,477	89.6	85.0	94.4
Myocardial infarction (≥35 years)	Female	664	13.5	12.5	14.7	202	24.5	21.2	28.2
	Male	1,297	31.7	29.9	33.6	347	40.7	36.4	45.3

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