



# ASTHMA

---

*Disease Information Packets – Slide Set*  
*Public Health Services, Community Health Statistics*  
*08/2022*



# What is Asthma



- Asthma is a chronic inflammatory disease of the respiratory system
  - Asthma attacks occur when a trigger causes the sides of the airway in the lungs to swell and the airways to shrink.



# What is Asthma



- Asthma triggers include, but are not limited to:
  - Tobacco Smoke
  - Dust mites
  - Outdoor air pollution
  - Cockroaches
  - Pets
  - Mold
- Symptoms of an asthma attack:
  - Coughing
  - Chest tightness
  - Wheezing
  - Trouble breathing



# What is Asthma



- Asthma can be classified into four categories: mild intermittent, mild persistent, moderate persistent, and severe persistent.
  - Individuals with mild intermittent asthma may have symptoms up to two days a week and two nights a month.
  - Individuals with severe persistent asthma may have symptoms throughout the day on most days and frequently at night.
- Asthma can be controlled by following an asthma management plan, avoiding triggers, and recognizing the warning signs of an attack.

# Asthma in Children



- Children will often show warning signs if their asthma is getting worse. Warning signs include:
  - Coughing at night
  - Recent cold, flu, or fever
  - Stuffy or runny nose
  - Tickle in the throat
  - Sneezing and watery eyes
  - Restlessness
  - Pale face
  - Dark under-eye circles
  - Chest tightness
  - Weakness or fatigue
  - Headache



# Demographic Risk Factors



## ■ Race/Ethnicity

- Black Americans are nearly 1.5 times more likely to have asthma compared to White Americans.
- Puerto Rican Americans are nearly 2 times more likely to have asthma compared to White Americans.

## ■ Genetics or Family History

- Children of asthmatic parents are at an increased risk for asthma: if one parent has asthma, the risk is around 25% and if both parents have asthma, the risk is around 50%.

## ■ Sex

- Among children, boys are more likely to have asthma than girls.
- Among adults, women are more likely to have asthma than men.

# Social and Behavioral Risk Factors



## ■ Exposure to air pollution

- Exposure to particulate matter and nitrogen dioxide (NO<sub>2</sub>) at the residential address is associated with higher incidence of asthma until age 20.

## ■ Obesity

- Obese asthmatic individuals are likely to have more symptoms and increased severity.

## ■ Smoking

- Active smokers, especially women, are at a higher risk for developing asthma.
- Secondhand smoke exposure is associated with an increased risk of developing asthma.



# Other Risk Factors



LIVE WELL  
SAN DIEGO

## ■ Low birth weight

- Previous study observed that children with low birth weight had 16% higher risk of asthma.

## ■ Allergies

- Having conditions such as eczema or hay fever increases the risk for developing asthma.



# National Statistics and Disparities



- In 2020, over 25 million Americans, including 4.2 million children under 18 years old, had asthma.
- In 2020, 4,145 people died from asthma in the United States. 204 of these deaths were among children under 18 years old.
- Over 10 million Americans reported at least one asthma attack in 2020.
- In 2019, asthma was responsible for more than 1.8 million emergency department visits and nearly 170,000 hospital stays.

# National Statistics and Disparities

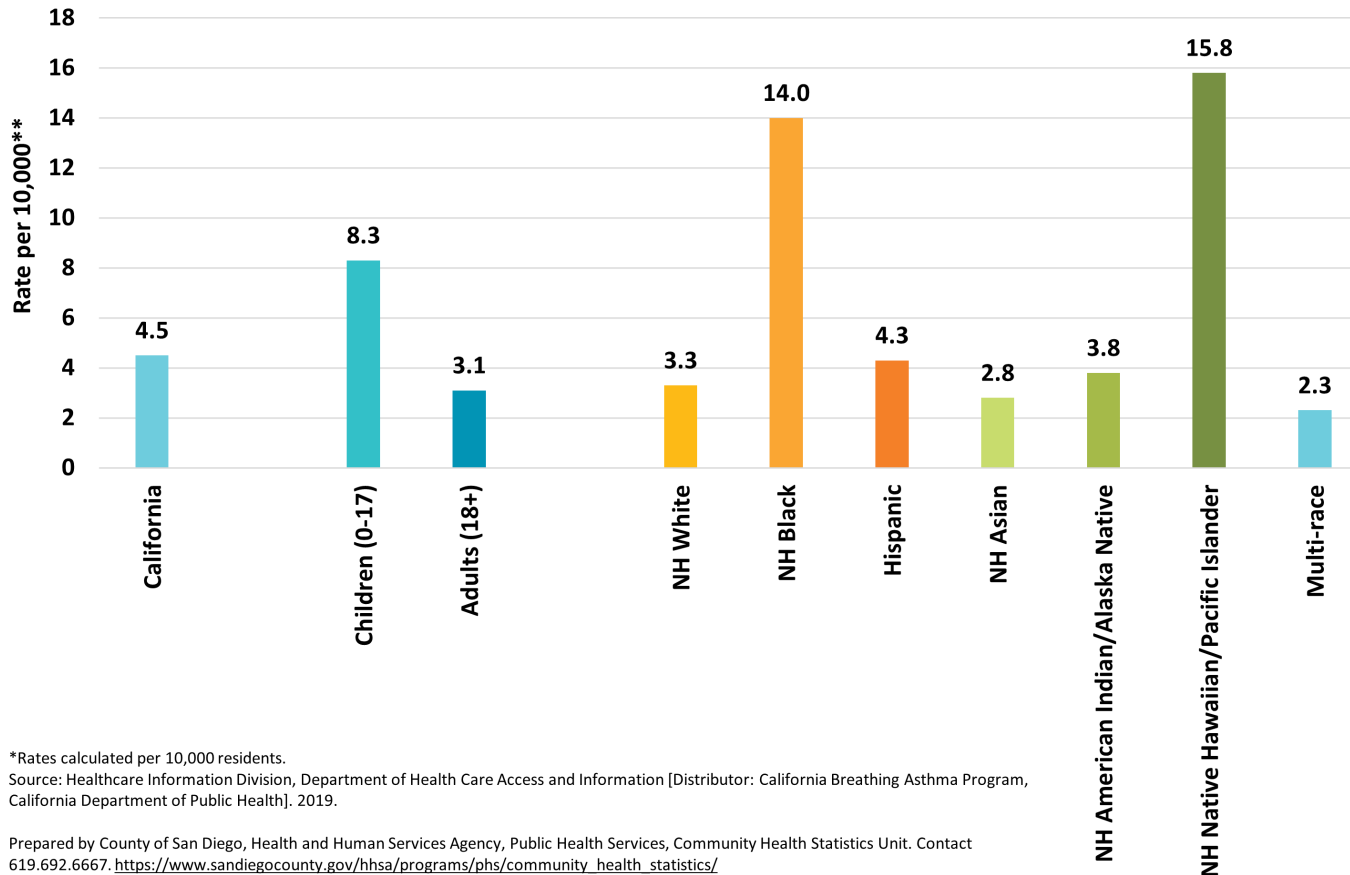


- In 2020, about 1 in 17 children had asthma.
- In 2020, the rate of death due to asthma was 2.7 times higher among non-Hispanic Black Americans compared to non-Hispanic White Americans.
- In 2020, the rate of death due to asthma was higher among non-Hispanic Black Americans compared to Hispanics and all other non-Hispanics.

# State Statistics and Disparities



**Asthma Hospitalization Rates\***  
**California, 2019**



\*Rates calculated per 10,000 residents.

Source: Healthcare Information Division, Department of Health Care Access and Information [Distributor: California Breathing Asthma Program, California Department of Public Health]. 2019.

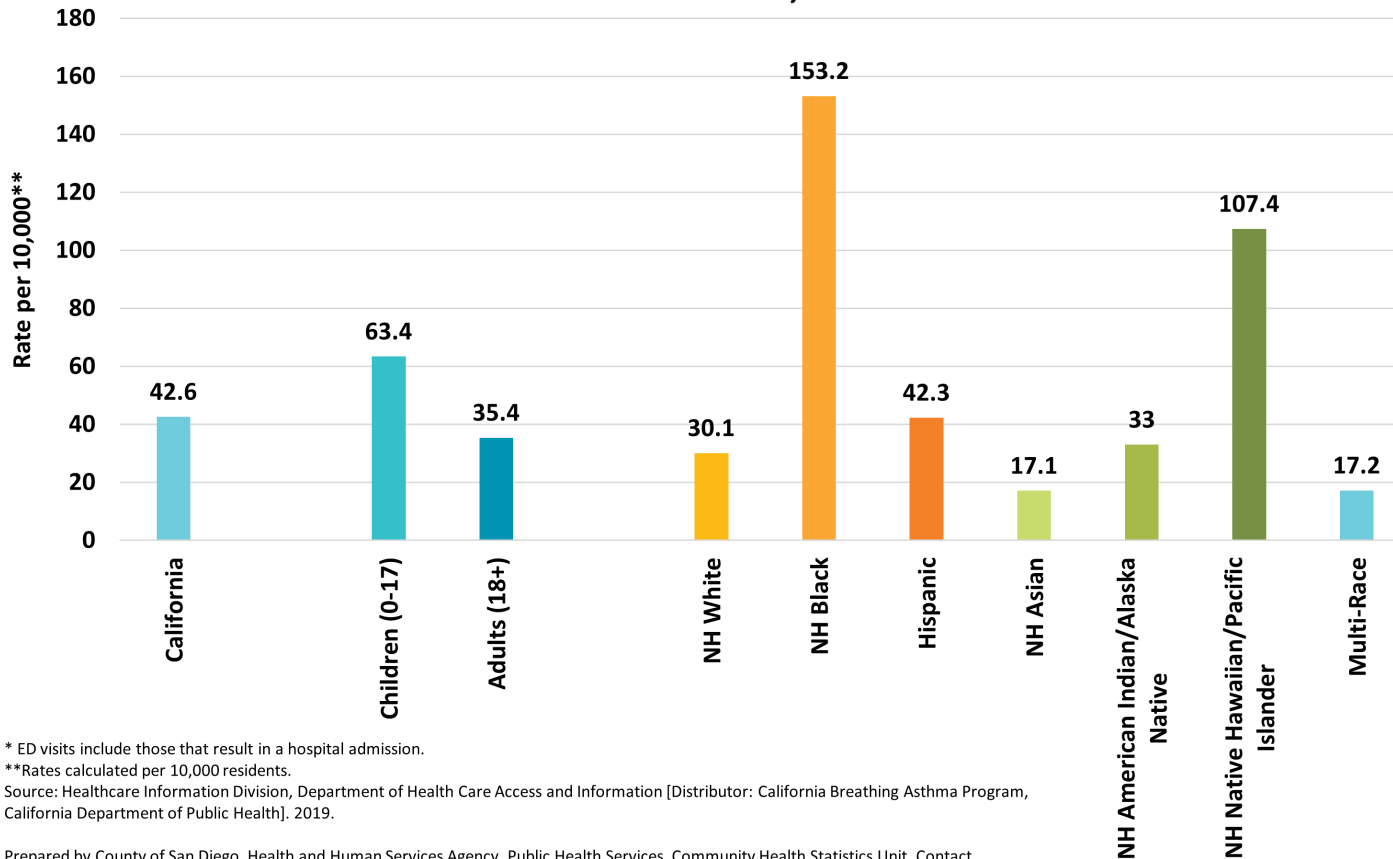
Prepared by County of San Diego, Health and Human Services Agency, Public Health Services, Community Health Statistics Unit. Contact 619.692.6667. [https://www.sandiegocounty.gov/hhsa/programs/phs/community\\_health\\_statistics/](https://www.sandiegocounty.gov/hhsa/programs/phs/community_health_statistics/) LiveWellSD.org. August 2022.

- In 2019, the asthma hospitalization rate in California was 4.5 per 10,000 residents.
- The asthma hospitalization rate in California was 2.7 times higher among children than among adults.
- The asthma hospitalization rate was the highest among non-Hispanic (NH) Native Hawaiian/Pacific Islander residents.

# California Statistics and Disparities



**Asthma Emergency Department (ED) Visit\* Rates\*\***  
**California, 2019**



\* ED visits include those that result in a hospital admission.

\*\*Rates calculated per 10,000 residents.

Source: Healthcare Information Division, Department of Health Care Access and Information [Distributor: California Breathing Asthma Program, California Department of Public Health]. 2019.

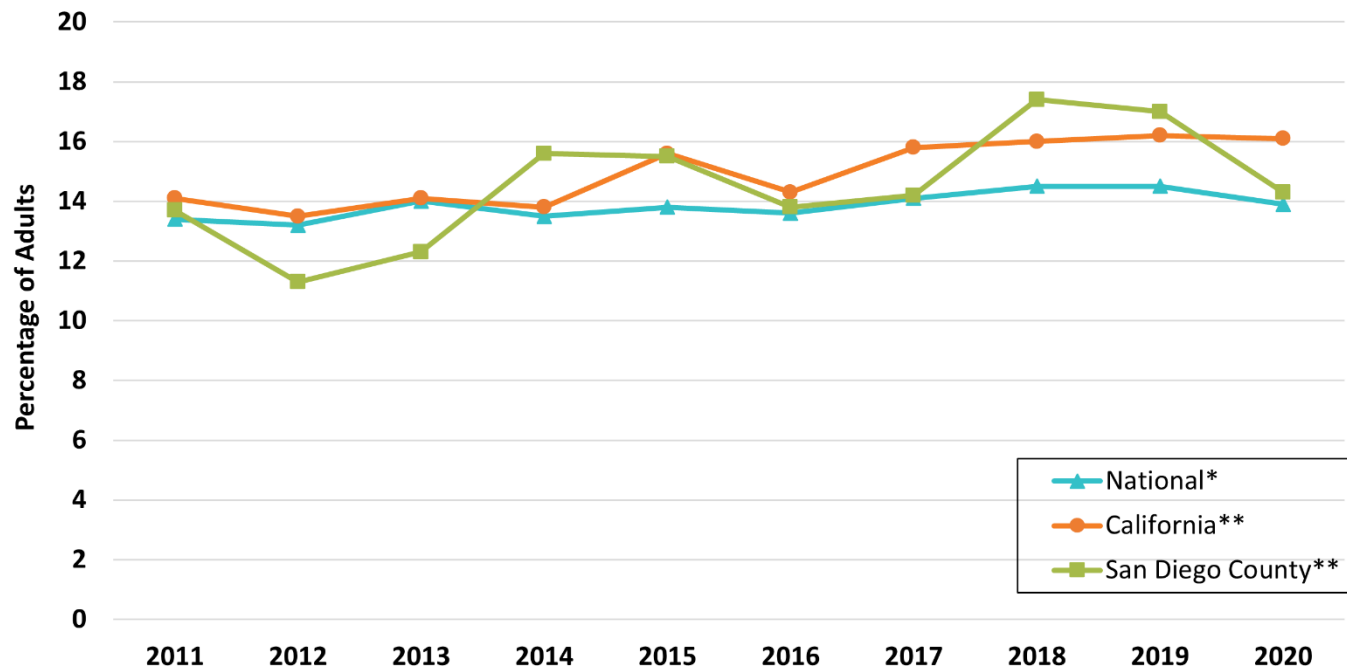
Prepared by County of San Diego, Health and Human Services Agency, Public Health Services, Community Health Statistics Unit. Contact 619.692.6667. [https://www.sandiegocounty.gov/hhsa/programs/phs/community\\_health\\_statistics/](https://www.sandiegocounty.gov/hhsa/programs/phs/community_health_statistics/)  
LiveWellSD.org. August 2022.

- In 2019, the asthma ED visit rate in California was 42.6 per 10,000 residents.
- The asthma ED visit rate in California was 1.8 times higher among children than adults.
- The asthma ED visit rate in California was the highest among non-Hispanic (NH) Black residents.

# Local Statistics and Disparities



**Percentage of Adults 18+ Ever Diagnosed with Asthma  
National, State, and Local, 2011 - 2020**



\* Source: Centers for Disease Control and Prevention (CDC). Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, [2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020].

\*\* Source: UCLA Center for Health Policy Research, "2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020 California Health Interview Survey," <http://www.chis.ucla.edu>.

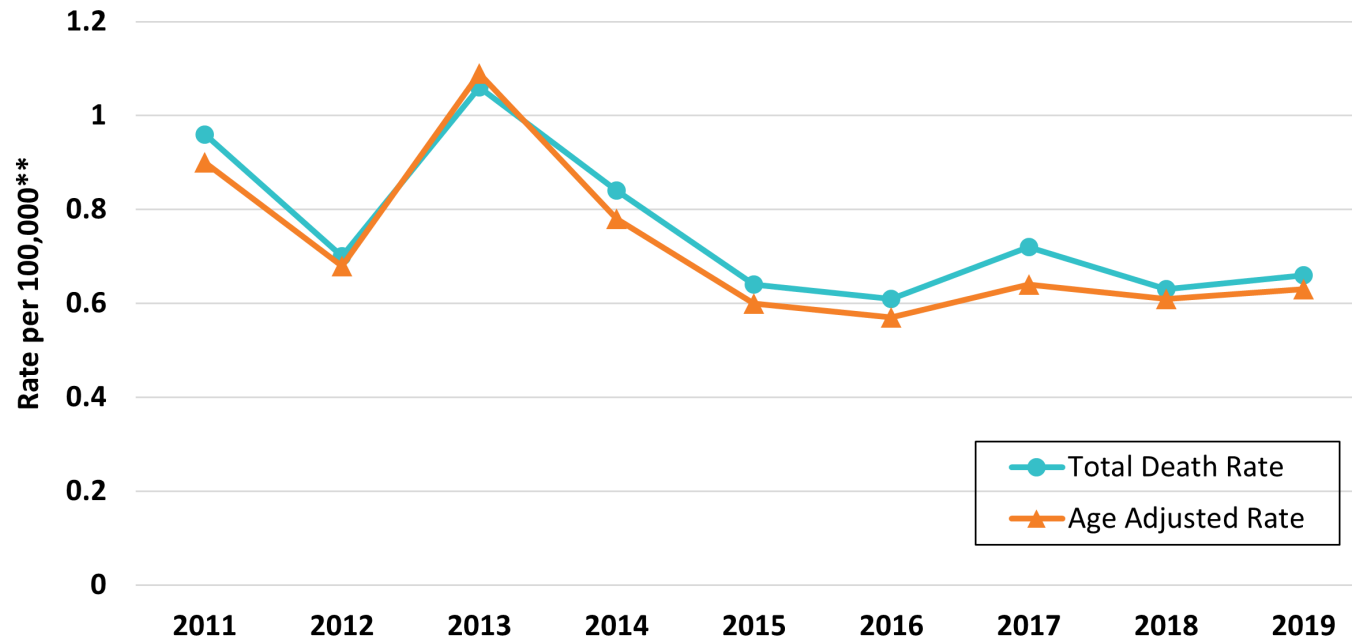
Prepared by County of San Diego, Health and Human Services Agency, Public Health Services, Community Health Statistics Unit. Contact 619.692.6667.  
[https://www.sandiegocounty.gov/hhsa/programs/phs/community\\_health\\_statistics/](https://www.sandiegocounty.gov/hhsa/programs/phs/community_health_statistics/)  
LiveWellSD.org. August 2022.

- In 2020, 14.3% of San Diego County, 16.1% of California, and 13.9% of US adults reported ever being diagnosed with asthma.
- Between 2011 and 2020, there was an overall increase in the percentage of California residents ever diagnosed with asthma and an overall decrease in the percentage of San Diego County residents ever diagnosed with asthma.

# Local Statistics and Disparities



**Asthma Death\* Rates\*\***  
**San Diego County, 2011 - 2019**



\*Underlying cause of death among San Diego County residents.

\*\*Rates calculated per 100,000 residents.

Sources: Death data from Vital Records Business Intelligence System (VRBIS), 2019.

San Diego Association of Governments (SANDAG) Population estimates, 2019 v5/2020.

Prepared by County of San Diego, Health and Human Services Agency, Public Health Services, Community Health Statistics Unit. Contact 619.692.6667.

[https://www.sandiegocounty.gov/hhsa/programs/phs/community\\_health\\_statistics/](https://www.sandiegocounty.gov/hhsa/programs/phs/community_health_statistics/)

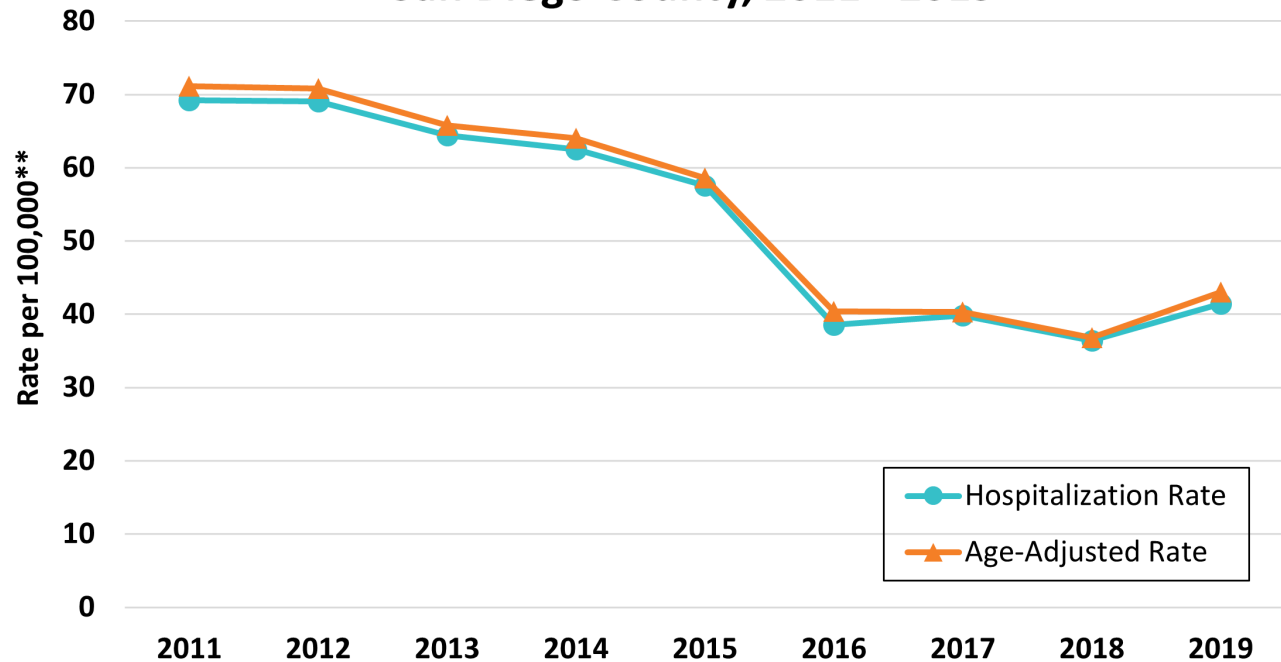
LiveWellSD.org. August 2022.

- The asthma death rate in San Diego County reached a high in 2013 and then started to decrease.
- Between 2015 and 2019, the asthma death rate has remained steady, with a slight increase in 2017.

# Local Statistics and Disparities



**Asthma Hospitalization\* Rates\*\***  
**San Diego County, 2011 - 2019**



\*Hospitalization refers to treatment at a general acute care facility in San Diego County.

\*\*Rates calculated per 100,000 residents.

Sources: California Office of Statewide Health Planning and Development (OSHPD), 2019 Patient Discharge Database.

San Diego Association of Governments (SANDAG) Population estimates, 2019 v5/2020.

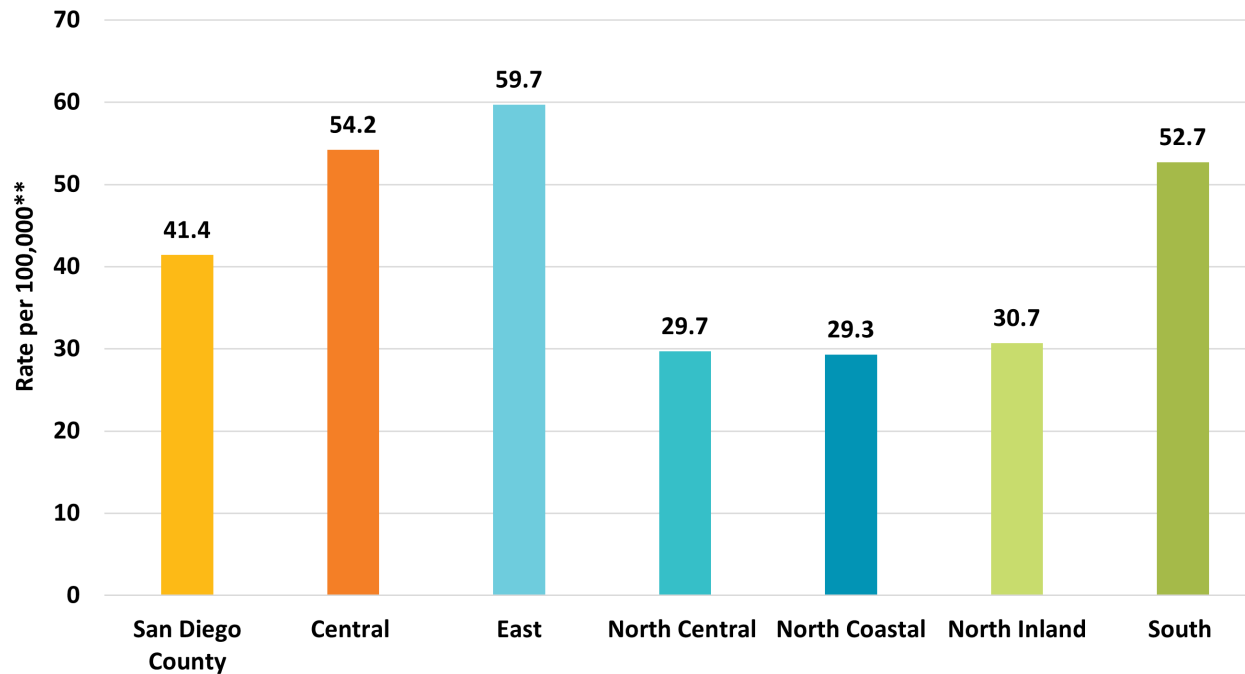
Prepared by County of San Diego, Health and Human Services Agency, Public Health Services, Community Health Statistics Unit. Contact 619.692.6667. [https://www.sandiegocounty.gov/hhsa/programs/phs/community\\_health\\_statistics/](https://www.sandiegocounty.gov/hhsa/programs/phs/community_health_statistics/) LiveWellSD.org. August 2022.

- The asthma hospitalization rate in San Diego County decreased from 2011 to 2016.
- Between 2018 and 2019, there was an increase in the rate of hospitalization due to asthma.
- Overall, the asthma hospitalization rate in San Diego County decreased between 2011 and 2019.

# Local Statistics and Disparities



**Asthma Hospitalization\* Rates\*\* by HHS Region  
San Diego County, 2019**



\*Hospitalization refers to treatment at a general acute care facility in San Diego County.

\*\*Rates calculated per 100,000 residents.

Sources: California Office of Statewide Health Planning and Development (OSHPD), 2019 Patient Discharge Database.

San Diego Association of Governments (SANDAG) Population estimates, 2019 v5/2020.

Prepared by County of San Diego, Health and Human Services Agency, Public Health Services, Community Health Statistics Unit. Contact 619.692.6667.

[https://www.sandiegocounty.gov/hhsa/programs/phs/community\\_health\\_statistics/](https://www.sandiegocounty.gov/hhsa/programs/phs/community_health_statistics/)

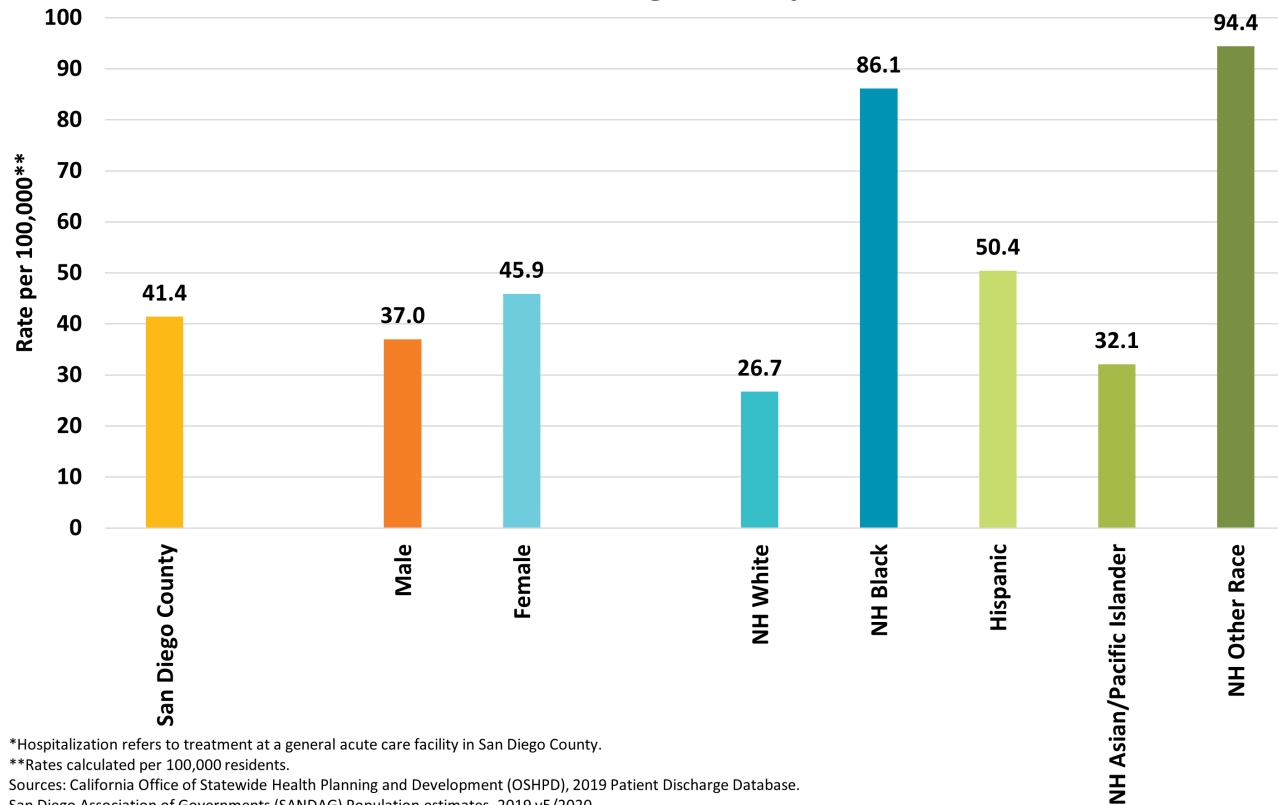
LiveWellSD.org. August 2022.

- The total asthma hospitalization rate in 2019 in San Diego County was 41.4 per 100,000 residents.
- The asthma hospitalization rate was the highest in East Region (59.7 per 100,000 residents) and the lowest in North Coastal Region (29.3 per 100,000 residents).

# Local Statistics and Disparities



**Asthma Hospitalization\* Rates\*\***  
**San Diego County, 2019**



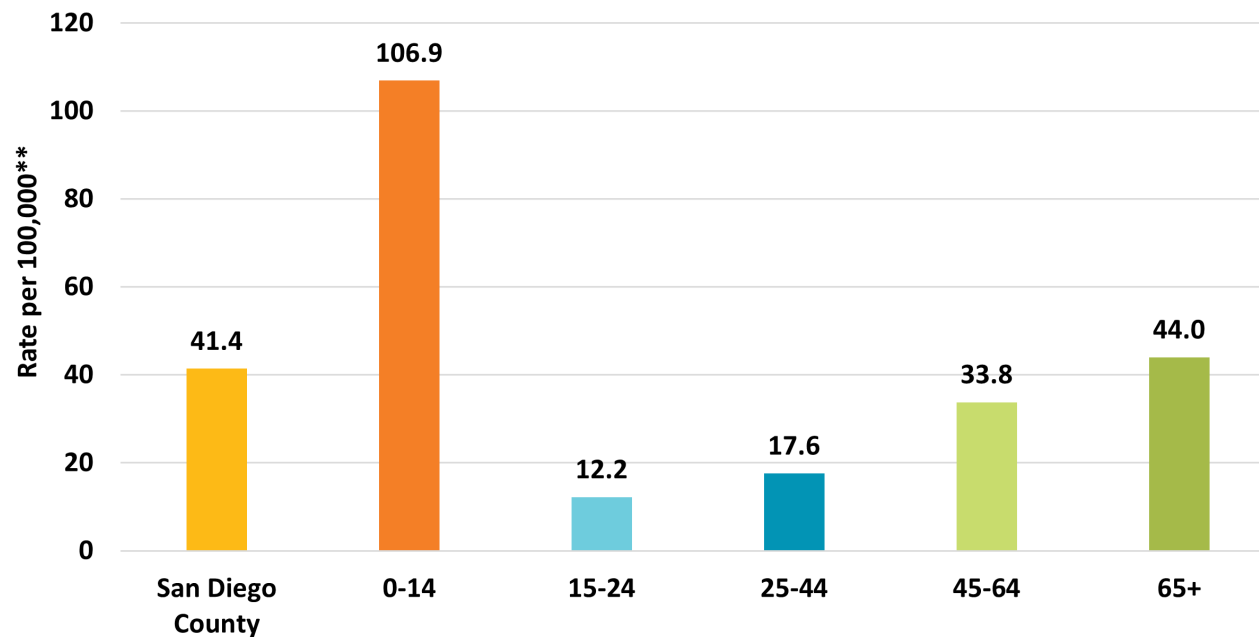
Prepared by County of San Diego, Health and Human Services Agency, Public Health Services, Community Health Statistics Unit. Contact 619.692.6667.  
[https://www.sandiegocounty.gov/hhsa/programs/phs/community\\_health\\_statistics/](https://www.sandiegocounty.gov/hhsa/programs/phs/community_health_statistics/)  
LiveWellSD.org. August 2022.

- In 2019, the asthma hospitalization rate in San Diego County was highest among residents who were American Indian/Alaska Native, multiple races, or some other race (grouped into “NH Other Race” category)
- The asthma hospitalization rate among non-Hispanic (NH) Black residents was 3.2 times higher compared to NH White residents.

# Local Statistics and Disparities



**Asthma Hospitalization\* Rates\*\* by Age  
San Diego County, 2019**



\*Hospitalization refers to treatment at a general acute care facility in San Diego County.

\*\*Rates calculated per 100,000 residents.

Sources: California Office of Statewide Health Planning and Development (OSHPD), 2019 Patient Discharge Database.

San Diego Association of Governments (SANDAG) Population estimates, 2019 v5/2020.

Prepared by County of San Diego, Health and Human Services Agency, Public Health Services, Community Health Statistics Unit. Contact 619.692.6667.

[https://www.sandiegocounty.gov/hhsa/programs/phs/community\\_health\\_statistics/](https://www.sandiegocounty.gov/hhsa/programs/phs/community_health_statistics/)

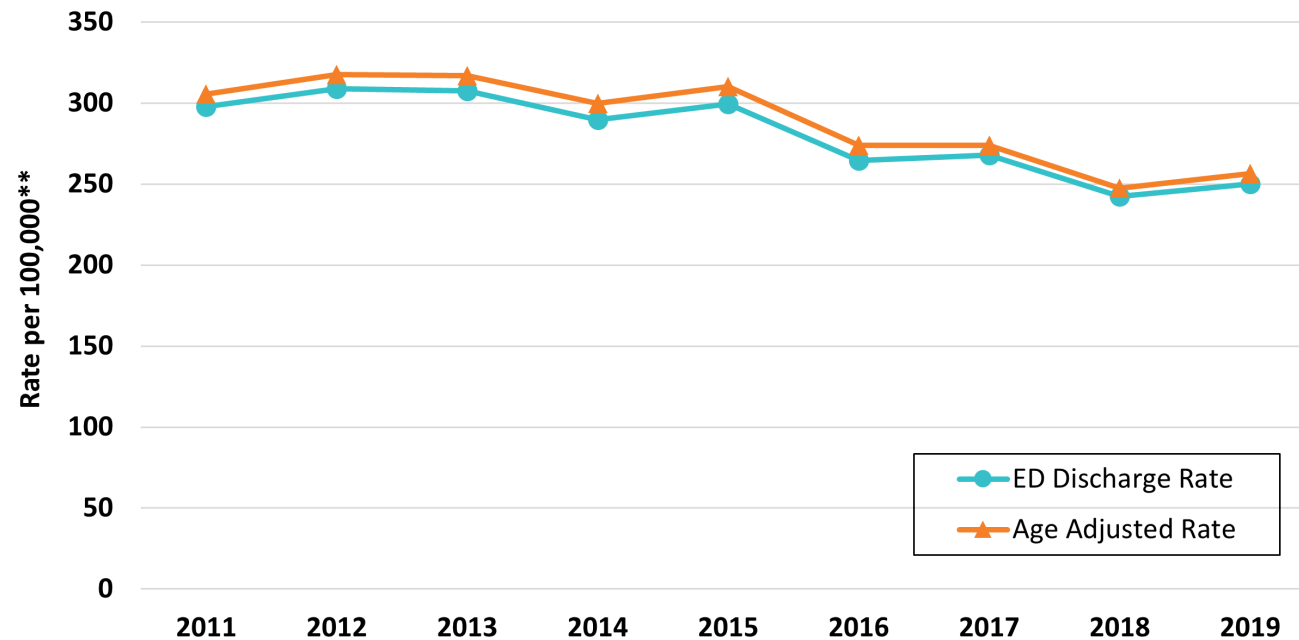
LiveWellSD.org. August 2022.

- In 2019, the asthma hospitalization rate was the highest among individuals ages 0 – 14 (106.9 per 100,000 residents)

# Local Statistics and Disparities



**Asthma Emergency Department (ED) Discharge\* Rates\*\***  
**San Diego County, 2011 - 2019**



\*Emergency Department (ED) Discharge refers to treatment at an ED facility in San Diego County.

\*\*Rates calculated per 100,000 residents.

Sources: California Office of Statewide Health Planning and Development (OSHPD), 2019 Emergency Department Discharge database. San Diego Association of Governments (SANDAG) Population estimates, 2019 v5/2020.

Prepared by County of San Diego, Health and Human Services Agency, Public Health Services, Community Health Statistics Unit. Contact 619.692.6667.

[https://www.sandiegocounty.gov/hhsa/programs/phs/community\\_health\\_statistics/](https://www.sandiegocounty.gov/hhsa/programs/phs/community_health_statistics/)

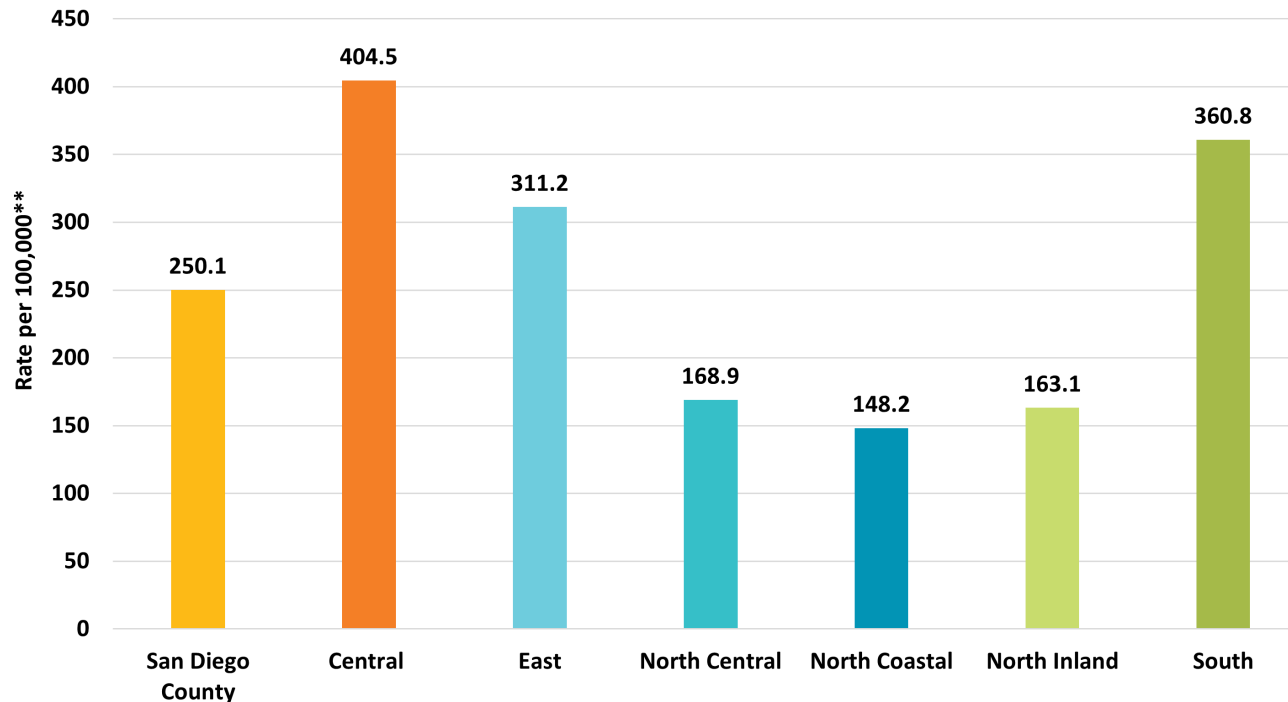
LiveWellSD.org. August 2022.

- The asthma ED discharge rate in San Diego County decreased between 2011 and 2019.

# Local Statistics and Disparities



**Asthma Emergency Department (ED) Discharge\* Rates\*\* by HHSA  
Region, San Diego County, 2019**



\*Emergency Department (ED) Discharge refers to treatment at an ED facility in San Diego County.

\*\*Rates calculated per 100,000 residents.

Sources: California Office of Statewide Health Planning and Development (OSHPD), 2019 Emergency Department Discharge database. San Diego Association of Governments (SANDAG) Population estimates, 2019 v5/2020.

Prepared by County of San Diego, Health and Human Services Agency, Public Health Services, Community Health Statistics Unit. Contact 619.692.6667.

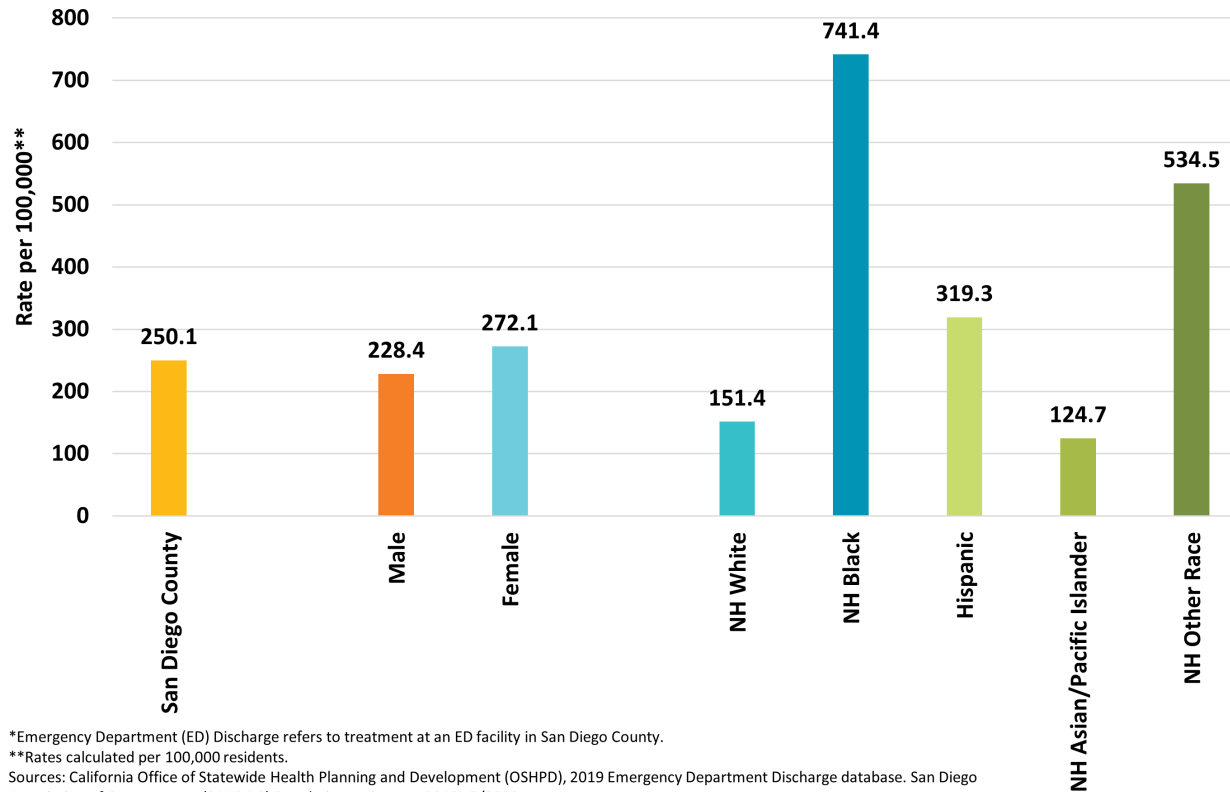
[https://www.sandiegocounty.gov/hhsa/programs/phs/community\\_health\\_statistics/](https://www.sandiegocounty.gov/hhsa/programs/phs/community_health_statistics/)  
LiveWellSD.org. August 2022.

- The total asthma ED discharge rate in 2019 in San Diego County was 250.1 per 100,000 residents.
- The asthma ED discharge rate was the highest in Central Region (404.5 per 100,000 residents) and the lowest in North Coastal Region (148.2 per 100,000 residents).

# Local Statistics and Disparities



**Asthma Emergency Department (ED) Discharge\* Rates\*\***  
**San Diego, 2019**



\*Emergency Department (ED) Discharge refers to treatment at an ED facility in San Diego County.

\*\*Rates calculated per 100,000 residents.

Sources: California Office of Statewide Health Planning and Development (OSHPD), 2019 Emergency Department Discharge database. San Diego Association of Governments (SANDAG) Population estimates, 2019 v5/2020.

Prepared by County of San Diego, Health and Human Services Agency, Public Health Services, Community Health Statistics Unit. Contact 619.692.6667. [https://www.sandiegocounty.gov/hhsa/programs/phs/community\\_health\\_statistics/](https://www.sandiegocounty.gov/hhsa/programs/phs/community_health_statistics/)  
LiveWellSD.org, August 2022.

- In 2019, the asthma ED discharge rate was highest among non-Hispanic (NH) Black residents in San Diego County.
- The asthma ED discharge rate among NH Black residents was 4.9 times higher compared to NH White residents.
- Asthma ED discharge rates were higher for females than males.

# Prevention



LIVE WELL  
SAN DIEGO

- Medications are taken to alleviate long-term and short-term asthma symptoms. Medicines may include:
  - Inhaled corticosteroids
  - Leukotriene modifiers
  - Combination inhalers
  - Theophylline
  - Short-acting beta antagonists
  - Anticholinergic agents
  - Oral/intravenous corticosteroids



# Prevention



LIVE WELL  
SAN DIEGO

- Actions can also be taken to minimize asthma symptoms. These include:
  - Using air conditioner to reduce the amount of airborne pollen and humidity indoors,
  - Minimizing household items that may trap dust,
  - Cleaning and washing bedding regularly,
  - Drying damp things completely to avoid mold spores,
  - Regularly grooming pets and avoiding pets with fur or feathers if allergic,
  - Regularly exercising to strengthen heart and lungs, and
  - Maintaining a healthy weight.



# Critical Pathway for Asthma

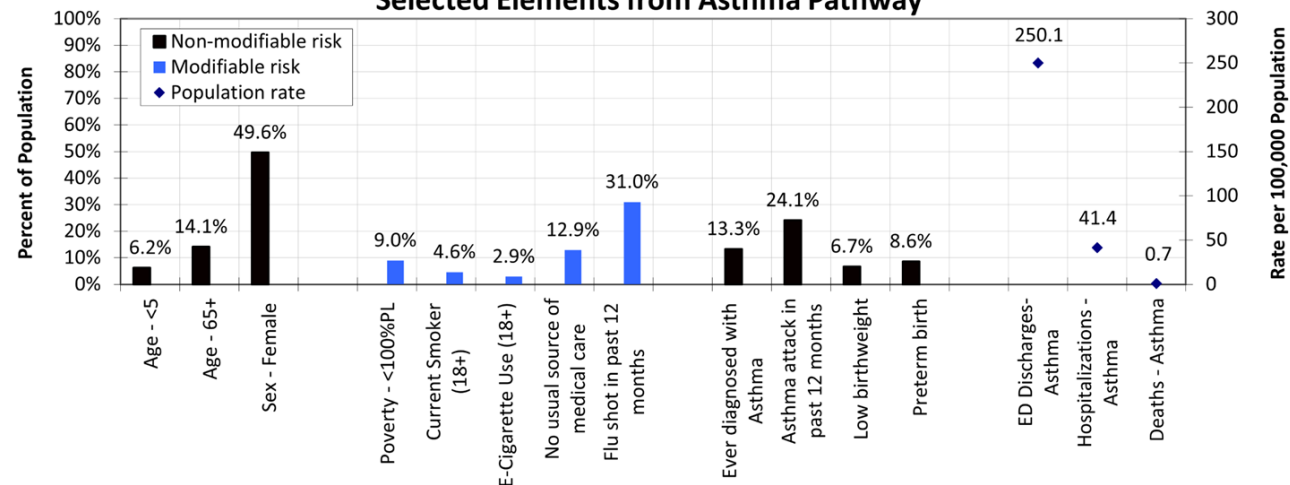


## Critical Pathway

### Asthma



### Characteristics of Residents, San Diego County Selected Elements from Asthma Pathway



# Contact Us



LIVE WELL  
SAN DIEGO

For more information, including data, resources and reports from the  
County of San Diego's Community Health Statistics Unit:

[www.SDHealthStatistics.com](http://www.SDHealthStatistics.com)

(619)692-6667