

## Variables

- Adults have asthma
- Students who have asthma
- Asthma hospitalizations
- COPD hospitalizations

## What is it?

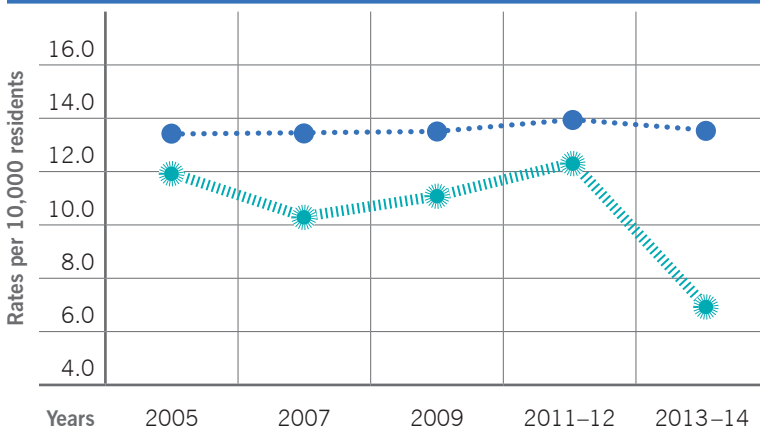
Asthma and chronic obstructive pulmonary disease (COPD) are chronic conditions affecting the airways. COPD, which is an umbrella term for airway diseases such as chronic bronchitis and emphysema, was the third leading cause of death in the United States in 2011.<sup>1</sup> Asthma is the leading chronic condition for children and affects an estimated 10 percent of the United States population.<sup>2</sup>

Both conditions are characterized by chronic inflammation of the airways, which may result in coughing, wheezing, and shortness of breath. They can also be exacerbated by environmental conditions and exposures to substances such as tobacco smoke, cold air, allergens, and pollution. While COPD and asthma are similar, they are considered two different diseases.

Asthma generally presents during childhood, while COPD is usually diagnosed in persons 40 and older.<sup>3</sup> The obstruction caused by asthma is considered reversible, whereas COPD is irreversible.<sup>2</sup>

While the exact causes of asthma are still unknown, current medical opinion is that genetics and environmental exposures play a role in the development of the condition. Persons with a family history of asthma or exposure to allergens and pollutants (such as tobacco smoke) at an early age are at a higher risk of developing asthma.<sup>4</sup> The most common cause for COPD is tobacco smoke (first and second hand). Exposure to fumes and chemicals (generally in an occupational setting) may contribute to the development of COPD as well.<sup>3</sup> Asthma may also be a risk factor for COPD. An Australian study found that 40 percent of children with severe asthma developed COPD by age 50.<sup>5</sup>

**Figure A: Asthma rates for San Francisco and California adults, 2005–14**



● California, ● San Francisco. **Data source:** CHIS, 2005–14.

## Why is it important for health?

Asthma continues to be a major public health concern with a continually increasing prevalence. In 2011, it was estimated that approximately 26 million Americans have asthma, compared with only 20 million in 2001. Asthma is also a cause of lost productivity in adults and children, costing the nation roughly \$56 billion annually in healthcare expenses.<sup>6</sup>

COPD is also a major public health concern as it is the third leading cause of death in the nation. In addition, it was estimated in 2010 that COPD-related expenses cost the nation approximately \$49.9 billion annually. Death rates due to COPD are typically higher among males than females.<sup>7</sup>

## What is the status in San Francisco?

**Asthma:** In 2013–14, 13.8 percent of adults, 18 percent of middle school and 21 percent of high school students were diagnosed with asthma (Tables 1, 2, and 3). For the first time since 2005, the percentage of adults suffering from asthma in San Francisco was significantly lower in California overall (13.8 percent) (Figure A). However, the prevalence of asthma among

Black/African American adults (13.9 percent) in San Francisco is more than 250 percent greater than that for Whites (5.0). Black/African American middle (29.9 percent) and high school (37.6 percent) students were more likely than other ethnicities to have asthma (Figure B). Filipino middle (24.8 percent) and high school (32.2 percent) students had the second highest prevalence of asthma, while Chinese students (13.2 percent and 13.1 percent, respectively) had the lowest. (The practice of combining data for Asians and Pacific Islanders may mask poor health risk factors and outcomes in the city.)

Consistent with higher prevalence, rates of asthma hospitalizations are highest for Black/African Americans and are almost nine times higher than for Whites (Figure C). Rates for Whites and Asians and Pacific Islanders decreased between 2005 and 2014, while rates for Latinos and Black/African Americans remained steady. Among children and adolescents, hospitalization rates due to asthma are highest for children 1 to 4 years old (Figure D). The decrease in rates seen in older children may be attributable to the presence of active management plans and staff training in schools.

**COPD:** In 2012–14 the hospitalization rate due to COPD in California (7.9 per 100,000 residents) was similar to San Francisco (7.6 per 100,000 residents). Hospitalizations rates due to COPD are historically

According to 2013–14 data, the prevalence of asthma among adults is lower in San Francisco than in California.

Black/African American and Filipino students are more likely than whites to have asthma.

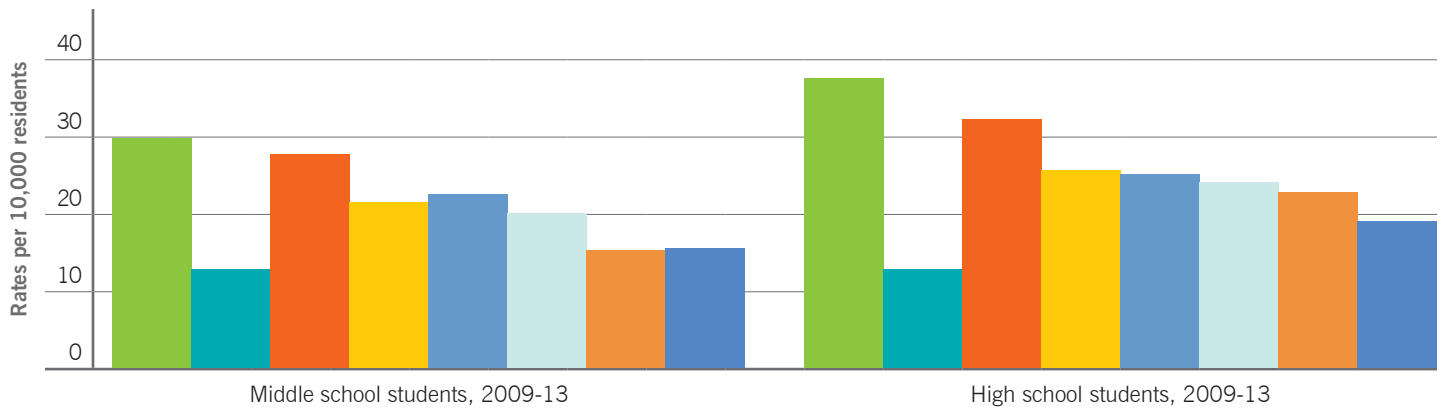
higher among males than females (Table 7). As is the case with asthma, Black/African Americans have a far higher rate of COPD hospitalization than all other races; rates among Black/African Americans increased between 2005 and 2014 (Figure E). COPD hospitalization rates, similar to asthma hospitalization rates, are higher in the Tenderloin, SOMA, and Bayview Hunters Point ( see maps 1 and 2). These three neighborhoods historically have had higher than average minority populations with a lower than average socioeconomic status.

Sources

CHIS California Health Interview Survey, UCLA Center for Health Policy Research <http://ask.chis.ucla.edu/main/default.asp>

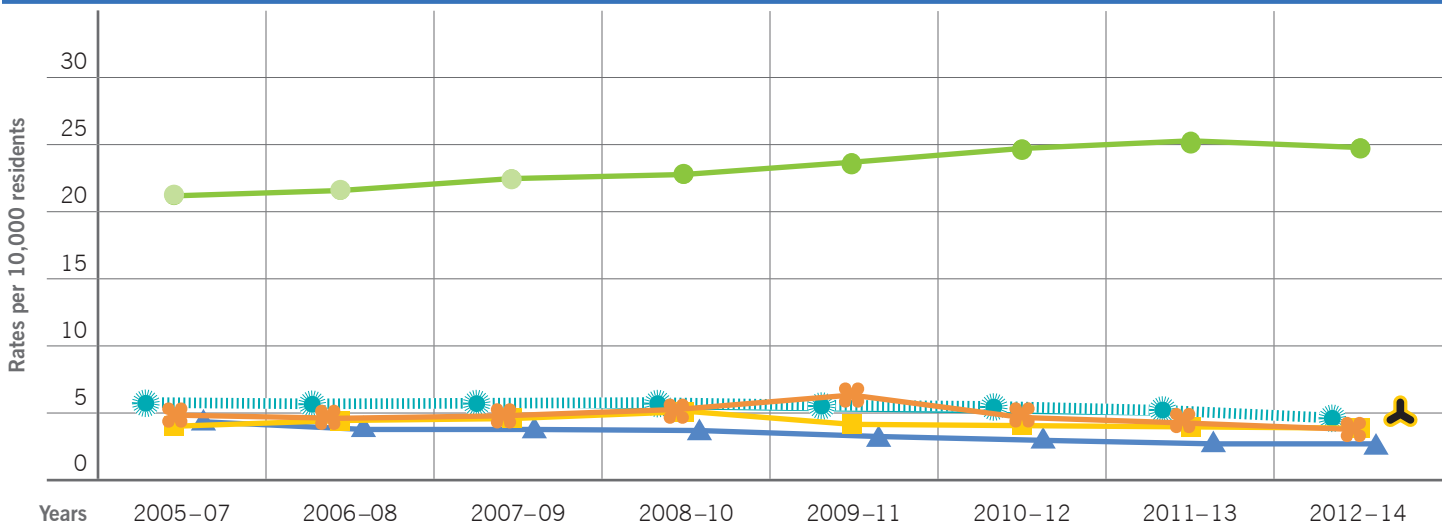
OSHPD Office of Statewide Health Planning and Development. <http://www.oshpd.ca.gov/>

Figure B: Asthma rates for San Francisco students, by ethnicity, 2009–13



Legend: Black/African American, Chinese, Filipino, Latino, Multi-ethnic, Pacific Islander, Other Asian, White. Data source: YRBS 2009–13.

Figure C: Age-adjusted asthma hospitalization rates, by ethnicity, adults 18-plus, 2005–14



Legend: California (2012–14), San Francisco, API, Black/African American, Latino, White. Data source: OSHPD 2015–14.

Asthma hospitalization rates are highest among children between 1 and 4 years old. Lower hospitalization rates among older children may in part be a result of active management plans and trained staff at schools.

YRBS Youth Risk Behavioral Surveillance System. <http://www.cdc.gov/healthyyouth/data/yrbs/>

**References**

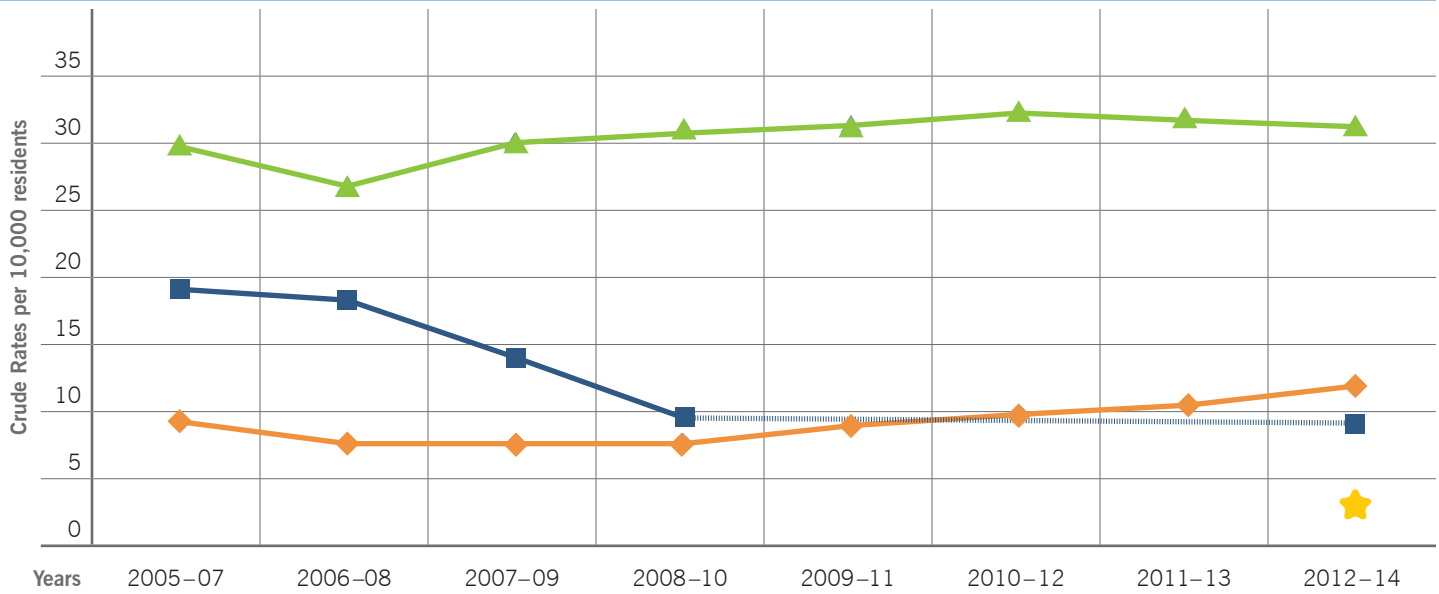
1. Centers for Disease Control and Prevention (2015), “Chronic Obstructive Pulmonary Disease (COPD).”
2. American Lung Association (2012), “The Link between Asthma and COPD.”
3. National Heart, Lung, and Blood Institute (2013), “What is COPD?”
4. National Heart, Lung, and Blood Institute (2014), “What is Asthma?”
5. Health.com (2010), “Can Asthma Increase COPD Risk?”
6. Epidemiology and Statistics Unit (2012), “Trends in Asthma Morbidity and Mortality. American Lung Association.”
7. American Lung Association, Epidemiology and Statistics Unit (2012). “Trends in COPD (Chronic Bronchitis and Emphysema) Morbidity and Mortality.”

**Methodology and Limitations**

**Hospitalizations:** This analysis identified patients with hospitalizations due to asthma or COPD with the following list of ICD-9-CM Diabetes Diagnosis Codes consistent with the definition included in the Prevention Quality Indicator Technical Specification for Asthma in younger Adults Admission Rate (PQI 15)/ Chronic Obstructive Pulmonary Disease (COPD) or Asthma in Older adults Admission Rate (PQI 05) published by the Agency for Healthcare Research and Quality. Inclusion criteria for asthma were:

- 1) primary diagnosis equal to any of the following ICD9 codes: 49300, 49301, 49302, 49310, 49311, 49312, 49320, 49321, 49322, 49381, 49382, 49390, 49391, 49392, and
- 2) residence in San Francisco at the time of admission.

**Figure D: Age-specific hospitalization rates due to asthma in San Francisco children and adolescents, 2005–14**



\*Statistically unstable data not shown. ■ Less than 1 year, ▲ 1-4 years, ◆ 5-14 years, ★ 15-17 years (2012-14), Data source: OSHPD 2005-14..

Between 2005–08 and 2011–13, COPD hospitalization rates increased among Black/African Americans and in 2012–14 were 3.6 times higher than citywide rates.

Inclusion criteria for COPD were

- 1) primary diagnosis equal to any of the following ICD9 codes: 4910, 4911, 49120, 49121, 4918, 4919, 4920, 4928, 494, 4940, 4941, 496, or
- 2) primary diagnosis equal to 4660 and other diagnosis equal to one of the following: 4910, 4911, 49120, 49121, 4918, 4919, 4920, 4928, 494, 4940, 4941, 496,
- 3) age 18 and over at the time of hospitalization,
- 4) residence in SF at the time of admission.

Hospitalization meeting the above criteria for Asthma or COPD were excluded if cystic fibrosis or other respiratory anomalies were indicated with the following ICD-9 codes:: Cases with cystic fibrosis or other respiratory anomalies: 27700, 27701, 27702, 27703, 27709, 51661, 51662, 51663, 51664, 51669, 74721, 7483, 7484, 7485, 74860, 74861, 74869, 7488, 7489, 7503, 7593, 7707.

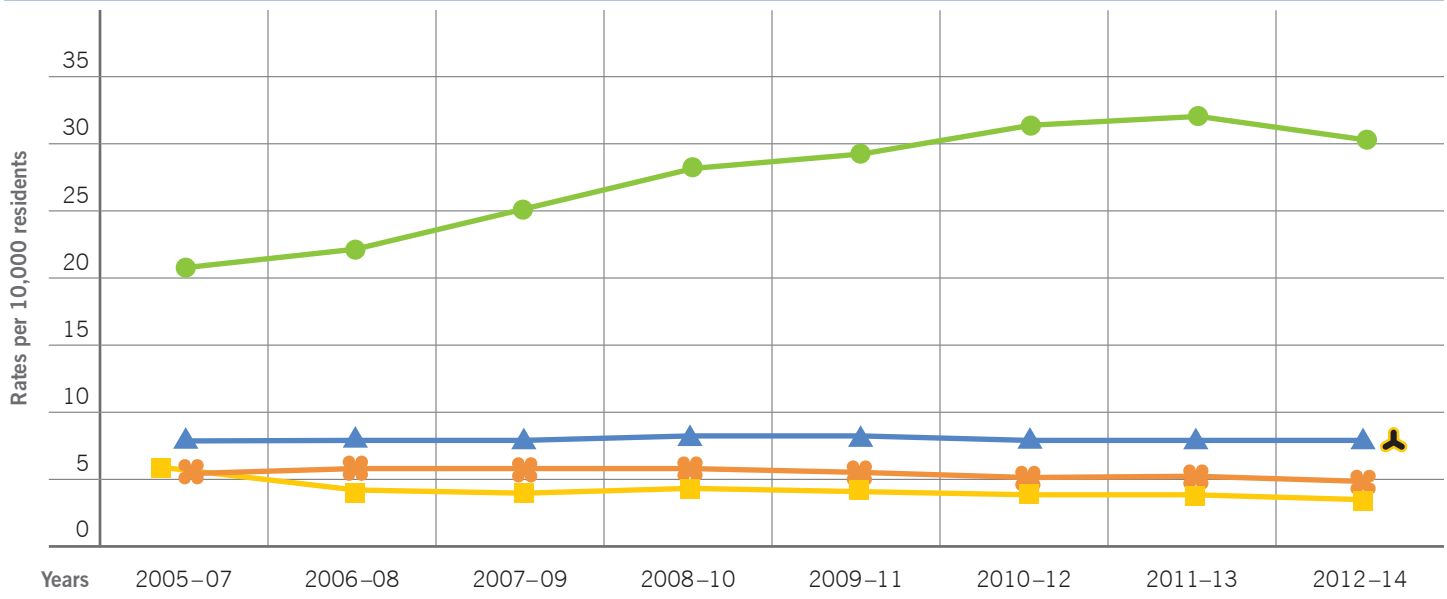
Hospitalization rates measure the number of admissions not the number of residents who are hospitalized. Admissions records may include multiple admissions of the same person.

**Statistical instability:** Statistically unstable estimates are not shown in this document. Statistical instability may arise from:

- ...few respondents to a survey,
- ...small population sizes, or
- ...small numbers of affected individuals.

Statistical instability indicates a lack of confidence in an estimates ability to accurately and reliably represent the population. Due to statistical instability, estimates are not available for all age, gender, ethnicity, or other groups.

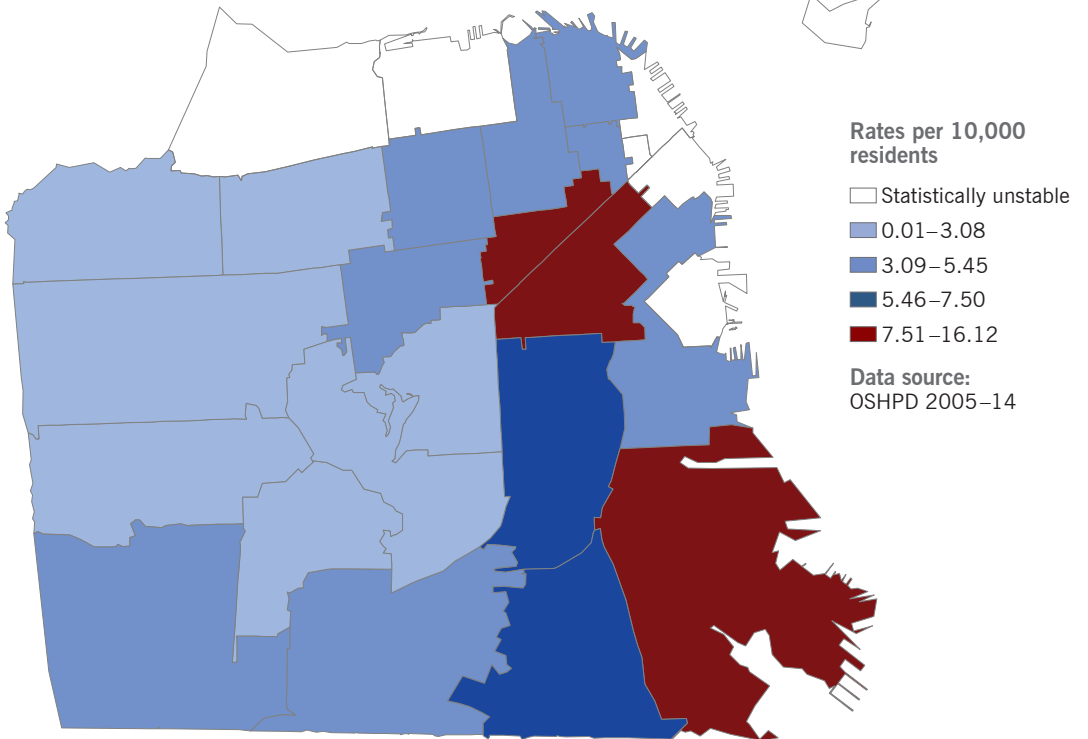
**Figure E: Age-adjusted hospitalization rates due to COPD in San Francisco adults age 18-plus, 2005–14**



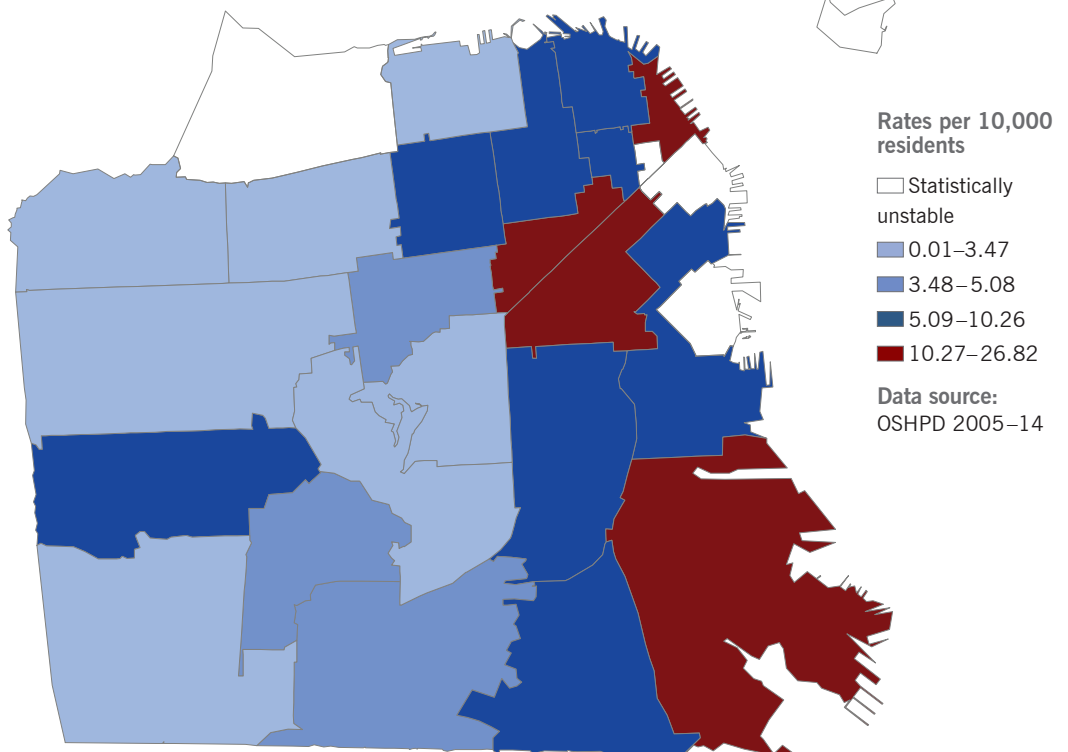
California (2012–14), Asian and Pacific Islander, Black/African American, Latino, White. Data source: OSHPD 2005–14.

**Map 1:** Emergency room visit rates due to asthma among adults age 18-plus, 2012–14

COPD and asthma hospitalization rates are highest in the eastern, and southeastern sections of the city coinciding with areas of lower social economic status and higher proportion of minority populations.



**Map 2:** Emergency room visit rates due to COPD among adults age 18-plus, 2012–14



**Table 1: San Francisco adults reporting ever having been diagnosed with asthma, 2005–14**

	2005	2007	2009	2011–12	2013–14	
Rates per 10,000 residents (95% Confidence Interval)						
California	13.6 (13.1–14.1)	13.6 (13.2–14.0)	13.7 (13.0–14.3)	14.1 (13.6–14.7)	13.8 (12.8–14.9)	
San Francisco	12.1 (9.4–14.8)	10.5 (6.8–14.2)	11.3 (7.8–14.9)	12.5 (8.8–16.1)	7.1 (4.2–10.1)	
Gender	Male	13.4 (8.9–18.7)	*	11.7 (7.2–16.3)	14.8 (10.3–21.3)	7.2 (3.4–11.0)
	Female	10.4 (7.5–13.3)	10.1 (6.8–13.4)	10.9 (5.1–16.7)	12.2 (8.1 – 9.7)	*
Race/ethnicity	API	9.0 (4.1–14.0)	*	*	5.0 (2.3–7.7)	
	B/AA	*	*	*	*	
	Latino	*	*	15.8 (6.7–24.8)	*	
	White	13.0 (9.2–16.7)	9.8 (6.1–13.6)	10.0 (6.3–13.8)	13.9 (9.5–18.2)	
Age in years	18–24	*	*	*	*	
	25–39White	15.6 (9.9–21.2)	15.5 (6.4–24.6)	*	11.2 (6.2–16.2)	
	40–64White	10.8 (7.8–13.7)	7.3 (4.8–9.8)	11.9 (7.5–16.3)	9.2 (6.1–12.3)	
	65–74White	*	*	*	7.4 (4.3–10.5)	
	75-plusWhite	*	*	*	12.8 (6.5–19.2)	
Below 300% FPL	10.3 (5.9–14.7)	*	11.4 (5.3–17.5)	10.9 (6.8–15.0)		
Above 300% FPL	13.1 (9.6–16.5)	10.9 (6.5–15.3)	11.3 (7.4 – 15.1)	9.0 (6.3–11.7)		

\*Statistically unstable data not shown. **Data source:** CHIS, 2005–14.

**Table 2: Age-adjusted hospitalization rates due to asthma in San Francisco children and adolescents, 2005–14**

	2005–07	2006–08	2007–09	2008–10	2009–11	2010–12	2011–13	2012–14	
Rates per 10,000 residents (95% Confidence Interval)									
California								3.04 (3.0–3.08)	
San Francisco	3.62 (3.3–3.95)	3.25 (2.9–3.57)	3.23 (2.9–3.54)	3.12 (2.8–3.43)	3.22 (2.9–3.53)	3.55 (3.2–3.87)	3.79 (3.5–4.12)	4.06 (3.7–4.4)	
Gender	Male	4.33 (3.8–4.84)	3.81 (3.3–4.29)	3.87 (3.4–4.35)	3.86 (3.4–4.35)	3.92 (3.4–4.41)	4.35 (3.8–4.85)	4.56 (4.1–5.06)	4.91 (4.4–5.42)
	Female	2.89 (2.5–3.32)	2.67 (2.3–3.08)	2.56 (2.2–2.96)	2.37 (2.0–2.74)	2.5 (2.1–2.88)	2.73 (2.3–3.13)	2.98 (2.6–3.41)	3.16 (2.7–3.6)

\*Statistically unstable data not shown. **Data source:** OSHPD, Patient Discharge Dataset, 2005–14.

Table continues on the next page.

**Table 2: Age-adjusted hospitalization rates due to asthma in San Francisco children and adolescents, 2005–14**  
(continued)

		2005–07	2006–08	2007–09	2008–10	2009–11	2010–12	2011–13	2012–14
		Rates per 10,000 residents (95% Confidence Interval)							
Race/ethnicity	API	4.99 (4.3–5.65)	3.99 (3.4–4.58)	4.21 (3.6–4.84)	4.34 (3.8–4.9)	4.3 (3.7–4.87)	3.95 (3.4–4.49)	3.23 (2.7–3.79)	3.13 (2.6–3.67)
	B/AA	8.54 (6.7–10.37)	8.64 (6.7–10.54)	8.97 (7.0–10.93)	9.07 (7.3–10.83)	9.72 (7.9–11.58)	10.3 (8.4–12.25)	12.66 (10.1–15.23)	14.97 (12.1–17.84)
	Latino	4.48 (3.7–5.26)	3.63 (2.9–4.35)	3.1 (2.5–3.74)	3.1 (2.6–3.65)	3.24 (2.7–3.79)	3.93 (3.3–4.53)	4.61 (3.9–5.35)	5.17 (4.4–5.96)
	White	2.89 (2.3–3.47)	2.78 (2.2–3.35)	3.11 (2.5–3.7)	2.57 (2.1–3.01)	2.4 (2.0–2.83)	2.16 (1.8–2.56)	2.14 (1.7–2.58)	2.03 (1.6–2.44)
Age in years	Less than 1	19.11 (13.2–25.03)	18.49 (12.7–24.29)	14.18 (9.2–19.17)	9.67 (5.6–13.71)	*	*	*	8.13 (4.8–11.46)
	1–4	29.87 (26.0–33.7)	26.95 (23.3–30.6)	30.11 (26.3–33.95)	31.29 (27.4–35.16)	30.49 (26.7–34.25)	32.3 (28.5–36.09)	31.86 (28.2–35.52)	31.4 (27.9–34.93)
	5–14	9.37 (7.9–10.8)	7.8 (6.5–9.13)	7.71 (6.4–9.05)	7.1 (5.8–8.39)	8.01 (6.6–9.38)	9.87 (8.4–11.37)	10.58 (9.0–12.12)	12.05 (10.4–13.68)
	15–17	*	*	*	*	*	*	*	3.32 (1.9–4.77)

\*Statistically unstable data not shown. **Data source:** OSHPD, Patient Discharge Dataset , 2005–14.

**Table 3: Age-adjusted hospitalization rates due to asthma in San Francisco adults age 18-plus, 2005–14**

		2005–07	2006–08	2007–09	2008–10	2009–11	2010–12	2011–13	2012–14
		Rates per 10,000 residents (95% Confidence Interval)							
California									5.19 (5.1–5.23)
San Francisco		5.89 (5.6–6.18)	5.78 (5.5–6.07)	5.72 (5.4–6.01)	5.73 (5.4–6.01)	5.69 (5.4–5.98)	5.52 (5.2–5.79)	5.29 (5.0–5.56)	4.8 (4.5–5.05)
Gender	Male	4.74 (4.4–5.12)	4.61 (4.2–4.99)	4.69 (4.3–5.07)	5.05 (4.7–5.44)	5.04 (4.7–5.42)	4.87 (4.5–5.24)	4.34 (4.0–4.7)	3.83 (3.5–4.16)
	Female	7.03 (6.6–7.47)	6.99 (6.5–7.43)	6.8 (6.4–7.23)	6.49 (6.1–6.91)	6.47 (6.1–6.89)	6.3 (5.9–6.71)	6.31 (5.9–6.72)	5.79 (5.4–6.18)
Race/ethnicity	API	4.97 (4.5–5.41)	4.77 (4.3–5.2)	4.84 (4.4–5.26)	4.99 (4.6–5.41)	5.23 (4.8–5.65)	4.91 (4.5–5.31)	4.57 (4.2–4.95)	3.69 (3.3–4.04)
	B/AA	21.2 (19.1–23.27)	21.66 (19.5–23.78)	22.55 (20.4–24.73)	22.9 (20.7–25.11)	23.77 (21.5–26.04)	24.77 (22.5–27.09)	25.31 (22.9–27.7)	24.88 (22.5–27.27)
	Latino	4.05 (3.3–4.81)	4.46 (3.7–5.24)	4.53 (3.8–5.29)	4.68 (3.9–5.45)	4.23 (3.5–4.95)	4.16 (3.4–4.87)	4.09 (3.4–4.78)	3.93 (3.3–4.6)
	White	4.32 (3.9–4.7)	4.06 (3.7–4.43)	3.94 (3.6–4.3)	3.72 (3.4–4.07)	3.34 (3.0–3.67)	3.13 (2.8–3.44)	2.9 (2.6–3.21)	2.84 (2.5–3.14)

**Data source:** OSHPD, Patient Discharge Dataset 2005–14.

Table continues on the next page.

**Table 3: Age-adjusted hospitalization rates due to asthma in San Francisco adults age 18-plus, 2005–14**  
(continued)

		2005–07	2006–08	2007–09	2008–10	2009–11	2010–12	2011–13	2012–14
		Rates per 10,000 residents (95% Confidence Interval)							
Age in years	18–24	1.2 (0.8–1.64)	1.28 (0.8–1.72)	1.5 (1.0–1.98)	1.32 (0.9–1.78)	1.34 (0.9–1.81)	1.11 (0.7–1.54)	1.34 (0.9–1.83)	1.24 (0.8–1.72)
	25–44	1.79 (1.6–2.03)	1.71 (1.5–1.94)	1.67 (1.4–1.9)	1.7 (1.5–1.93)	1.6 (1.4–1.83)	1.61 (1.4–1.84)	1.62 (1.4–1.84)	1.73 (1.5–1.96)
	45–64	8.96 (8.2–9.74)	8.51 (7.8–9.25)	8.58 (7.8–9.32)	8.63 (7.9–9.37)	9.02 (8.3–9.76)	9.01 (8.3–9.75)	8.56 (7.8–9.28)	7.67 (7.0–8.35)
	65–74	15.9 (13.9–17.9)	16.42 (14.4–18.44)	15.02 (13.1–16.94)	14.55 (12.7–16.42)	13.12 (11.4–14.87)	13.75 (12.0–15.52)	12.56 (10.9–14.21)	11.62 (10.1–13.17)
	75-plus	32.63 (29.8–35.42)	32.53 (29.8–35.31)	33.06 (30.3–35.85)	34.47 (31.6–37.3)	34.43 (31.6–37.25)	31.86 (29.1–34.58)	29.81 (27.2–32.44)	25.49 (23.1–27.91)

Data source: OSHPD, Patient Discharge Dataset , 2005–14.

**Table 4: Age-adjusted hospitalization rates due to COPD in San Francisco adults age 18-plus, 2005–14**

		2005–07	2006–08	2007–09	2008–10	2009–11	2010–12	2011–13	2012–14
		Rates per 10,000 residents (95% Confidence Interval)							
California									7.92 (7.9–7.97)
San Francisco		7.58 (7.2–7.91)	7.79 (7.5–8.13)	7.92 (7.6–8.25)	8.22 (7.9–8.56)	8.3 (8.0–8.63)	8.19 (7.9–8.52)	8.09 (7.8–8.42)	7.6 (7.3–7.92)
Gender	Male	10.41 (9.8–11.0)	10.49 (9.9–11.08)	10.44 (9.9–11.01)	10.77 (10.2–11.35)	10.89 (10.3–11.46)	10.84 (10.3–11.41)	10.86 (10.3–11.43)	10.48 (9.9–11.03)
	Female	5.35 (5.0–5.73)	5.72 (5.3–6.11)	5.96 (5.6–6.36)	6.22 (5.8–6.63)	6.29 (5.9–6.69)	6.11 (5.7–6.5)	5.95 (5.6–6.33)	5.23 (4.9–5.6)
Race/ethnicity	API	5.48 (5.0–5.93)	5.81 (5.3–6.27)	5.9 (5.4–6.36)	5.89 (5.4–6.34)	5.66 (5.2–6.09)	5.11 (4.7–5.51)	5.26 (4.9–5.66)	4.93 (4.5–5.31)
	B/AA	20.76 (18.7–22.79)	22.24 (20.1–24.35)	25.22 (23.0–27.48)	28.34 (25.9–30.73)	29.33 (26.9–31.75)	31.42 (28.9–33.91)	32.03 (29.5–34.53)	30.11 (27.7–32.52)
	Latino	4.5 (3.7–5.35)	4.12 (3.3–4.92)	3.95 (3.2–4.72)	4.45 (3.6–5.26)	4.31 (3.5–5.09)	3.9 (3.2–4.64)	3.85 (3.1–4.57)	3.46 (2.8–4.13)
	White	7.62 (7.1–8.13)	7.82 (7.3–8.34)	7.67 (7.2–8.18)	7.83 (7.3–8.35)	8.13 (7.6–8.65)	8.12 (7.6–8.64)	7.61 (7.1–8.11)	7.18 (6.7–7.67)
Age in years	18–24	*	*	*	*	*	*	*	*
	25–44	0.24 (0.2–0.32)	0.22 (0.1–0.31)	0.31 (0.2–0.41)	0.38 (0.3–0.49)	0.43 (0.3–0.54)	0.38 (0.3–0.48)	0.31 (0.2–0.4)	0.3 (0.2–0.39)
	45–64	11.67 (10.8–12.55)	11.63 (10.8–12.51)	12.02 (11.1–12.89)	12.41 (11.5–13.29)	12.61 (11.7–13.49)	13.58 (12.7–14.5)	13.97 (13.0–14.89)	14.13 (13.2–15.06)
	65–74	28.27 (25.6–30.93)	30.11 (27.4–32.85)	28.46 (25.8–31.09)	31.16 (28.4–33.9)	30.94 (28.2–33.63)	30.76 (28.1–33.41)	27.1 (24.7–29.53)	24.69 (22.4–26.95)
	75-plus	50.86 (47.4–54.34)	52.86 (49.3–56.4)	55.47 (51.9–59.08)	56.42 (52.8–60.04)	57.72 (54.1–61.37)	54.09 (50.5–57.62)	55.96 (52.4–59.55)	50.32 (46.9–53.73)

\*Statistically unstable data not shown. Data source: OSHPD, Patient Discharge Dataset, 2005–14.



**Table 5:** High school students who have asthma, 2009–14

		Percentage (95% Confidence Interval)
San Francisco		21.0 (19.4–22.5)
<b>Gender</b>	Male	23.4 (21.2–25.5)
	Female	18.1 (16.4–19.8)
<b>Race/ethnicity</b>	Native American	*
	B/AA	37.6 (30.4–44.8)
	Chinese	13.1 (11.6–14.6)
	Filipino	32.2 (25.6–38.8)
	Latino	25.7 (22.7–28.8)
	Multi-ethnic	25.1 (19.8–30.4)
	Pacific Islander	24.2 (13.3–35.2)
	Other Asian	20.3 (15.4–25.3)
	White	19.1 (14.1–24.1)
<b>Grade</b>	9th	19.5 (16.5–22.4)
	10th	20.0 (16.9–23.1)
	11th	21.1 (18.2–23.9)
	12th	22.6 (19.7–25.4)

\*Statistically unstable data not shown.

Data source: YRBS, 2009–11.

**Table 6:** Middle school students who have asthma, 2009–13

		Percentage (95% Confidence Interval)
San Francisco		18.3 (17.2–19.3)
<b>Gender</b>	Male	19.5 (17.9–21.1)
	Female	16.9 (15.6–18.1)
<b>Race/ethnicity</b>	Native American	*
	B/AA	29.9 (24.9–35.0)
	Chinese	13.2 (11.8–14.7)
	Filipino	24.8 (19.4–30.2)
	Latino	21.4 (19.1–23.7)
	Multi-ethnic	22.5 (19.1–26.0)
	Pacific Islander	20.3 (9.6–31.1)
	Other Asian	15.5 (11.4–19.6)
	White	15.8 (12.7–18.9)
<b>Grade</b>	6th	17.0 (15.1–18.9)
	7th	17.7 (16.1–19.2)

\*Statistically unstable data not shown.

Data source: YRBS, 2009–13.

**Table 7:** Age-adjusted, asthma hospitalizations by zip code, San Francisco, adults 18-plus, 2005–14

Zip code	Rate per 10,000 residents (95% Confidence Interval)
94102	12.97 (10.85–15.09)
94103	10.57 (8.50–12.64)
94104	*
94105	*
94107	4.68 (3.08–6.28)
94108	3.64 (2.24–5.04)
94109	3.82 (2.99–4.66)
94110	6.74 (5.62–7.85)
94111	*
94112	4.48 (3.69–5.28)
94114	3.08 (1.89–4.26)
94115	5.45 (4.04–6.85)
94116	2.5 (1.79–3.20)
94117	3.65 (2.46–4.84)
94118	1.92 (1.18–2.66)
94121	2.71 (1.90–3.52)
94122	2.81 (2.09–3.53)
94123	*
94124	16.12 (13.59–18.64)
94127	2.7 (1.55–3.86)
94129	*
94130	*
94131	1.95 (1.09–2.80)
94132	3.95 (2.62–5.28)
94133	5.06 (3.85–6.27)
94134	7.5 (6.07–8.94)
94158	*

\*Statistically unstable data not shown. **Data source:** OSHPD, Patient Discharge Dataset, 2005–14.

**Table 8:** Age-adjusted COPD Hospitalizations by zip code, San Francisco, adults 18-plus, 2005–14

Zip code	Rate per 10,000 residents (95% Confidence Interval)
94102	26.82 (23.94–29.7)
94103	22.66 (19.57–25.76)
94104	*
94105	*
94107	7.93 (5.8–10.07)
94108	8.84 (6.78–10.90)
94109	10.26 (8.9–11.63)
94110	7.99 (6.72–9.26)
94111	16.05 (10.88–21.22)
94112	4.83 (4.02–5.65)
94114	2.71 (1.57–3.84)
94115	10.06 (8.24–11.89)
94116	7.15 (5.93–8.36)
94117	5.08 (3.56–6.6)
94118	3.47 (2.52–4.42)
94121	3.3 (2.46–4.13)
94122	3 (2.25–3.75)
94123	3.34 (1.97–4.70)
94124	17.55 (14.95–20.15)
94127	5.05 (3.49–6.62)
94129	*
94130	*
94131	2.45 (1.47–3.43)
94132	2.79 (1.72–3.87)
94133	7.52 (6.09–8.94)
94134	8.33 (6.85–9.82)
94158	*

\*Statistically unstable data not shown. **Data source:** OSHPD, Patient Discharge Dataset, 2005–14.