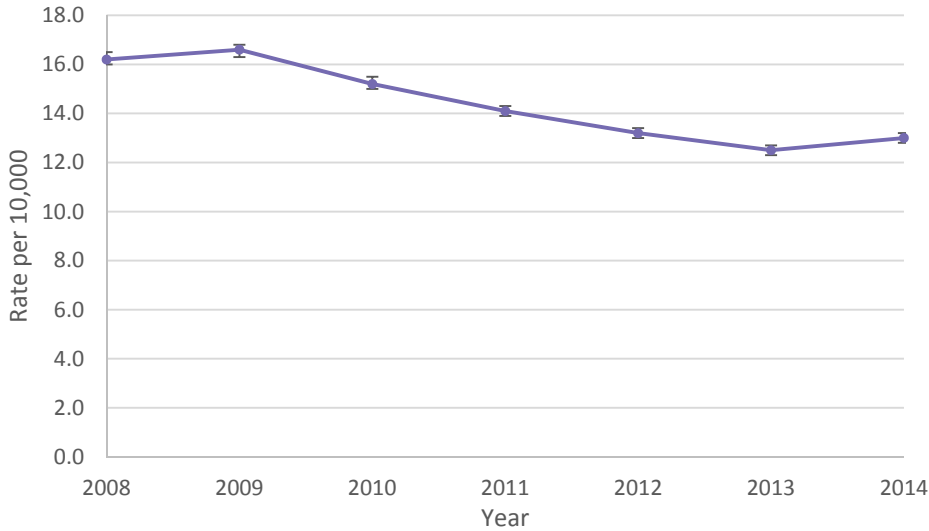


The following report depicts Michigan's asthma hospitalization rates, which provide information on which populations experience the highest rates of uncontrolled asthma.

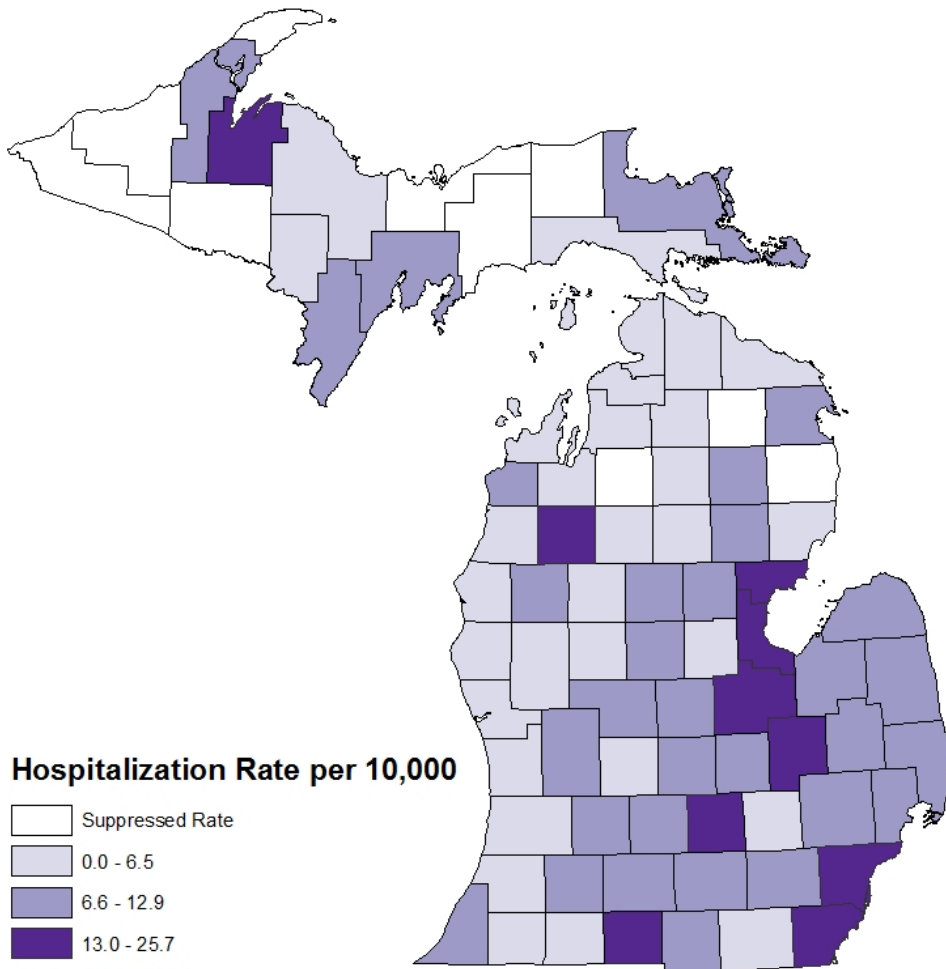
## Asthma Hospitalization among Michigan Residents, 2008-2014



Data source: Michigan Inpatient Database, MDHHS, 2008-2014

- The 2014 asthma hospitalization rate was 13.0 per 10,000 people.
- From 2012 to 2014, 39,615 Michigan residents were hospitalized for asthma. The asthma hospitalization rate during this time period was 12.9 per 10,000.
- The asthma hospitalization rate decreased by 19.8% from 2008 to 2014 (2008 rate: 16.2 per 10,000).

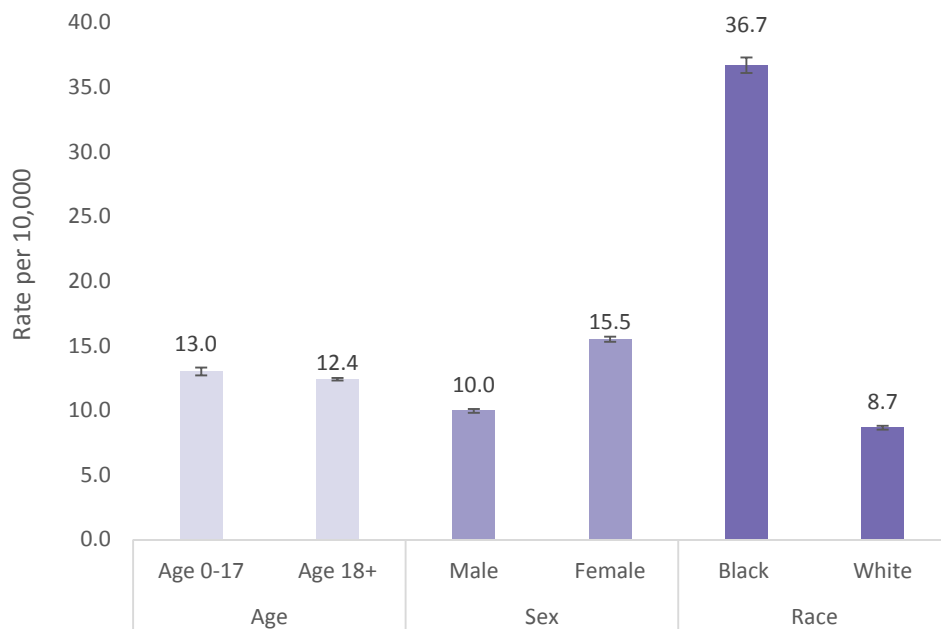
## Asthma Hospitalization among Michigan Residents by County, 2012-2014



- Five counties had significantly higher hospitalization rates in comparison to the 2012-2014 state rate: Wayne (25.6 per 10,000), Saginaw (23.5 per 10,000), Genesee (19.1 per 10,000), Ingham (14.9 per 10,000), and Bay (14.8 per 10,000).
- In 2012-2014, the hospitalization rate in Wayne County was 2.0 times larger than the state hospitalization rate.
- The hospitalization rate in Saginaw County was 1.8 times larger than the state hospitalization rate.

Data source: Michigan Inpatient Database, MDHHS, 2012-2014

Asthma Hospitalization by Age, Sex, and Race, Michigan, 2012-2014

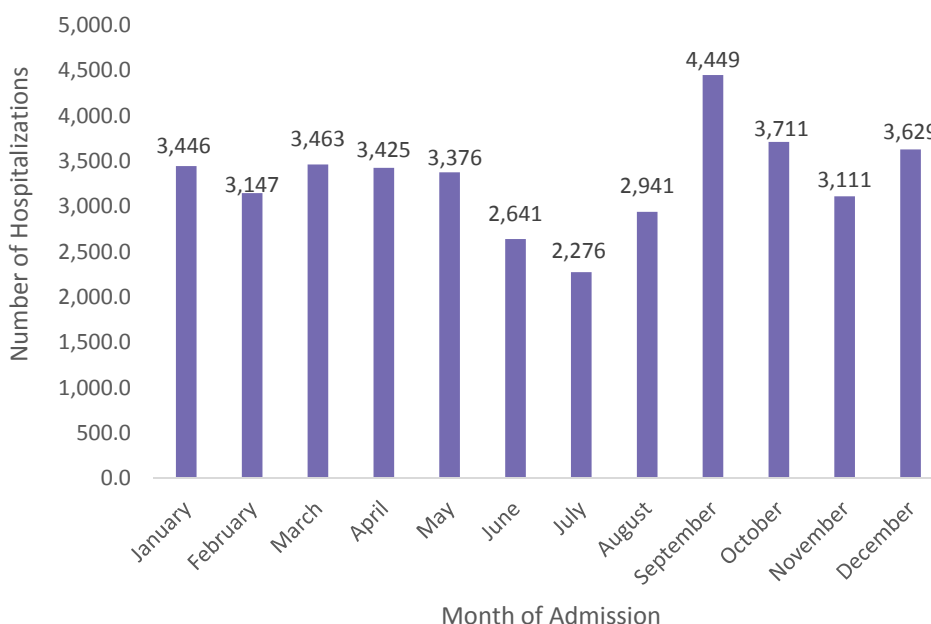


Data source: Michigan Inpatient Database, MDHHS, 2012-2014

- Children (age 0-17 years) experienced a significantly higher asthma hospitalization rate (13.0 per 10,000) in comparison to adults (age 18+ years, 12.4 per 10,000).
- Females experienced a significantly higher asthma hospitalization rate in comparison to males (15.5 and 10.0 per 10,000, respectively).
- Blacks experienced a significantly higher asthma hospitalization rate than whites (36.7 and 8.7 per 10,000, respectively).

- Racial disparities in asthma hospitalization rates have decreased steadily between blacks and whites from 2008 (45.7 and 11.1 per 10,000 people, respectively) to 2014 (36.7 and 8.7 per 10,000 people, respectively; data not shown).

Number of Asthma Hospitalizations by Month of Admission, Michigan, 2012-2014



Data source: Michigan Inpatient Database, MDHHS, 2012-2014

- This graph depicts the seasonal trend of asthma in Michigan.
- The largest number of asthma hospitalizations occurred in September (4,449 hospitalizations).
- The fewest number of asthma hospitalizations occurred in July (2,276 hospitalizations).

## Methods

- Age-adjusted hospitalization rates were calculated using the Michigan Inpatient Database (MIDB), collected by the Michigan Health and Hospital Association (MHHA), and yearly bridged–race population estimates provided by the National Vital Statistics System maintained by the Centers for Disease Control and Prevention. MIDB is a voluntary survey system of every hospital discharge from almost all of Michigan’s acute care hospitals and of discharges of Michigan residents from acute care hospitals in contiguous states.
- An asthma hospitalization was defined as an inpatient stay with a primary discharge diagnosis of asthma (ICD-9 –CM=493.XX). These data represent the number of hospitalizations for asthma, not the number of persons with a hospitalization for asthma.
- Hospitalization rates were calculated and presented per 10,000 population. The asthma hospitalization rates are representative of Michigan residents of all ages. Rates were age-adjusted, using the 2000 US standard population, so that valid comparisons could be made between populations of different age distributions. Rates were calculated by race and sex to identify disparities and demographic patterns.
- 2012-2014 hospitalization rates were suppressed for counties with less than 20 asthma hospitalizations during that time period.

## Further Information

- Visit [www.michigan.gov/asthma](http://www.michigan.gov/asthma) or [www.michigan.gov/asthmaepi](http://www.michigan.gov/asthmaepi) to view more data on asthma prevalence, hospitalization, and mortality.
- Suggested citation: Merrill S, Anderson B., and Wahl R. Michigan Asthma Hospitalization Surveillance Brief. Lansing, Michigan: Bureau of Epidemiology and Population Health, Michigan Department of Health and Human Services, September 2017.

