

Excerpts from Detroit: The Current Status of the Asthma Burden

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www.michigan.gov/asthma

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Introduction

- This report details the asthma burden in Detroit across many datasets:
 - Surveys
 - Medicaid claims
 - Hospitalizations
 - Mortality

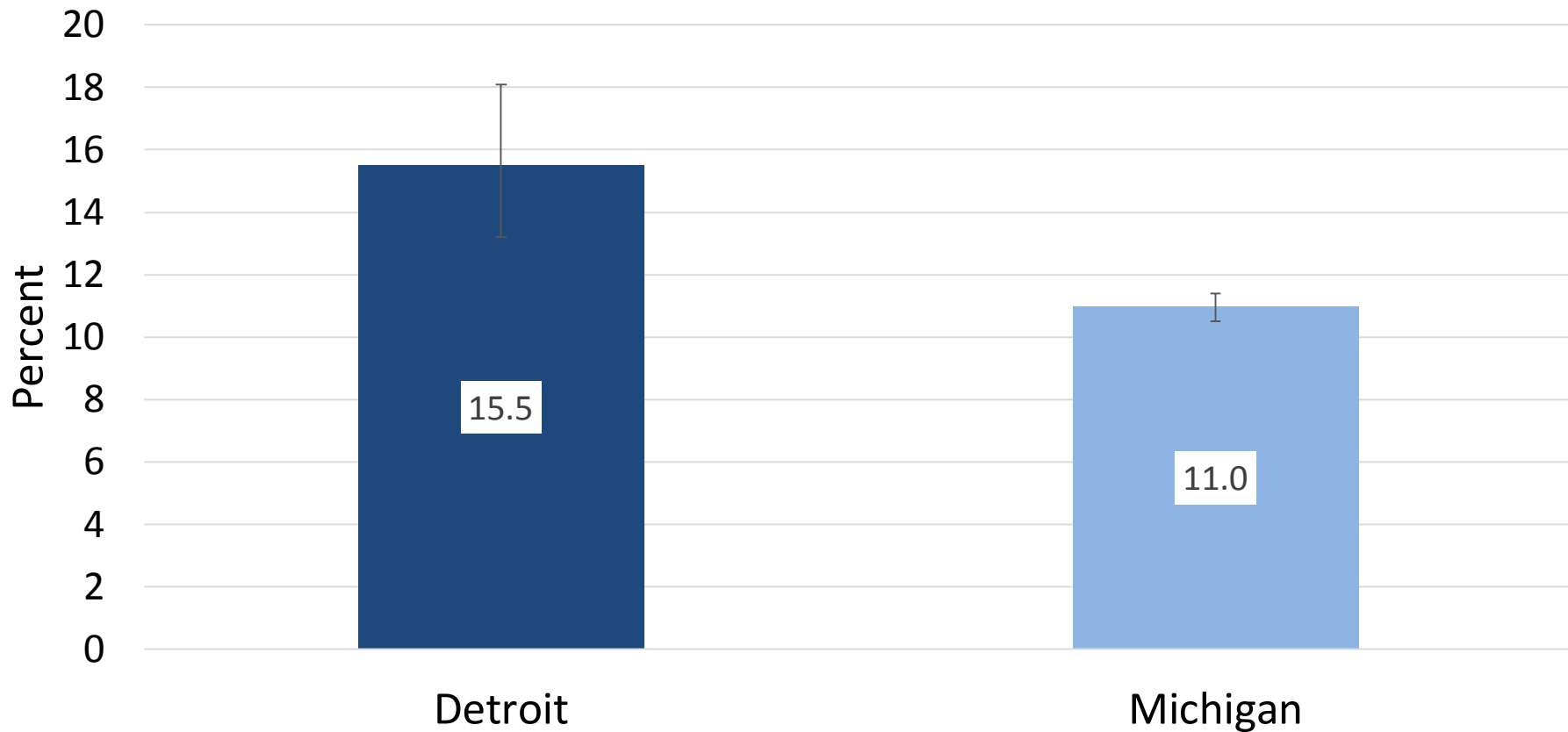
Key Findings

- The prevalence of current asthma among Detroit adults is 29% higher than in Michigan.
- Detroit residents are hospitalized for asthma at a rate that is 3 times the rate for Michigan residents.
- Black people in Detroit are hospitalized for asthma at a rate that is about 65% more than the rate for white people.

Key Findings (cont.)

- Children on Medicaid in Detroit visit the emergency department (ED) for asthma at a rate that is 2 times the rate for the state of Michigan.
- Detroit children on Medicaid with persistent asthma rely on the ED for regular asthma care 50% more often than children on Medicaid in the state of Michigan.

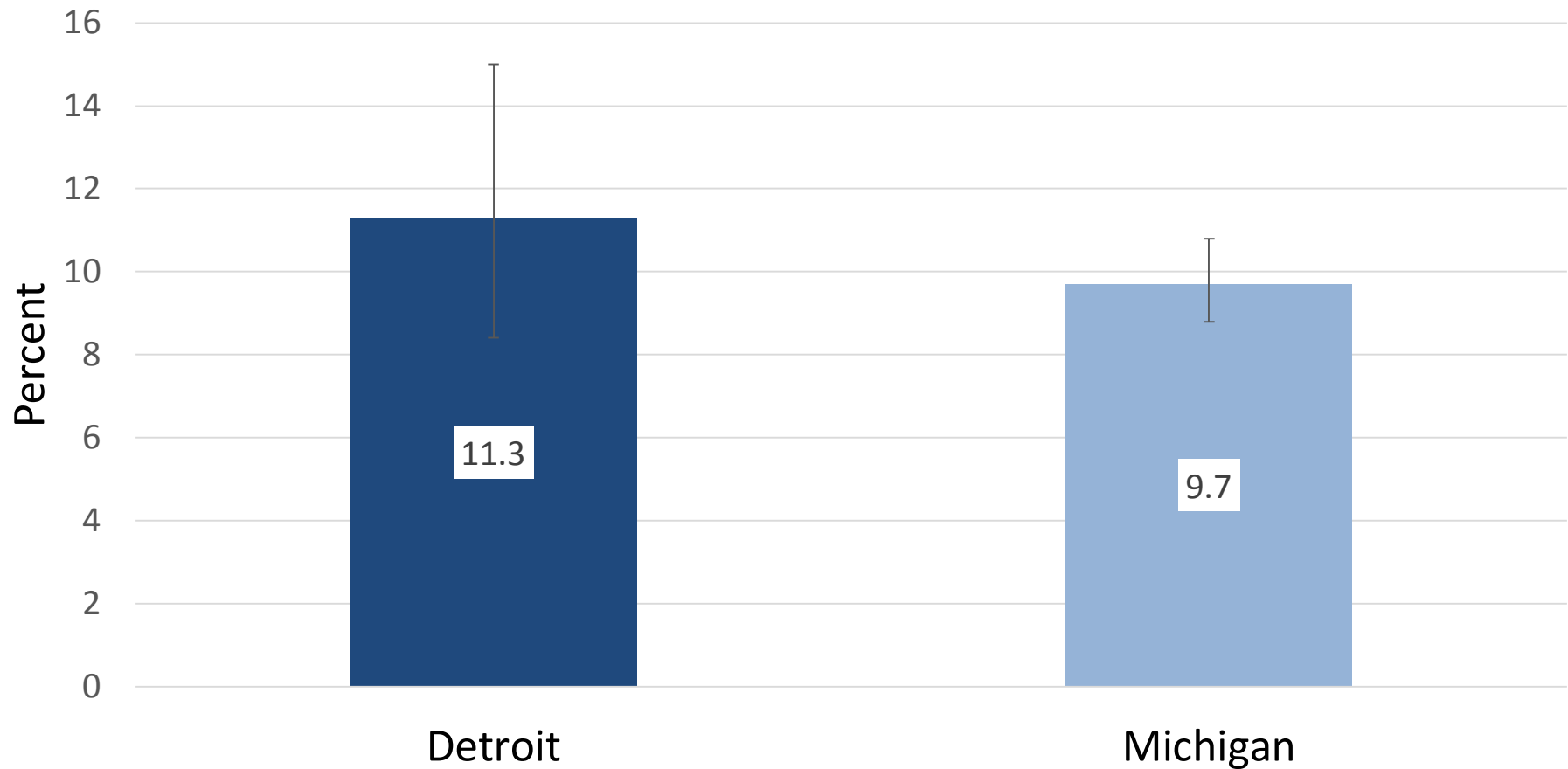
2. Prevalence of Current Asthma¹ for Adults (≥18 Years), Detroit and Michigan, 2012-2014



Data Notes:

1. Source: 2012-2014 Michigan Behavioral Risk Factor Surveys, MDHHS.

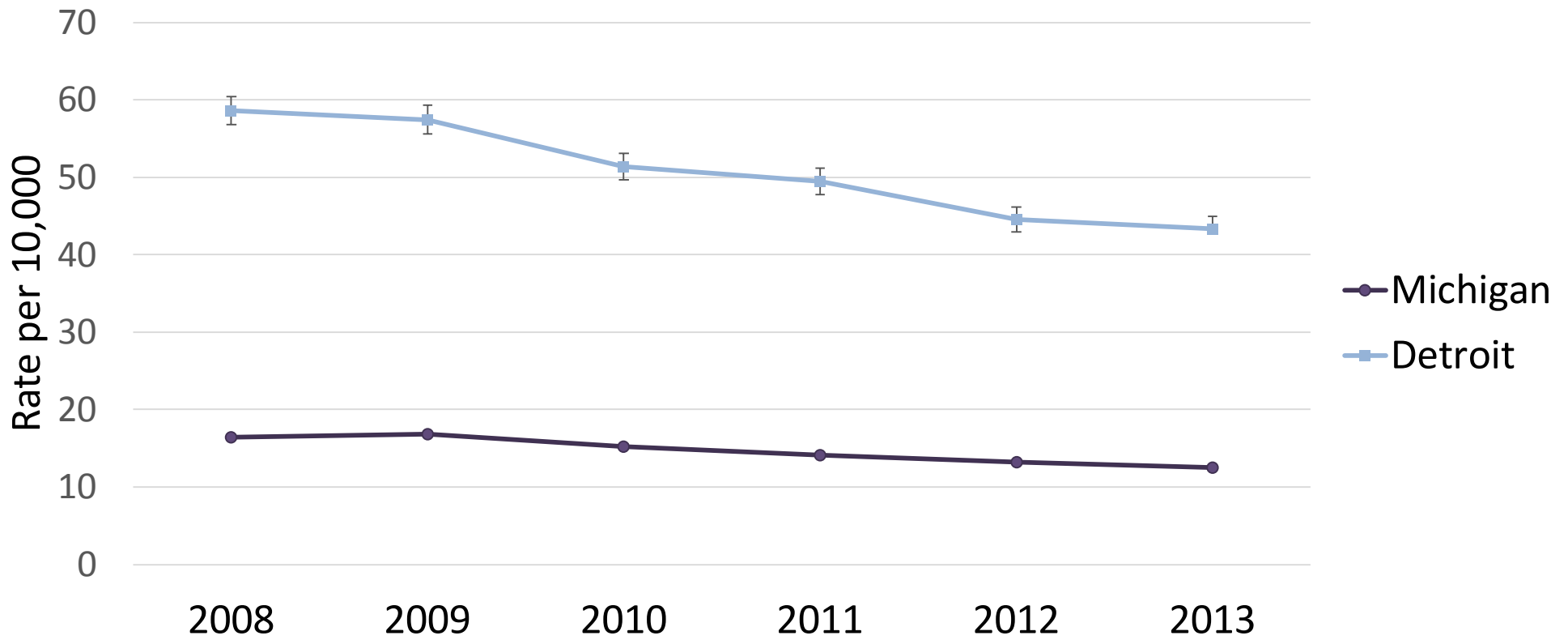
3. Prevalence of Current Asthma¹ for Children (<18 Years), Detroit and Michigan, 2012-2014



Data Notes:

1. Source: 2012-2014 Michigan Behavioral Risk Factor Surveys, MDHHS

4. Rates¹ of Asthma Hospitalization², Detroit and Michigan, 2008-2013

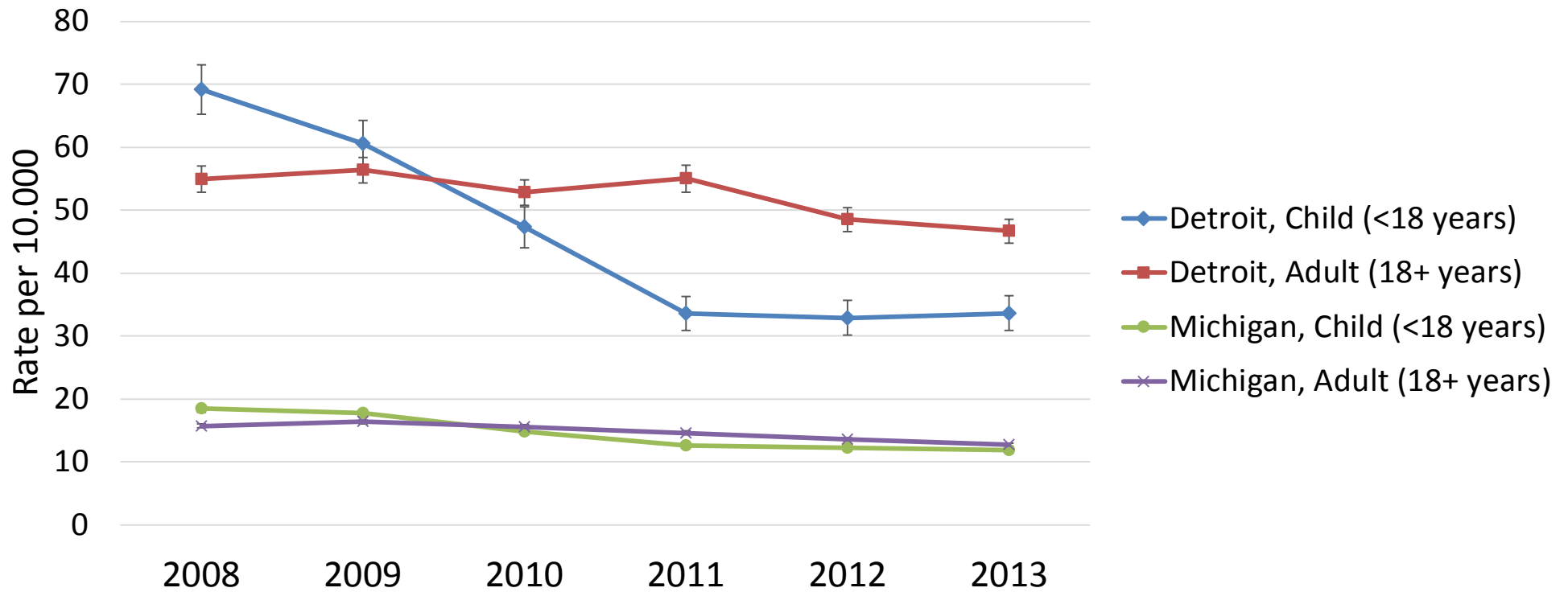


Data Notes:

Source: Michigan Inpatient Database, 2008-2013, MDHHS

- 1. Age-adjusted to the 2000 US Standard Population
- 2. Asthma as primary diagnosis, ICD-9-CM: 493.XX

6. Rates¹ of Asthma Hospitalization² by Age Group, Detroit and Michigan, 2008-2013

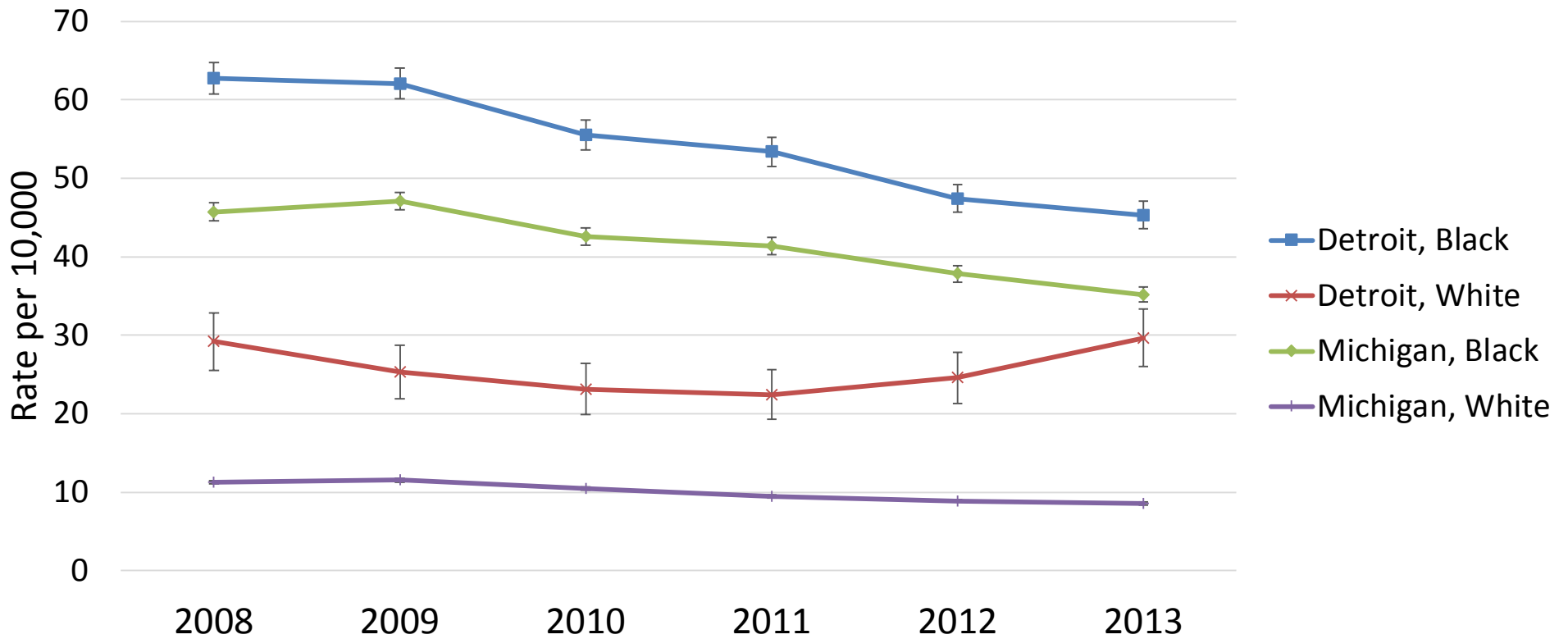


Data Notes:

Source: Michigan Inpatient Database, 2008-2013, MDHHS

1. Age-adjusted to the 2000 US Standard Population
2. Asthma as primary diagnosis, ICD-9-CM: 493.XX

8. Rates¹ of Asthma Hospitalization² by Race, Detroit and Michigan, 2008-2013

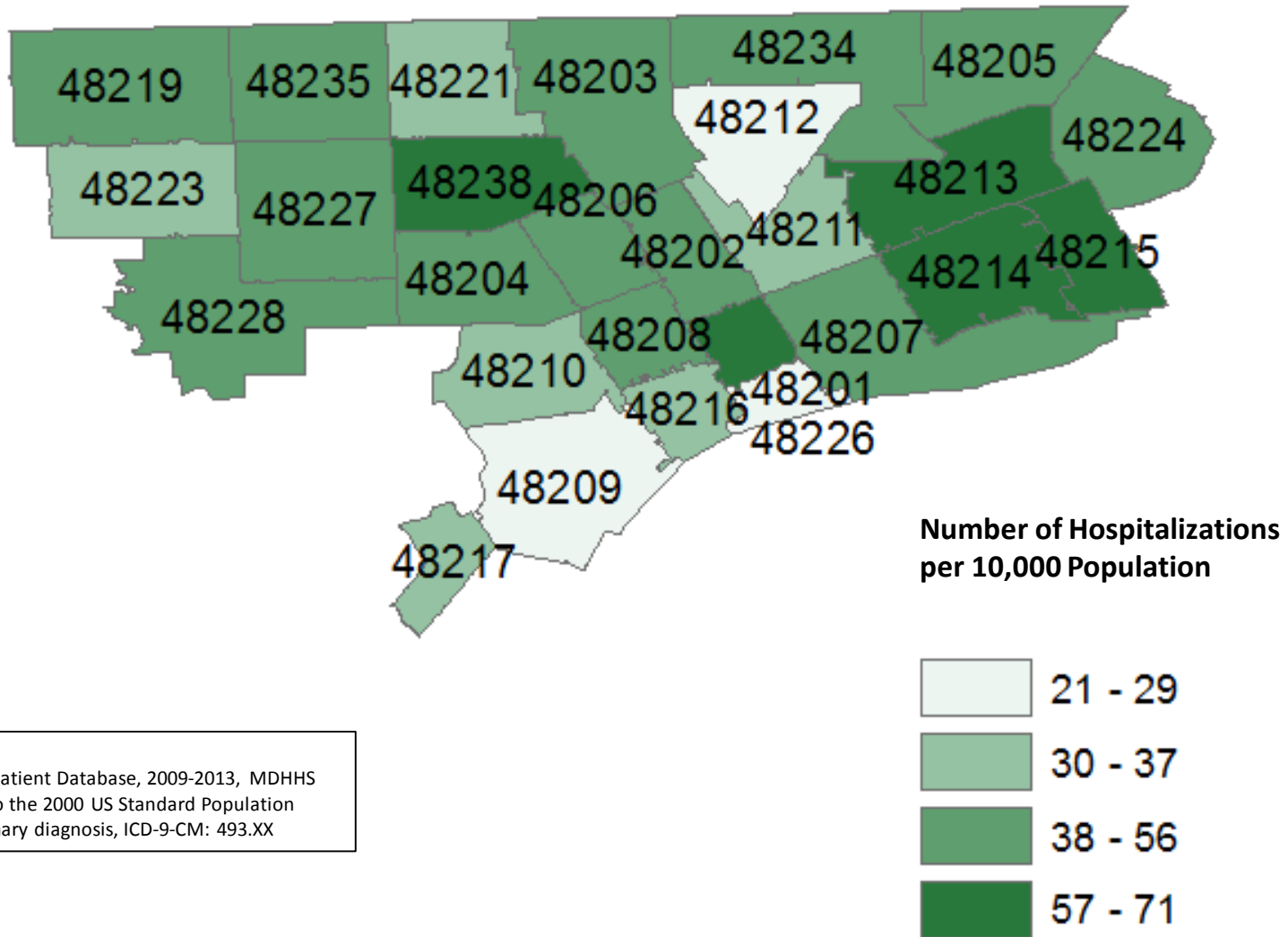


Data Notes:

Source: Michigan Inpatient Database, 2008-2013, MDHHS

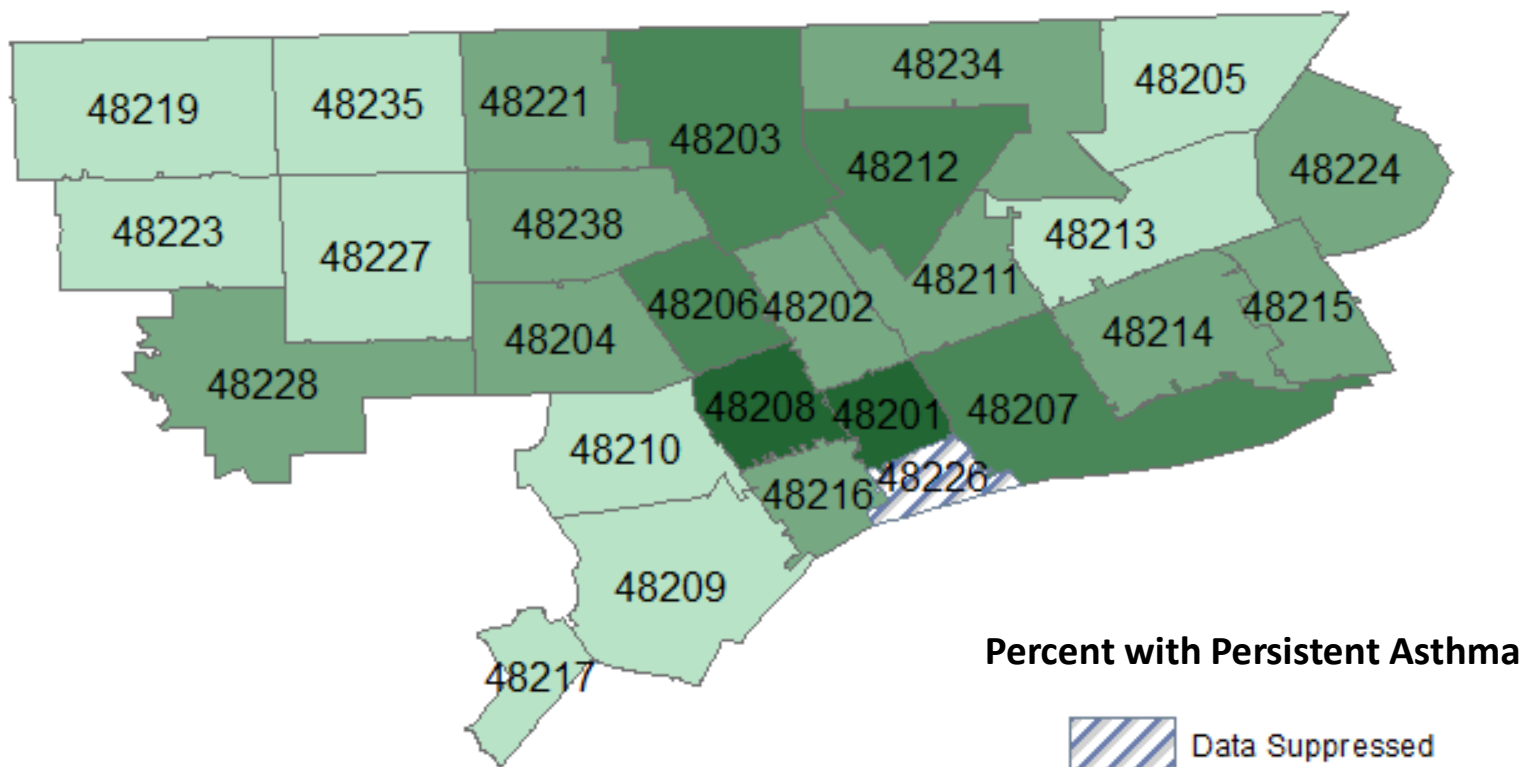
- 1. Age-adjusted to the 2000 US Standard Population
- 2. Asthma as primary diagnosis, ICD-9-CM: 493.XX

12. Rates¹ of Asthma Hospitalization² by ZIP Code of Residence, Detroit, 2009-2013



Data Notes:
 Source: Michigan Inpatient Database, 2009-2013, MDHHS
 1. Age-adjusted to the 2000 US Standard Population
 2. Asthma as primary diagnosis, ICD-9-CM: 493.XX

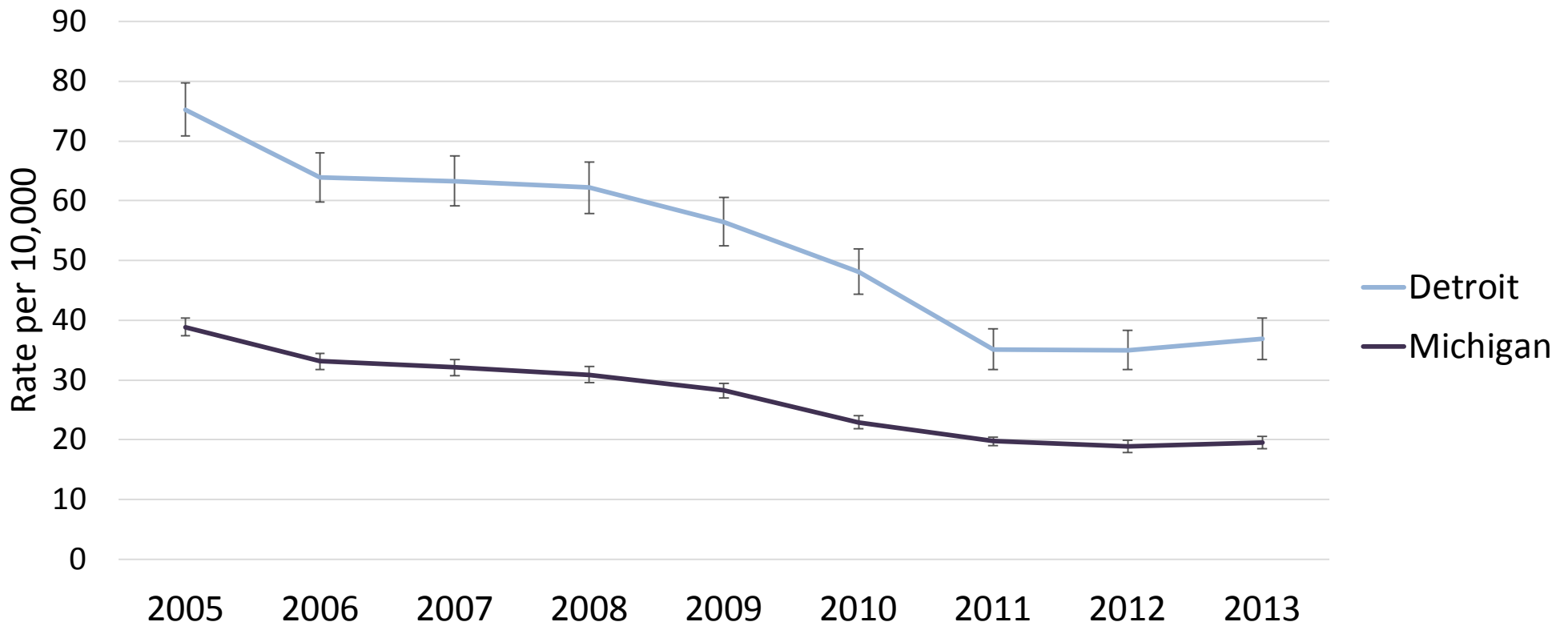
16. Prevalence¹ of Persistent Asthma² by ZIP Code of Residence, Children (<18 Years) on Medicaid³, Detroit, 2013



Data Notes:
 Source: Data warehouse, MDHHS

1. Age-adjusted to the 2000 US Standard Population
2. Based on annual NCQA HEDIS definition
3. Medicaid population of children <18 years is restricted to those who are continuously enrolled in Medicaid (11+ months) with full coverage and no other insurance
4. Suppressed due to hospitalization count < 5 or population < 5,000

17. Rate¹ of Asthma² Hospitalizations, Children (<18 Years) on Medicaid³, Detroit and Michigan, 2005-2013

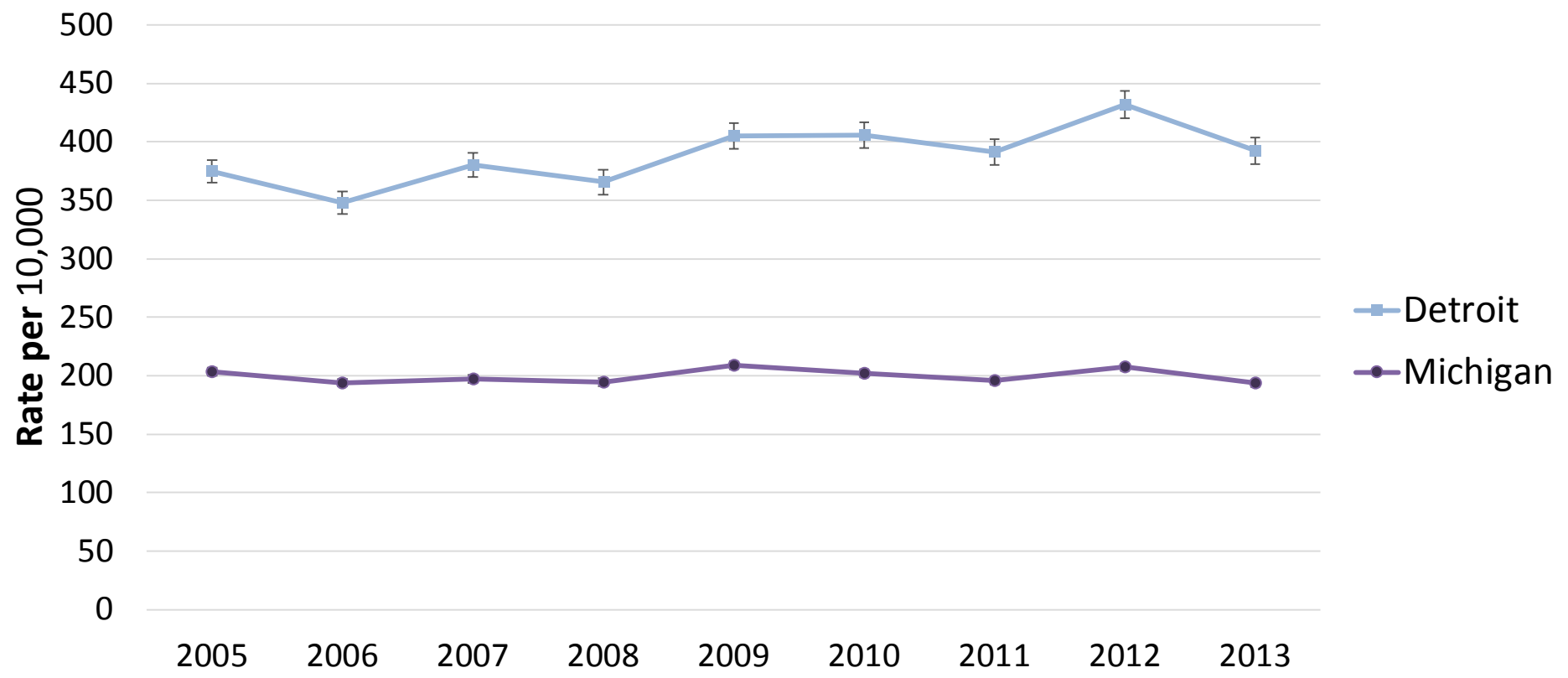


Data Notes:

Source: Data warehouse, MDHHS

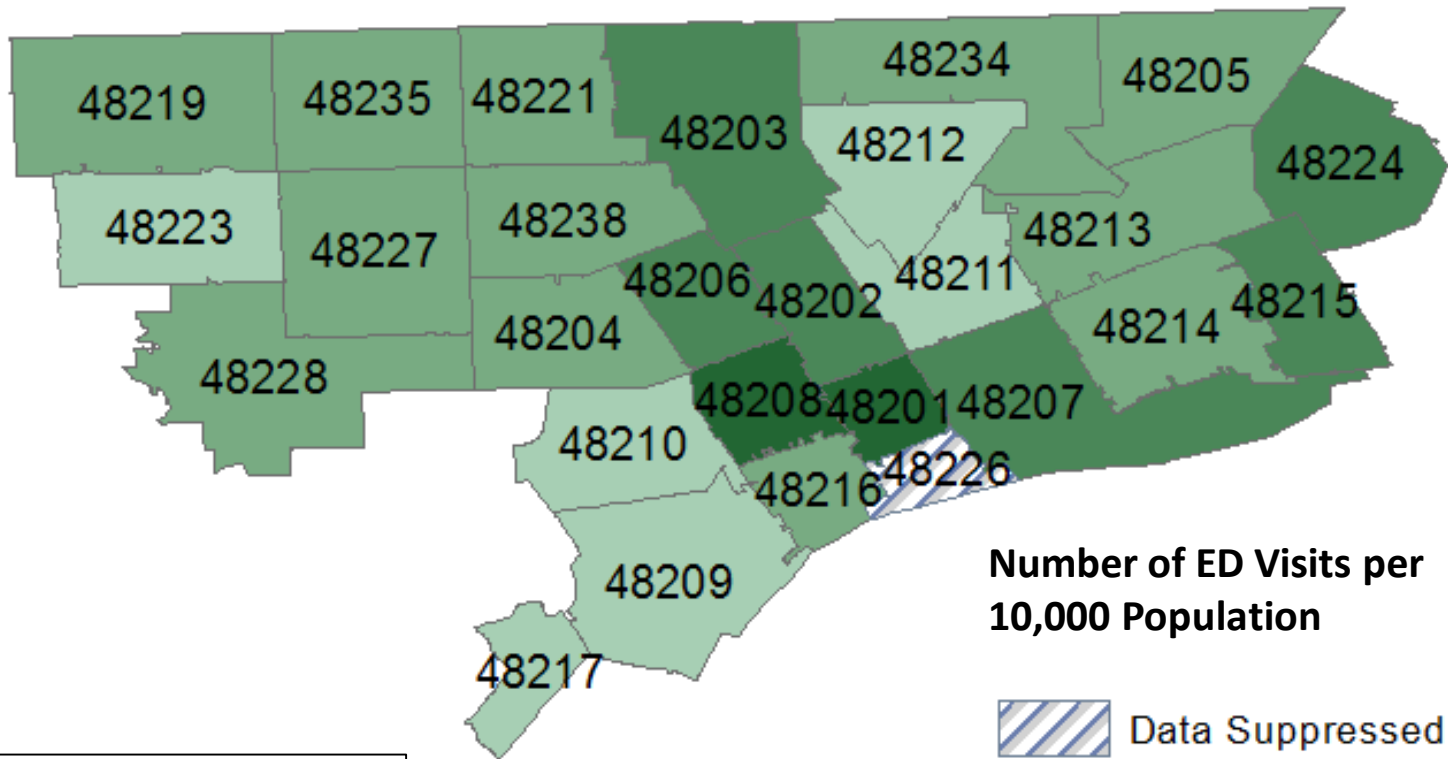
1. Age-adjusted to the 2000 US Standard Population
2. Asthma as primary diagnosis, ICD-9-CM: 493.XX
3. Medicaid population of children ≤ 18 years is restricted to those who are continuously enrolled in Medicaid (11+ months) with full coverage and no other insurance

18. Rate¹ of Asthma² Emergency Department Visits, Children (<18 Years) on Medicaid³, Detroit and Michigan, 2005-2013

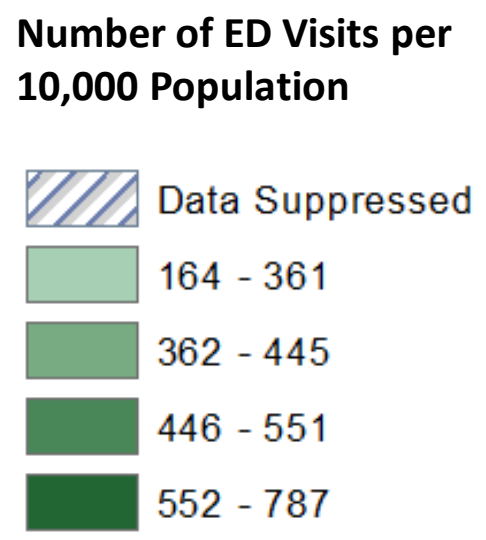


Data Notes:
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 1. Age-adjusted to the 2000 US Standard Population
 2. Asthma as primary diagnosis, ICD-9-CM: 493.XX
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19. Rate¹ of Asthma² Emergency Department Visits by ZIP Code of Residence, Children (<18 Years) on Medicaid³, Detroit, 2013

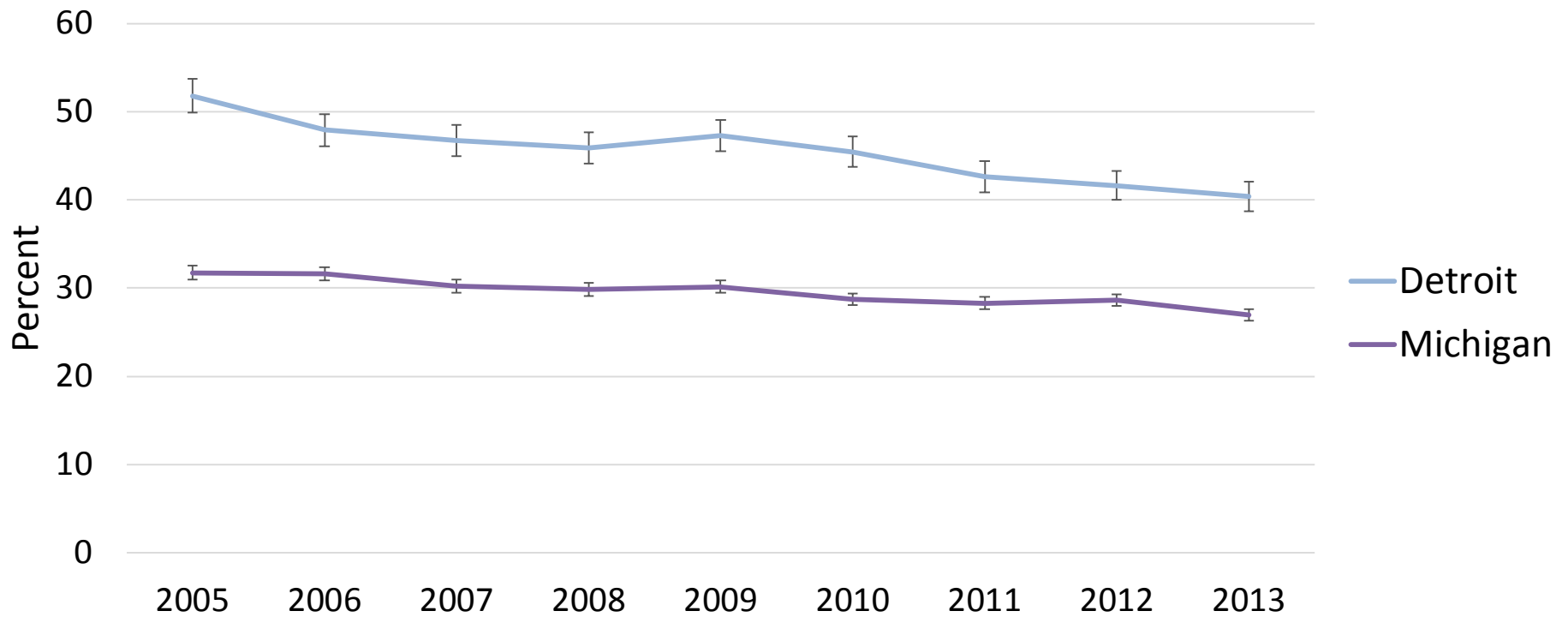


Data Notes:
 Source: Data warehouse, MDHHS
 1. Age-adjusted to the 2000 US Standard Population
 2. Asthma as primary diagnosis, ICD-9-CM: 493.XX
 3. Medicaid population of children <18 years is restricted to those who are continuously enrolled in Medicaid (11+ months) with full coverage and no other insurance
 4. Suppressed due to hospitalization count < 5 or population < 5,000



The following asthma statistics are among children in Medicaid *with asthma*, not the entire child Medicaid population.

21. Percent of Reliance on Emergency Department for Primary Care¹ among Children (<18 Years) with Asthma² on Medicaid³, Detroit and Michigan, 2005-2013

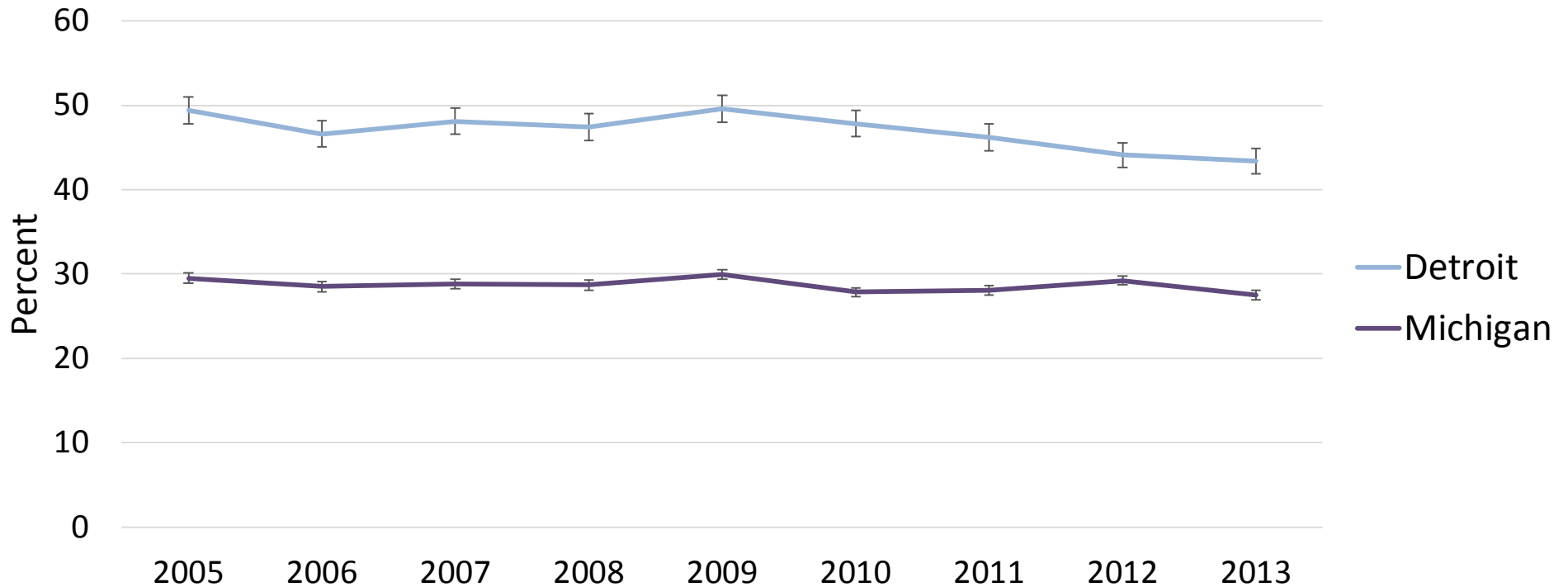


Data Notes:

Source: Data warehouse, MDHHS

1. Proportion of all outpatient visits for asthma that are emergency department visits (Asthma as primary diagnosis, ICD-9-CM: 493.XX), age-adjusted to the 2000 US Standard Population
2. Based on annual NCQA HEDIS definition
3. Medicaid Population of children <18 years is restricted to those who are continuously enrolled in Medicaid (11+ months) with full coverage and no other insurance.

22. Percent¹ of Children (<18 Years) with Asthma² with ≥1 Emergency Department Visits for Asthma³, Medicaid⁴, Detroit and Michigan, 2005-2013

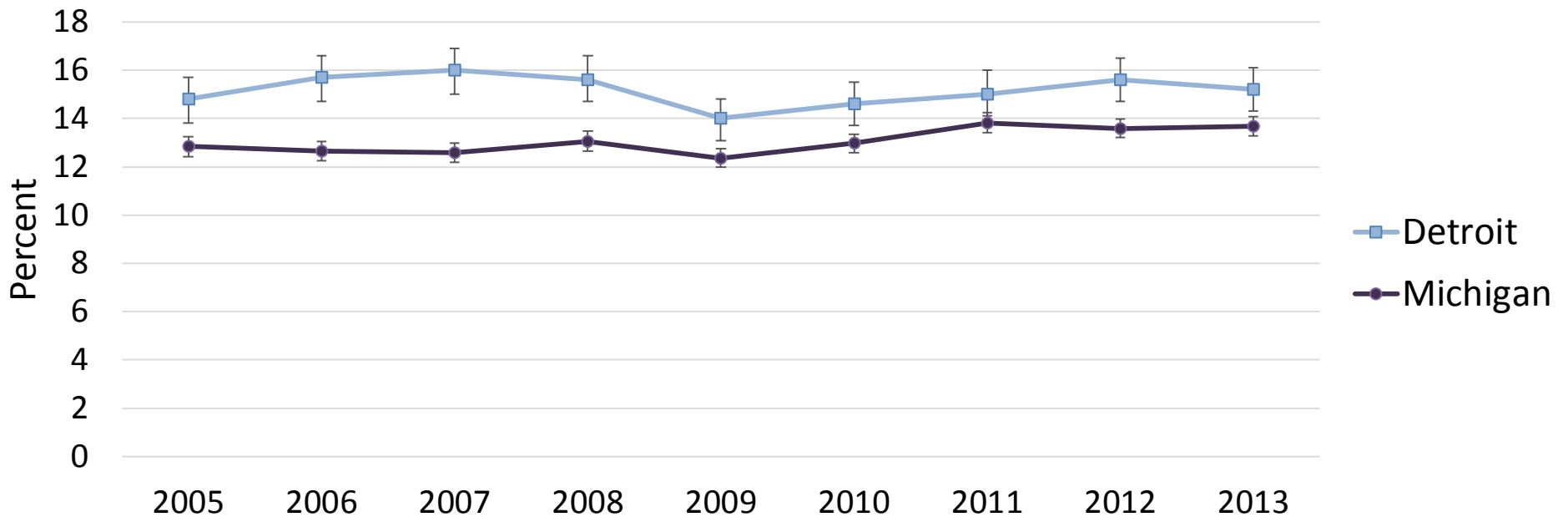


Data Notes:

Source: Data warehouse, MDHHS

1. Age-adjusted to the 2000 US Standard Population
2. Based on NCQA HEDIS Definition
3. Asthma as primary diagnosis, ICD-9-CM: 493.XX
4. Medicaid population of children <18 years is restricted to those who are continuously enrolled in Medicaid (11+ months) with full coverage and no other insurance.
5. National Heart, Lung, and Blood Institute. *Guidelines for the Diagnosis and Management of Asthma: Expert Panel Report 3*. National Institutes of Health Publication Number 09-5846. October 2007.

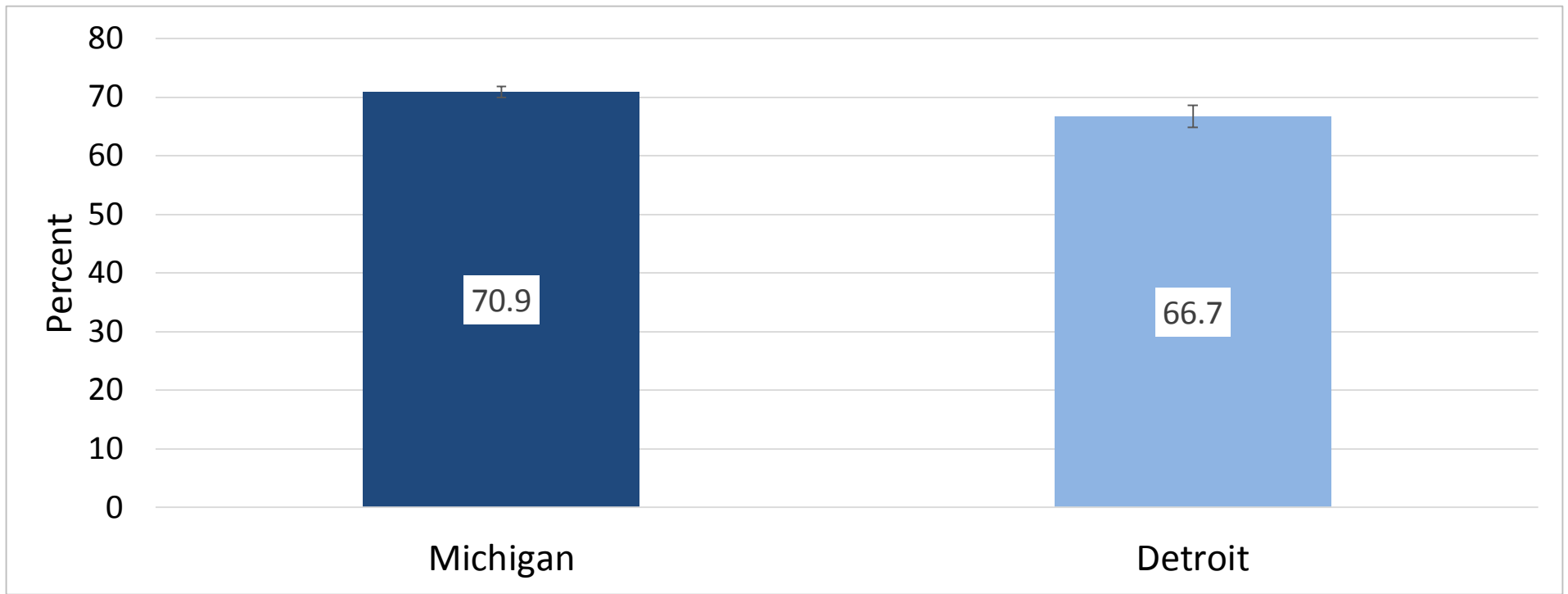
24. Percent¹ of Overuse of Short-Acting β -Agonist (SABA) Medication among Children (<18 Years) with Asthma², Medicaid³, Detroit and Michigan, 2005-2013



Data Notes:
 Source: Data warehouse, MDHHS

1. Age-adjusted to the 2000 US Standard Population
2. Based on NCQA HEDIS Definition
3. Medicaid Population of children <18 years is restricted to those who are continuously enrolled in Medicaid (11+ months) with full coverage and no other insurance.
4. National Heart, Lung, and Blood Institute. *Guidelines for the Diagnosis and Management of Asthma: Expert Panel Report 3*. National Institutes of Health Publication Number 09-5846. October 2007.

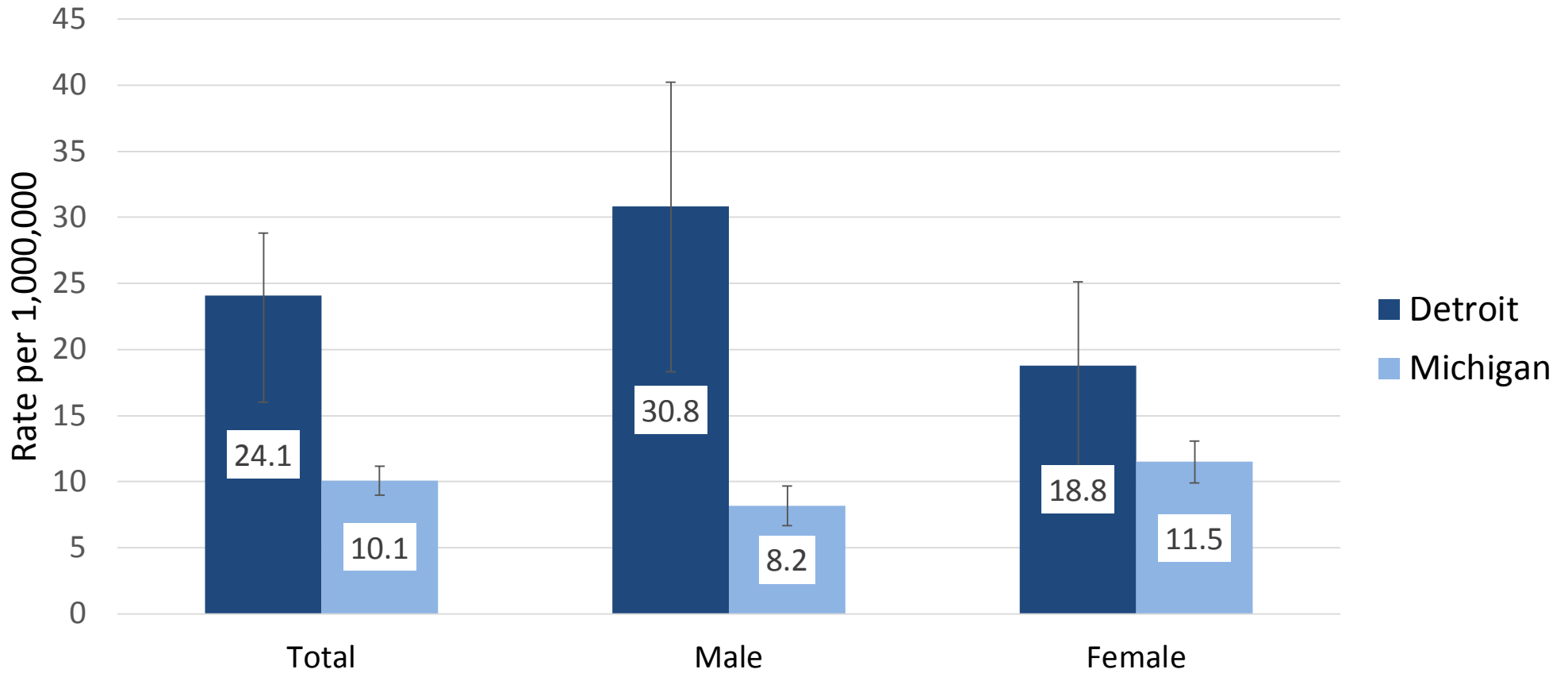
26. Percent¹ of Children (<18 Years) with Asthma² with ≥ 1 Inhaled Corticosteroid Fills, Medicaid³, Detroit and Michigan, 2013



Data Notes:
Source: Data warehouse, MDHHS

1. Age-adjusted to the 2000 US Standard Population
2. Based on NCQA HEDIS Definition
3. Medicaid Population of children <18 years is restricted to those who are continuously enrolled in Medicaid (11+ months) with full coverage and no other insurance.
4. National Heart, Lung, and Blood Institute. *Guidelines for the Diagnosis and Management of Asthma: Expert Panel Report 3*. National Institutes of Health Publication Number 09-5846. October 2007.

28. Rates¹ of Asthma Mortality² by Sex, Detroit and Michigan, 2011-2013



Data Notes:
Source: Michigan Death File, MDHHS
1. Age-adjusted to the 2000 US Standard Population
2. Asthma as the underlying cause of death, ICD-10:J45-J46

Summaries



Michigan Asthma Statistics

Michigan Department of Health and Human Services

February 2016

Introduction

In the United States, 19 million adults and 7 million children have asthma.¹ The prevalence of asthma has increased from 7.3% to 8.4% from 2001 to 2010.² Asthma causes two million emergency department visits and almost 4,000 deaths a year.³ Michigan has a higher percentage of adults and children with asthma and a higher asthma hospitalization rate compared with the United States.^{3,4}

Hospitalization and mortality can be prevented by increasing awareness of asthma self management. Asthma education involves understanding how to prevent and recognize asthma attacks. When asthma symptoms are not controlled, normal activities are affected, quality of life is reduced, and death is possible. Cost barriers, access to health care, and other factors are barriers to asthma control.

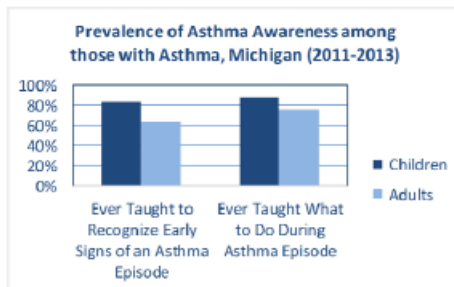
The following report describes the current state of asthma in Michigan by highlighting trends and statistics in asthma prevalence, education, management, quality of life, cost barriers, hospitalization, and mortality.

Prevalence⁵

- ◊ In 2014, 15.3% of adults and 14.2% of children reported that they ever have had asthma.
- ◊ In 2014, 10.9% of adults and 10.2% of children reported that they currently have asthma.

Asthma Education⁶

- ◊ In 2011-2013, more children than adults with asthma received instruction about recognizing and handling asthma attacks.
- ◊ Children were more likely to have ever been taught the early signs of an asthma episode than adults (83.8% and 63.6%, respectively), and were more likely to have ever been taught what to do during an asthma episode (88.3% and 76.5%, respectively).
- ◊ However, the percentage of children and adults that were ever taught how to use a peak flow meter was similar (45.5% and 44.4%).



Quality of Life⁶

Between 2011 and 2013...

- ◊ 34.5% of adults with asthma and 23.0% of children with asthma reported difficulty sleeping due to asthma symptoms on two or more days in the past month.
- ◊ The majority of adults and almost half of children with asthma had their usual activities limited at least a little during the past 12 months due to asthma, 60.9% and 46.3%, respectively.
- ◊ 16.5% of adults and 20.2% of children reported that they visited the Emergency Room or Urgent Care at least once in the past year due to asthma.
- ◊ Only 25.1% of adults and 11.0% of children reported that they had zero asthma symptom-free days in the past two weeks.



Michigan Asthma Hospitalization Surveillance Brief

August 2015

Background:

Asthma hospitalization is an indicator of uncontrolled asthma. With regular visits to a primary care physician and asthma specialist, long-term asthma control medication use, avoidance of environmental triggers, and an Asthma Action Plan, asthma hospitalizations can usually be avoided. Calculating asthma hospitalization rates can provide information on which populations are at highest risk for uncontrolled asthma. In addition, analyzing Intensive Care Unit (ICU) use can be used to help understand which hospitalized asthma patient populations were in severe condition on admission or had become severe during hospitalization.

Methods:

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, age-adjusted asthma hospitalization rates from 2002-2013 were calculated for Michigan across different demographics and counties. In addition, ICU usage statistics were calculated from the 2011-2013 asthma hospitalization records. The MIDB is a voluntary survey system of every hospital discharge from almost all (98%) of Michigan's acute care hospitals and of discharges of Michigan residents from acute care hospitals in contiguous states. In this brief, an asthma hospitalization was defined as a hospitalization for which the principal discharge diagnosis was asthma (ICD-9-CM 493.XX).

Results:

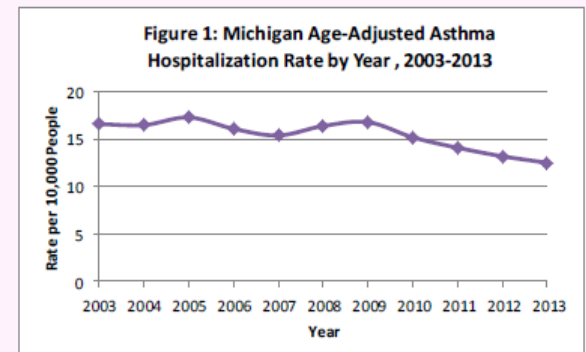
Geography: In 2011 through 2013, the asthma hospitalization rate in Michigan was 13.3 per 10,000 people. The total number of asthma hospitalizations in Michigan from 2011-2013 was 40,851, for an average of 13,617 per year. Asthma hospitalizations and hospitalization rates have declined 24.7% from 16,572 (16.6 per 10,000 people) in 2003 to 12,837 (12.5 per 10,000 people) in 2013 (Figure 1).

Five counties had rates significantly higher than the 2011-2013 state rate: Wayne, Saginaw, Genesee, Monroe, and Ingham (in descending order; Table 1).

Table 1. Counties with age-adjusted asthma hospitalization rates significantly higher than the state rate, 2011-2013

County	Rate per 10,000 people (95% CI)
Michigan	13.3 (13.1-13.4)
Wayne	26.4 (26.0-26.9)
Saginaw	24.1 (22.8-25.4)
Genesee	18.2 (17.4-18.9)
Monroe	15.1 (14.0-16.2)
Ingham	15.1 (14.2-16.0)

Figure 1: Michigan Age-Adjusted Asthma Hospitalization Rate by Year, 2003-2013



Disparities

DISPARITIES IN MICHIGAN'S ASTHMA BURDEN



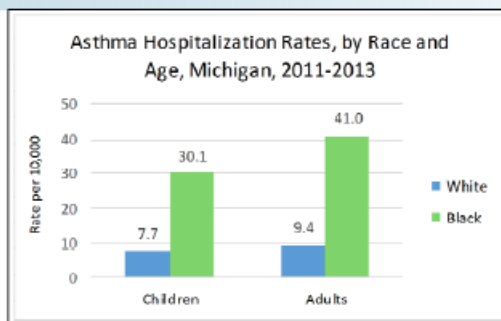
Michigan is proud to have made strides to improve asthma health in our communities, but significant disparities still exist in the asthma burden among different racial, gender, and socioeconomic populations in our state. These differences are influenced by multiple factors: access to health care, genetics, environments, and knowledge of asthma control. Efforts to reduce the burden of asthma across the state and improve the health of all Michiganders must address these differences.

Racial and Gender Disparities in Michigan's General Population

Asthma Hospitalization

- Asthma hospitalization rates for Black children and adults are more than three times the rates for White children and adults.
- Male children are hospitalized for asthma at a rate 57% higher than female children.
- Female adults are hospitalized for asthma 2.2 times as often as male adults.

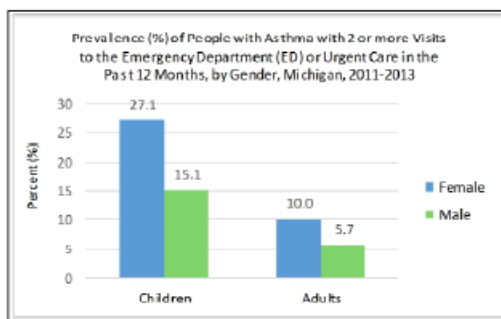
Data source: Michigan Inpatient Database, 2011-2013



Asthma Urgent Visits

- Two times as many females adults than male adults visited the emergency department (ED) or urgent care two or more times in the past 12 months.
- More female children than male children visited the ED or urgent care two or more times in the past 12 months, 27.1% and 15.1%, respectively.
- Black adults had significantly higher prevalence of ≥2 emergency asthma visits than White adults.

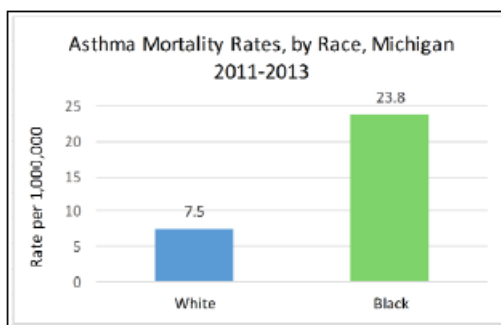
Data source: Michigan Asthma Call Back Survey, 2011-2013



Asthma Mortality

- Asthma deaths for Black people occur at a rate 3.2 times that of White people.
- Overall, asthma mortality rates in Michigan have almost decreased by half since 1990, but significant disparities still exist.
- For both Black people and White people in Michigan, the rate of asthma death is higher among adults than among children.

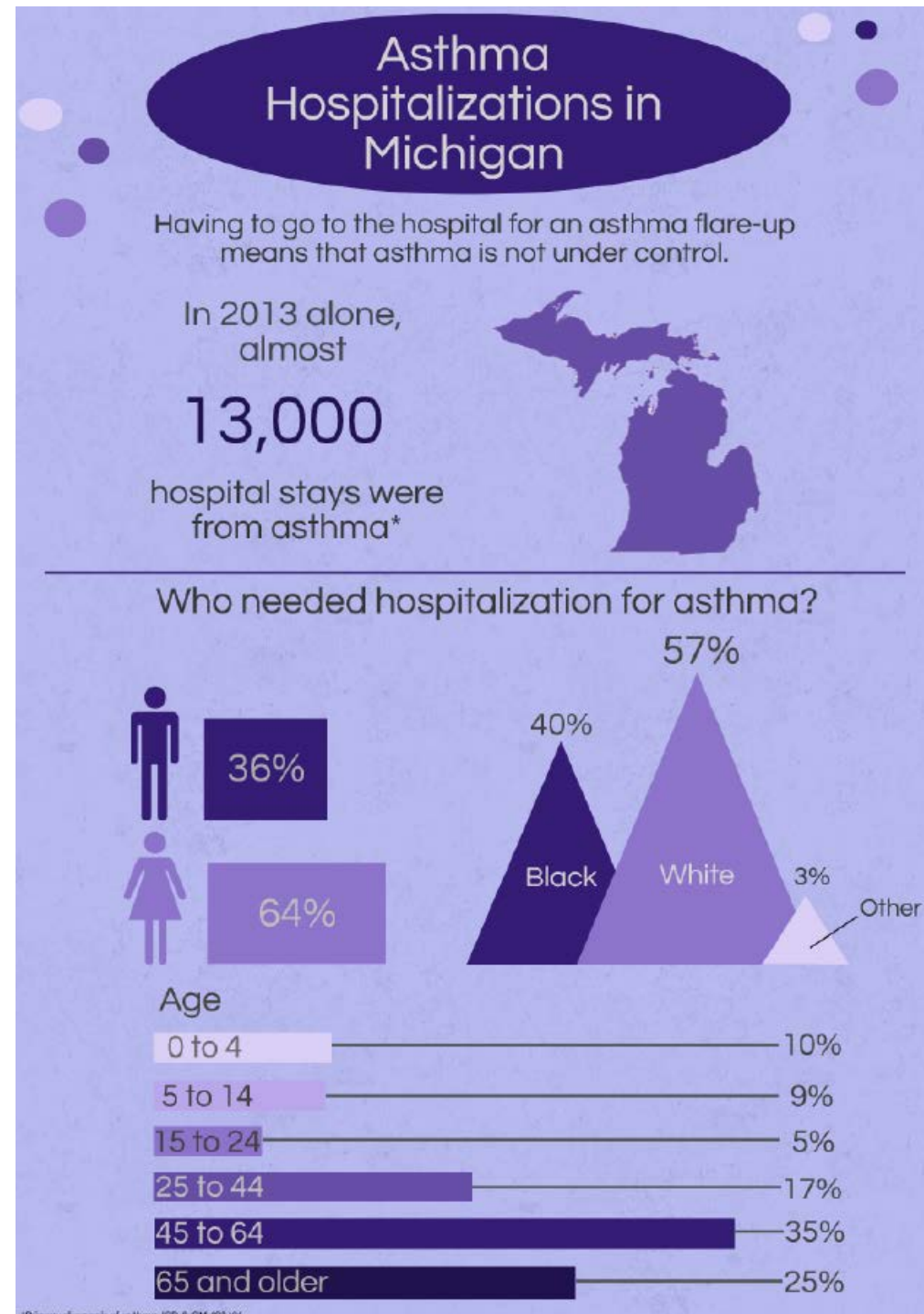
Data source: Michigan Resident Death Files, 2011-2013



- Highlights disparities in asthma burden, including:
 - Racial,
 - Gender, and
 - Socio-economic disparities.

Infographic – Less Technical

- Hospitalization numbers and differences in:
 - Gender,
 - Race, and
 - Age.
- Hospitalization rates among children and adults in Michigan.

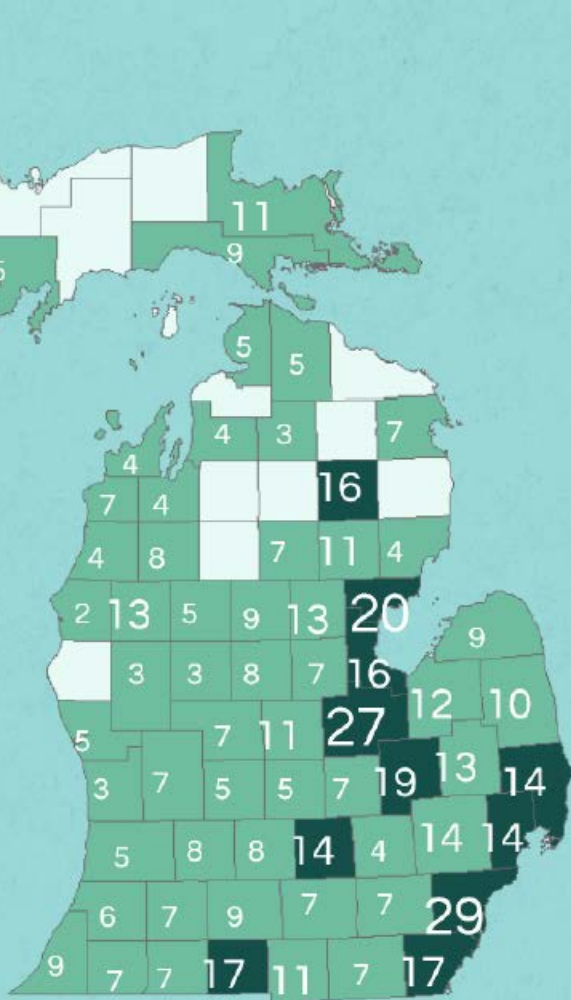


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Which counties have the most asthma hospital visits?

Adult Rate 2011-2013

Michigan's rate is
14 visits
per 10,000 people



Child Rate 2011-2013

Michigan's rate is
12 visits
per 10,000 people



If you or your child have asthma symptoms more than twice a week during the day, and/or more than twice a month during the night, see your doctor right away to talk about asthma control.

For more info, visit
www.michigan.gov/asthma and
getastmahelp.org