

THE STATE OF ASTHMA IN INDIANA



ASTHMA PROGRAM
OCTOBER 2015

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Indiana State Department of Health



Indiana State
Department of Health

A healthier and safer Indiana

Today's Session Will Cover:

- ❑ **Data from the Asthma Program's Slide Library**
- ❑ **Data resources**
- ❑ **How to request asthma data**
- ❑ **Limitations of our data**
- ❑ **Future directions in asthma surveillance**

Asthma Program's Slide Library



Description of Presentation

This slide set provides a cross-section of data on asthma in Indiana and is intended to be a resource for those working on asthma.

If you extract slides from this presentation, please use citations on the slides and reference the Indiana State Department of Health Asthma Program. For technical assistance, please contact jakinsey@isdh.in.gov.

The data presented are the most current for each data source.

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Understanding Asthma Data

❑ **Prevalence**

- Annual or average annual number of total cases of asthma.

❑ **Mortality**

- Annual or average annual number of deaths from asthma.

❑ **Hospitalization Rates**

- Age-adjusted rate of hospitalizations with a primary diagnosis of asthma per 10,000 people.

❑ **Emergency Department (ED) Rates**

- Age-adjusted rate of ED visits with a primary diagnosis of asthma per 10,000 people.

❑ **Age-adjusted Rates**

- Removes the impact of different age distributions between populations and allows for direct comparisons of those populations.

❑ **Age-specific Rates**

- Rate in a specific, defined age group. Numerator and denominator refer to the same age group.

❑ **Sex-adjusted Rates**

- Removes the impact of different sex distributions between populations and allows for direct comparisons of those populations, ie. Hospitalization rates for males in Allen County can be directly compared to hospitalization rates for males in Marion County.



Understanding Asthma Program Data— Confidence Intervals and Statistical Significance

- ❑ **Confidence intervals (CIs) are used to describe the range of that variation**
 - Most typically, 95% CIs are calculated, which provide a range of values in which if one repeated a study 100 times, 95 of the intervals would include the true rate.
- ❑ **When 95% CIs do not overlap, the two areas are statistically significantly different at the $P < .05$ level**
 - i.e., the difference between the two rates is more than that expected by random variation.

Most Common Data Sources

- ❑ **Indiana Behavioral Risk Factor Surveillance System (BRFSS)**
 - www.in.gov/isdh/22860.htm
- ❑ **Centers for Disease Control and Prevention (CDC) BRFSS**
 - www.cdc.gov/brfss
- ❑ **BRFSS Asthma Call-Back Survey (ACBS)**
 - <http://www.cdc.gov/brfss/acbs/index.htm>
- ❑ **Indiana Hospital Discharge Database**
 - <http://www.state.in.us/isdh/20624.htm>
- ❑ **Indiana Vital Records**
 - Information: www.in.gov/isdh/23574.htm
 - Data: www.in.gov/isdh/19096.htm

Background

What is asthma?

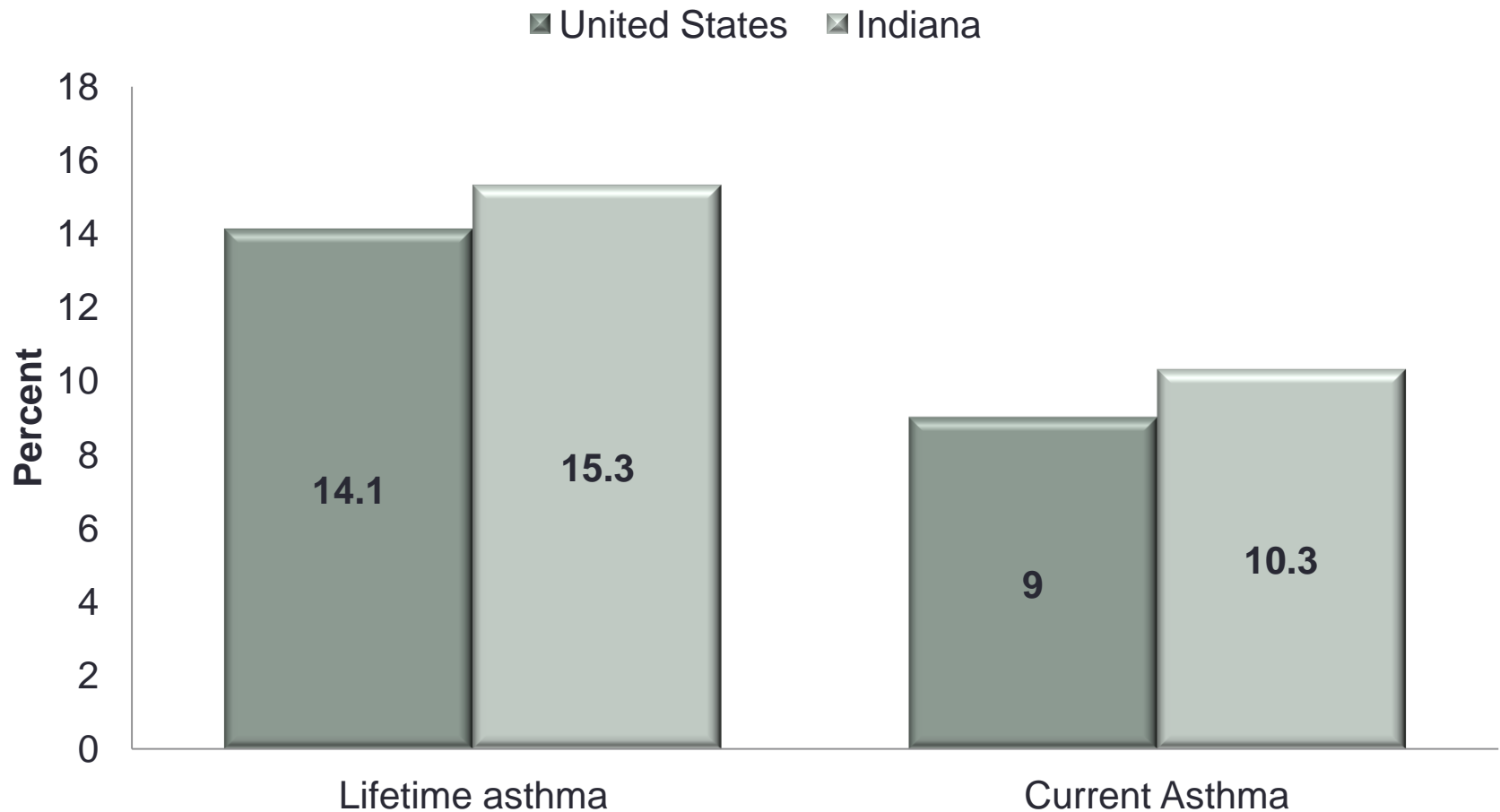
- ❑ **Chronic inflammatory disease that affects the airways and lungs, causing recurring periods of:**
 - Wheezing
 - Chest tightness
 - Shortness of breath
 - Nighttime or early morning coughing
- ❑ **Triggers of asthma episodes can include respiratory infections, allergens, cigarette smoke, air pollution, and exercise.**
- ❑ **Episodes are usually associated with widespread, but variable, airflow obstruction within the lung that is often reversible with treatment.**



Prevalence



Prevalence of asthma among adults (18+ years), Indiana and United States, 2013

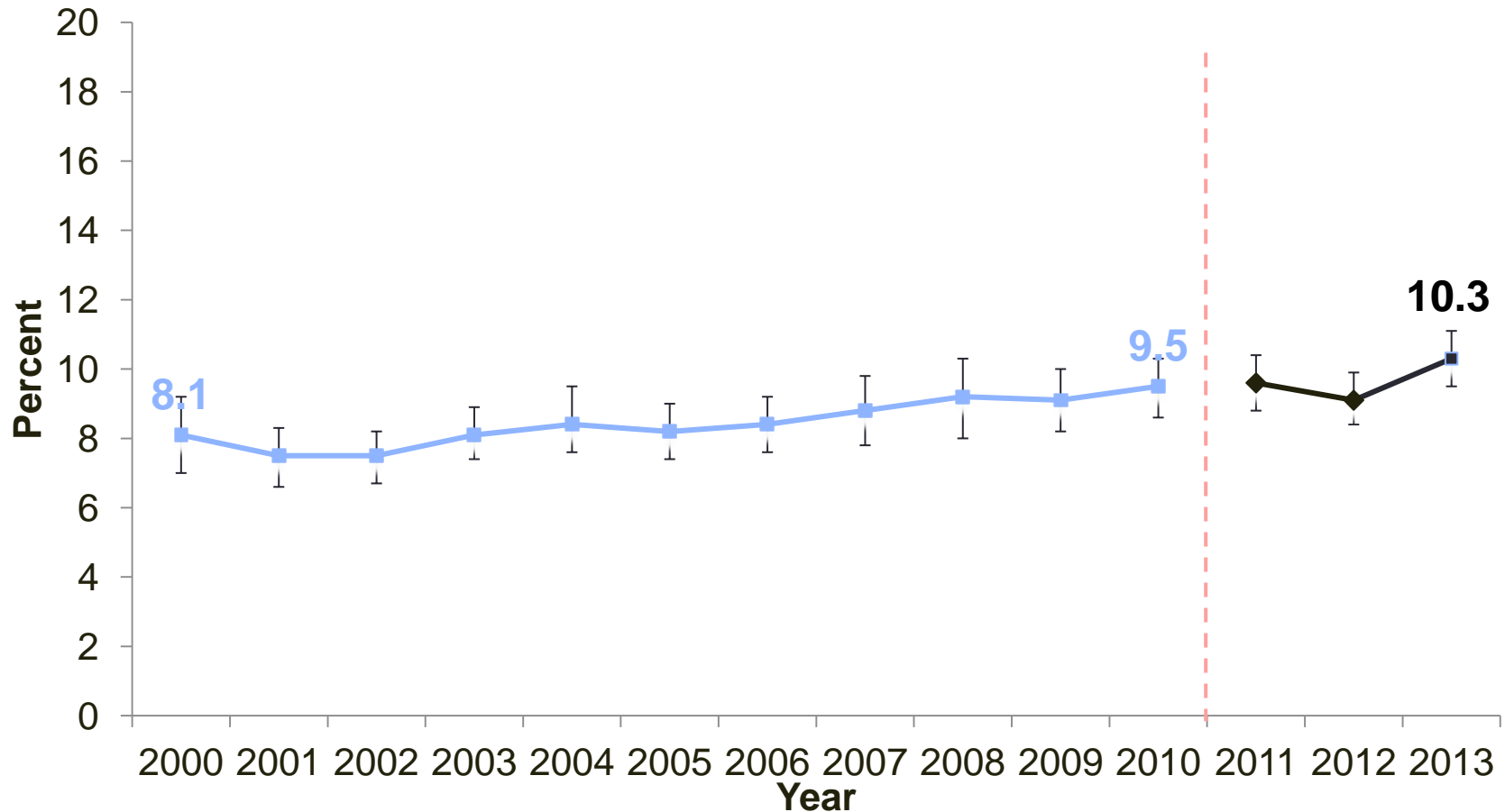


Lifetime asthma determined from response to question "...ever told you had asthma?"

Current asthma determined from response to question "Do you still have asthma?"

Source: [CDC](#) and [ISDH DAT](#). (2014). *Behavioral Risk Factor Surveillance System Prevalence Data, 2013*.

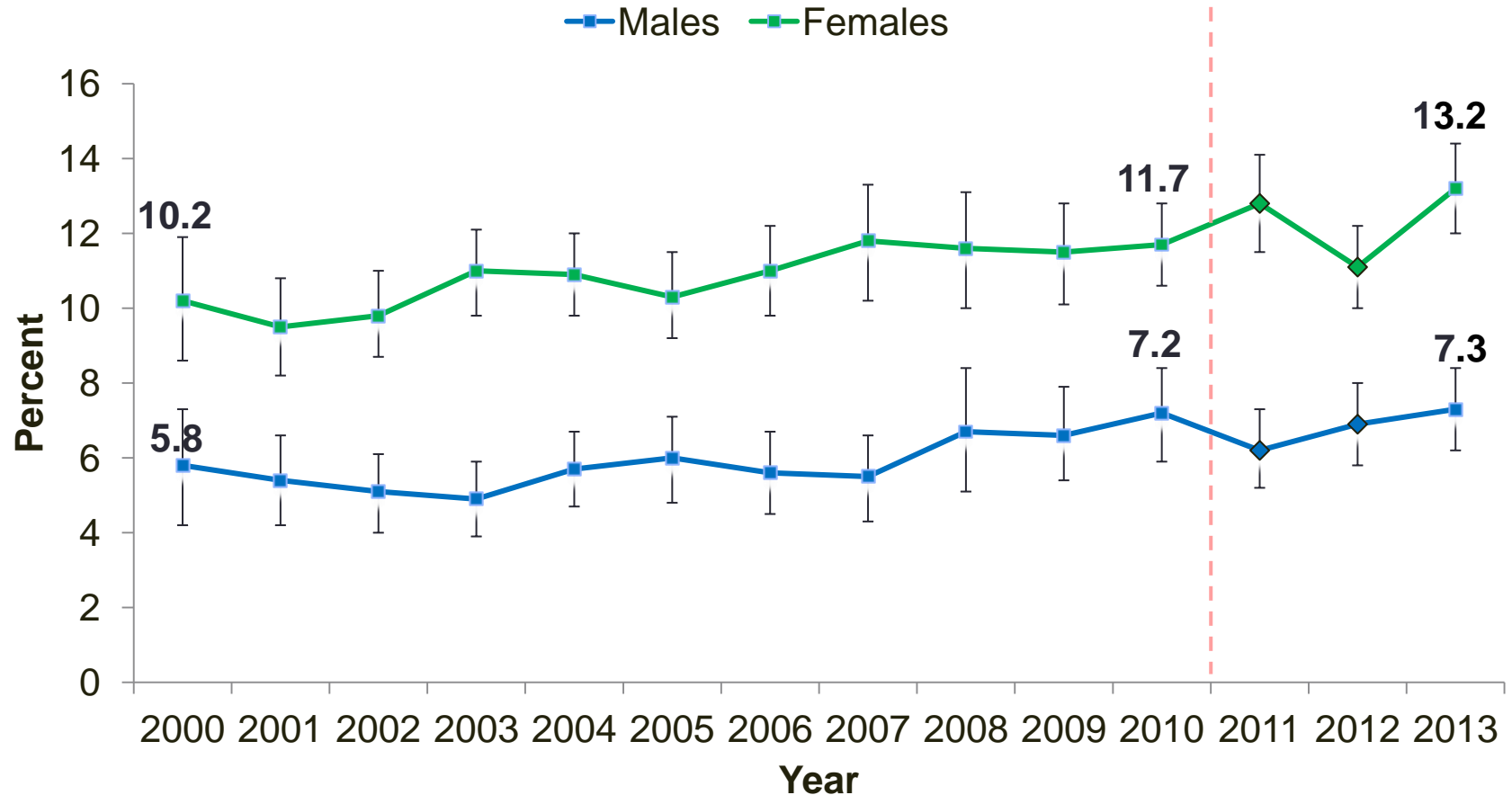
Prevalence of current asthma among adults (18+ years), Indiana, 2000–2010, 2011–2013*



*Starting in 2011 prevalence estimates were determined using a new, more precise methodology, including the addition of cell phone respondents and new weighting techniques; therefore, estimates made in 2011 or later should not be compared to earlier prevalence estimates.

Source: [CDC](#) and [ISDH DAT](#). (2014). Behavioral Risk Factor Surveillance System Prevalence Data, 2000–2013.

Prevalence of current asthma among adults (18+ years) by sex, Indiana, 2000–2010, 2011–2013*



*Starting in 2011 prevalence estimates were determined using a new, more precise methodology, including the addition of cell phone respondents and new weighting techniques; therefore, estimates made in 2011 or later should not be compared to earlier prevalence estimates.

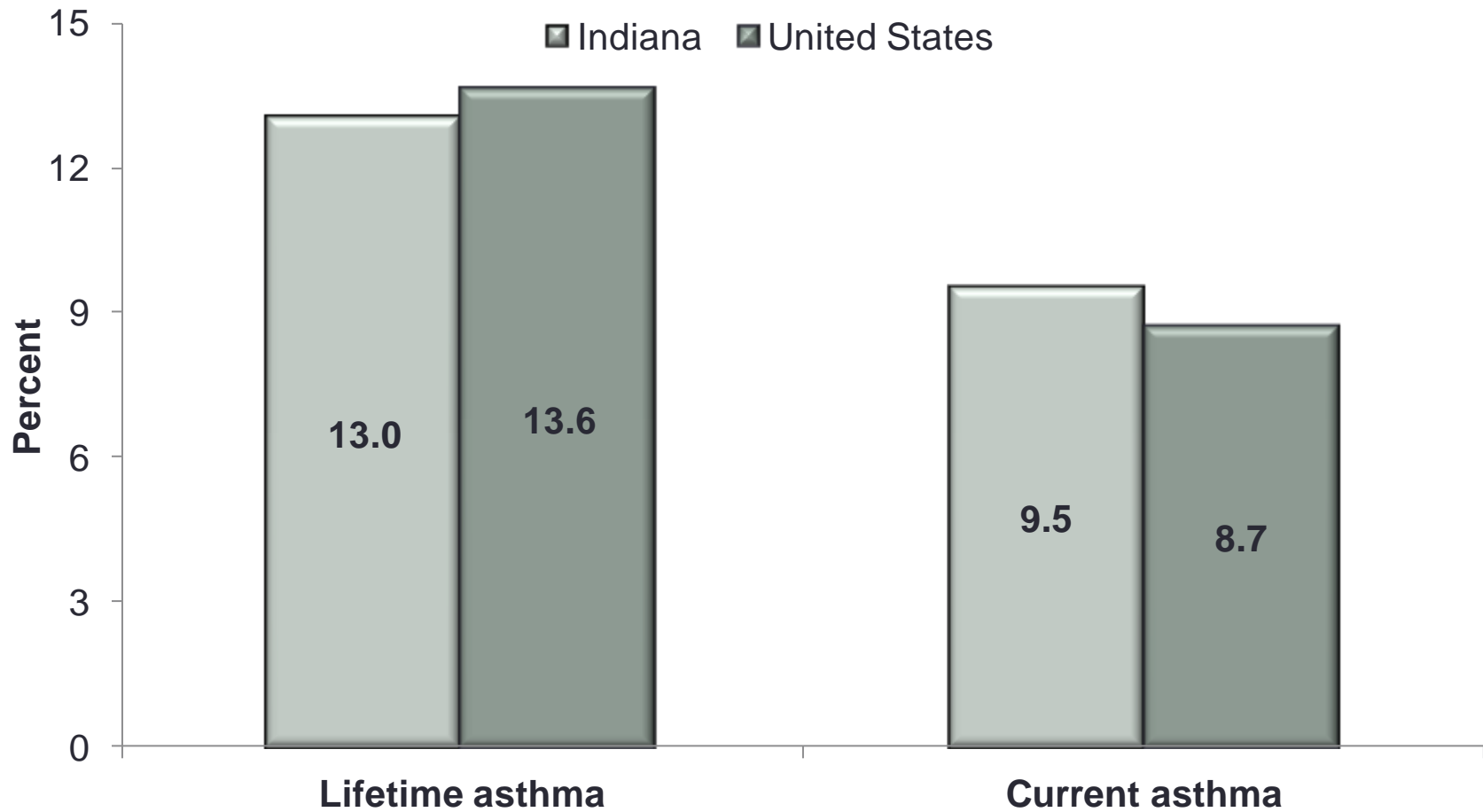
Source: [CDC](#) and [ISDH DAT](#). (2014). Behavioral Risk Factor Surveillance System Prevalence Data, 2000–2013.

Summary slide for adult asthma

- ❑ **Approximately 1 in 10 (10.3%) Indiana adults (18+ years) are currently diagnosed with asthma.**
- ❑ **Adult females in Indiana are more likely than males to have asthma.**
- ❑ **An asthma diagnosis is more likely in adults with an annual household income < \$15,000 compared to household incomes ≥ \$15,000.**



Prevalence of asthma among children (0-17 years), Indiana and United States,* 2011



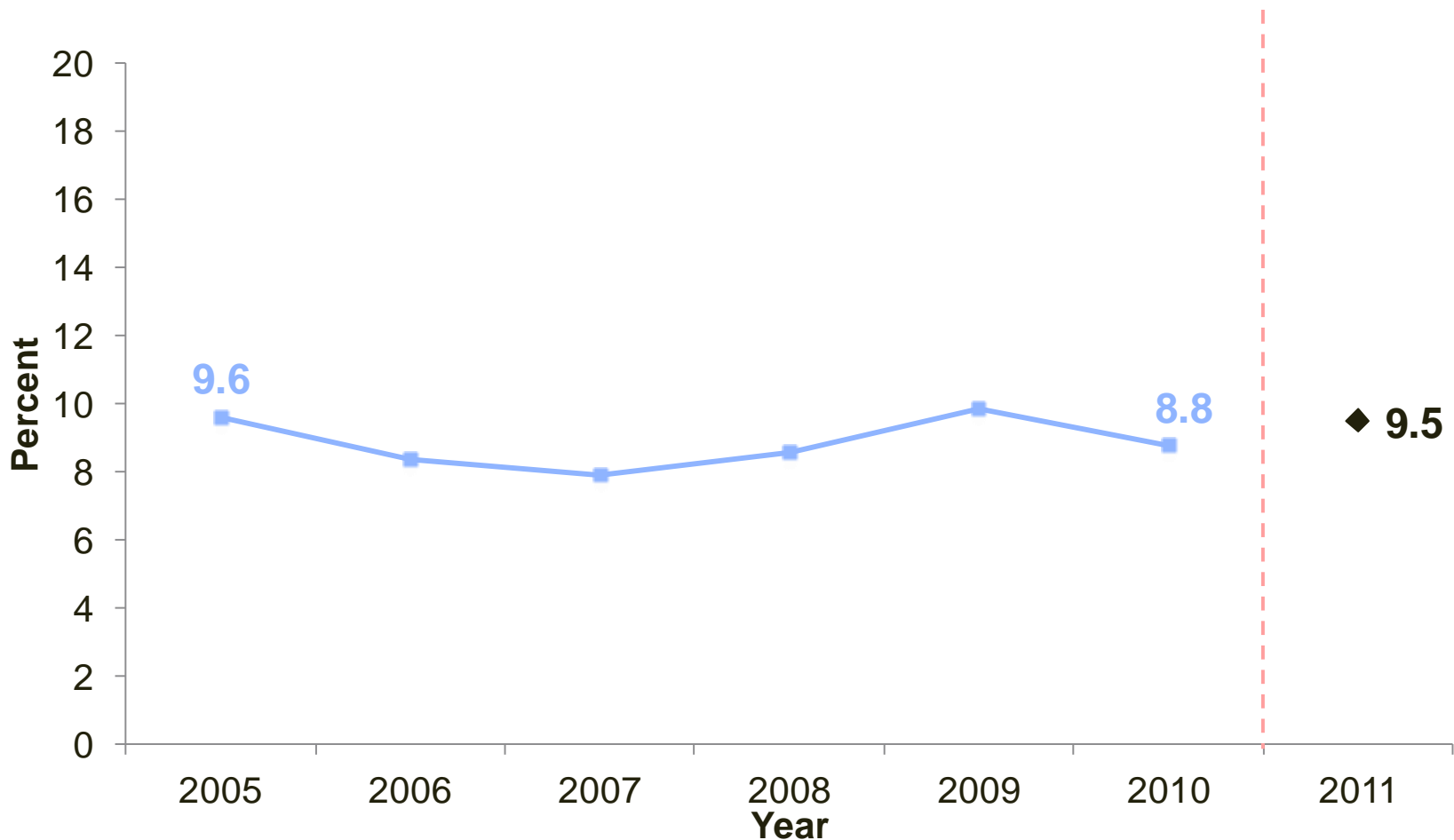
*National estimates are based on the 16 states who collected cell phone and landline data.

Lifetime asthma determined from response to question "...ever told you had asthma?"

Current asthma determined from response to question "Do you still have asthma?"

Source: [CDC](#) and [ISDH DAT](#). (2012). *Behavioral Risk Factor Surveillance System Prevalence Data, 2011*.

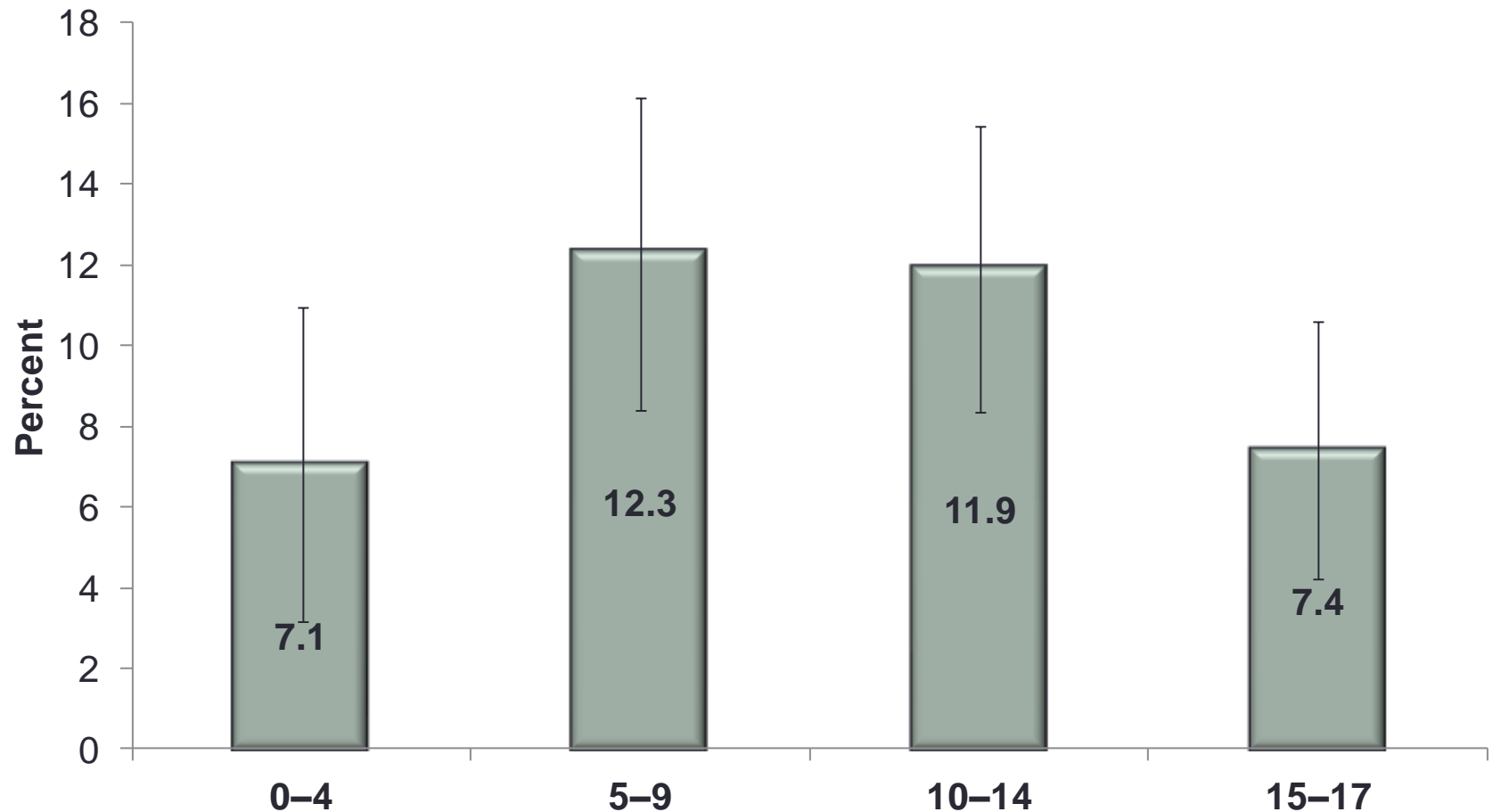
Prevalence of current asthma among children (0-17 years), Indiana, 2005–2010, 2011*



*The 2011 prevalence estimate was determined using a new, more precise methodology, including the addition of cell phone respondents and new weighting techniques; therefore, the 2011 estimate should not be compared to earlier prevalence estimates.

Source: [CDC](#) and [ISDH DAT](#). (2011). *Behavioral Risk Factor Surveillance System Prevalence Data, 2005-2011*.

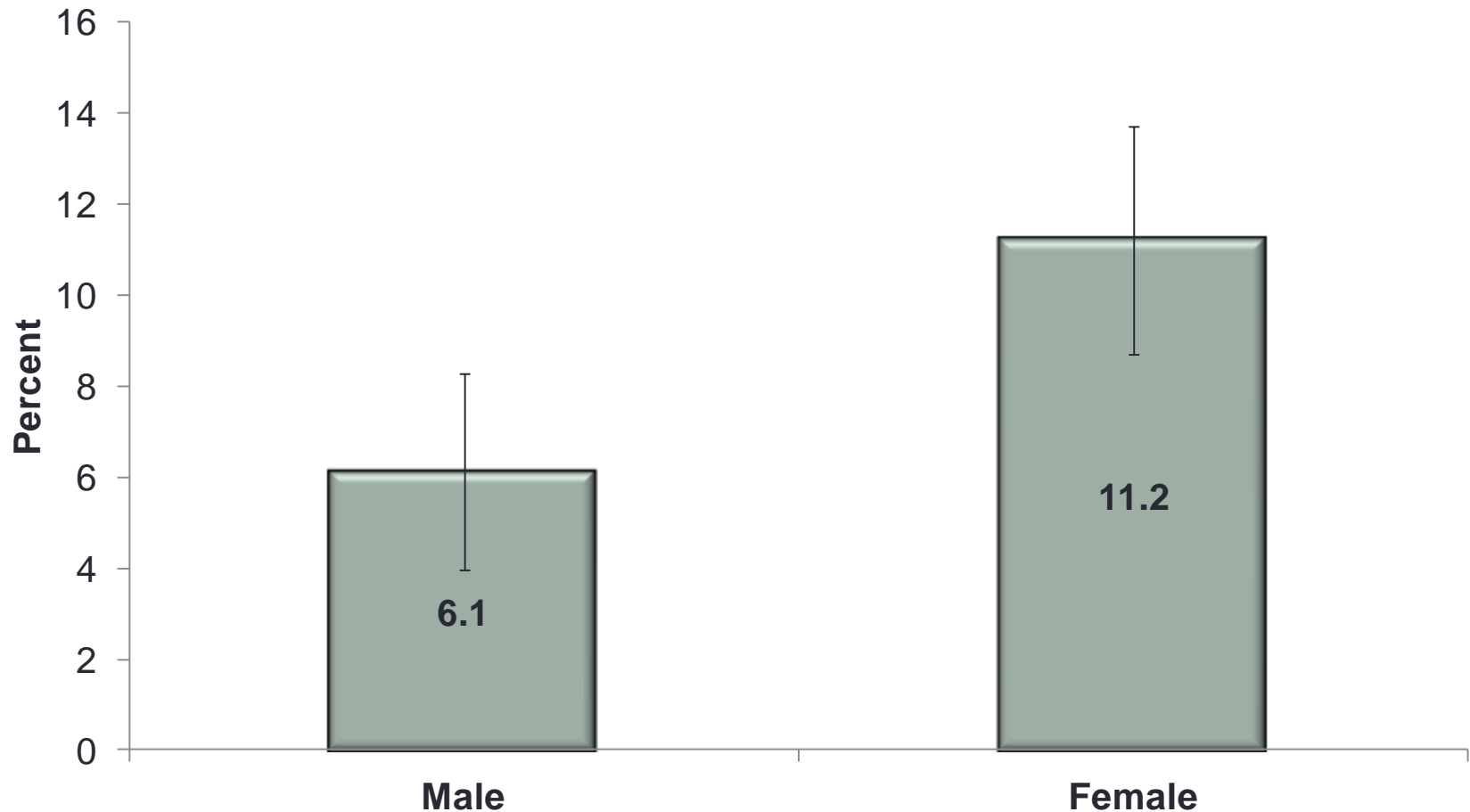
Prevalence* of current asthma among children (0-17 years) by age group, Indiana, 2011



*Prevalence rates are presented with 95% confidence intervals.

Source: [CDC](#) and [ISDH DAT](#). (2012). *Behavioral Risk Factor Surveillance System Prevalence Data, 2011*.

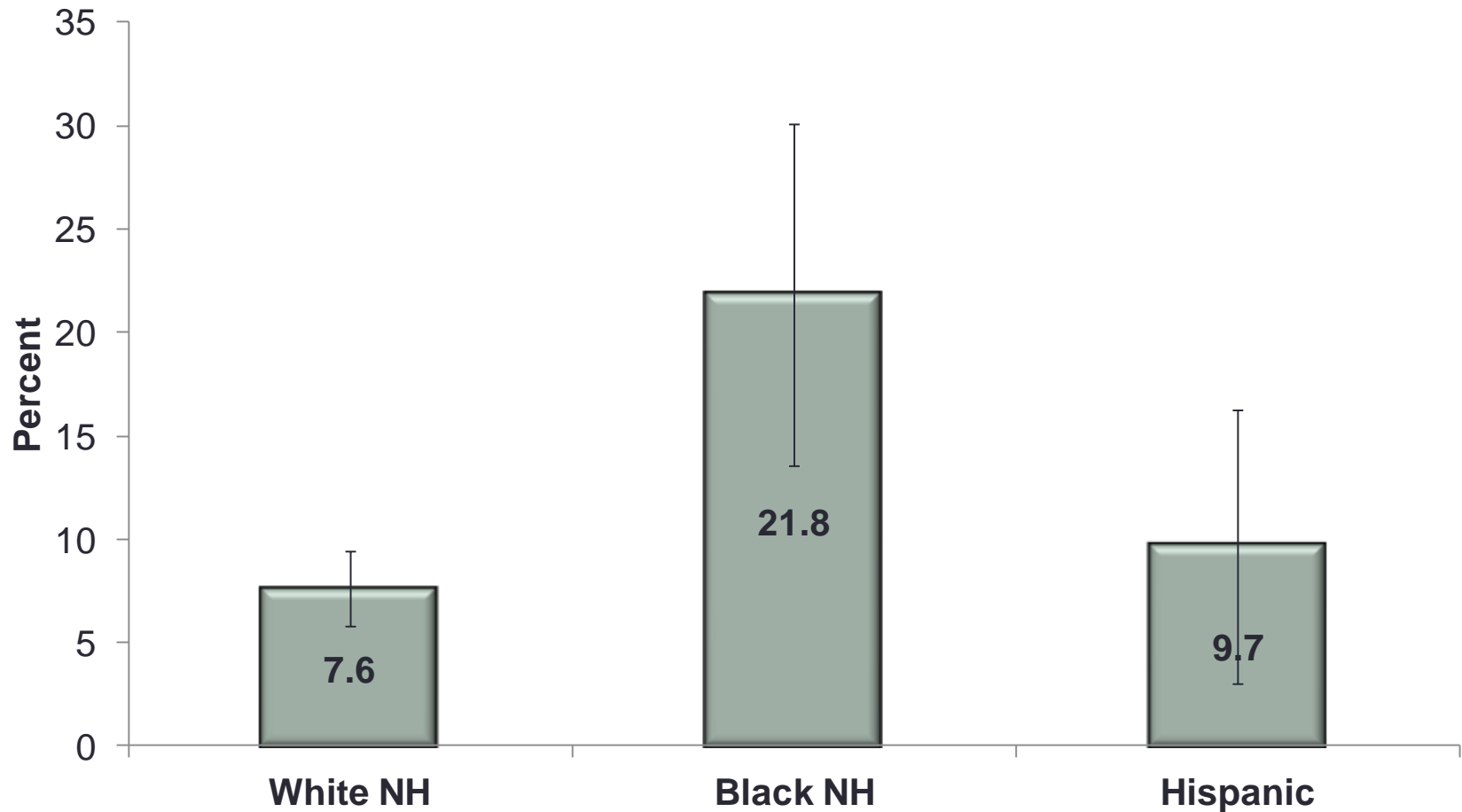
Prevalence* of current asthma among children (0-17 years) by sex, Indiana, 2011



*Prevalence rates are presented with 95% confidence intervals.

Source: [CDC](#) and [ISDH DAT](#). (2012). *Behavioral Risk Factor Surveillance System Prevalence Data, 2011*.

Prevalence* of current asthma among children (0-17 years) by race and ethnicity, Indiana, 2011 (NH=Non-Hispanic)



*Prevalence rates are presented with 95% confidence intervals.

Source: [CDC](#) and [ISDH DAT](#). (2012). *Behavioral Risk Factor Surveillance System Prevalence Data, 2011*.

Asthma Management and Education



Asthma self-management education among adult Hoosiers with current asthma

Has a health care professional...	Adults who responded 'Yes' ¹
taught you to recognize early signs or symptoms of an asthma episode?	71.01%
taught you what to do during an asthma episode or attack?	77.81%
shown you how to use an inhaler?	94.15%
watched you use an inhaler?	75.68%
taught you how to use a peak flow meter to adjust daily medications?	49.25%
given you an asthma action plan?	25.54%
Have you ...	
ever taken a course to manage asthma?	9.07%

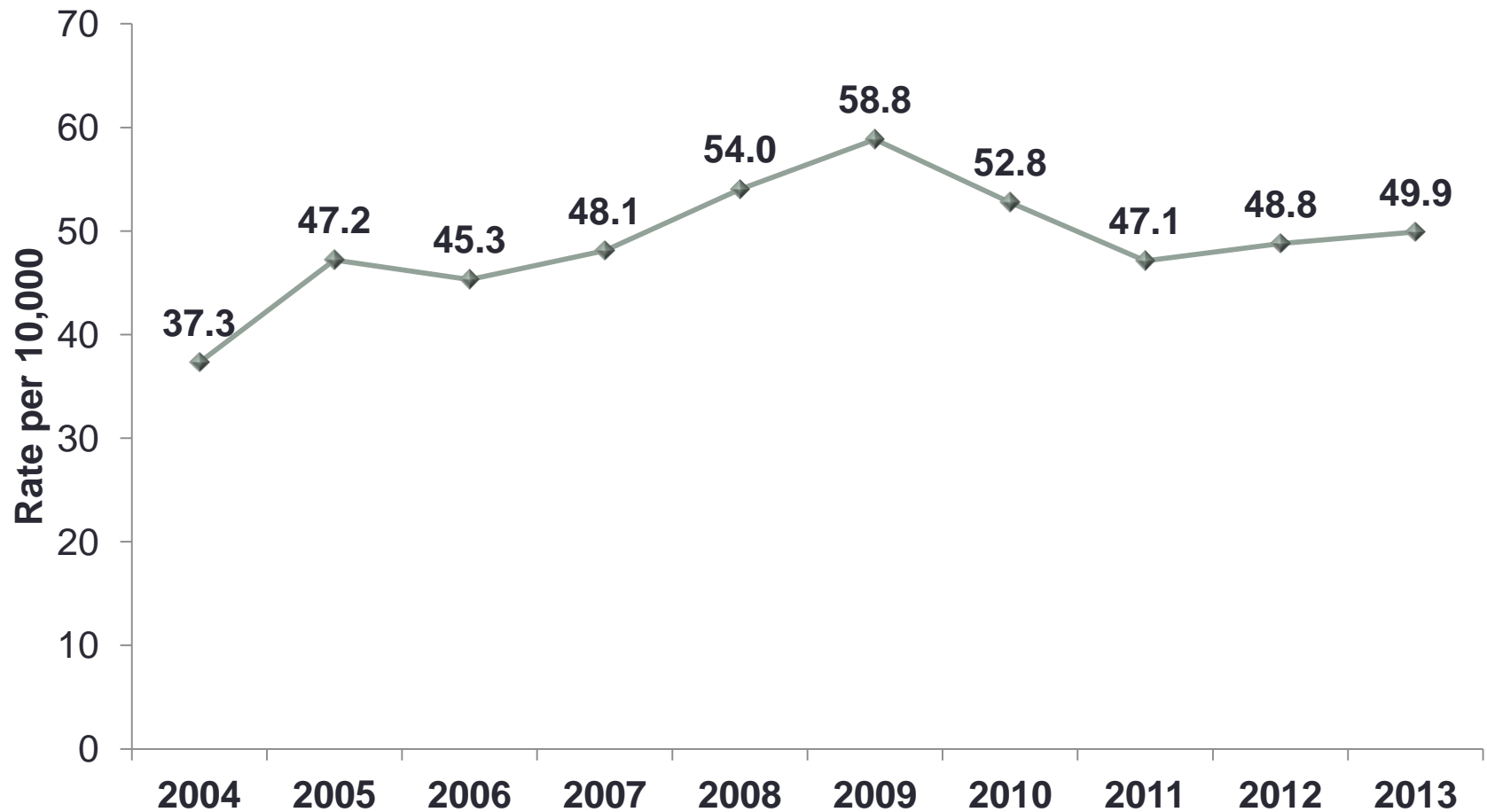
1. [CDC](#) and [ISDH DAT](#). (2015). *Behavioral Risk Factor Surveillance System Adult Asthma Call-back Survey, 2013*.

Barriers facing Hoosiers with current asthma

	Adults who responded 'Yes'
Uninsured	19.17%
Unable to see primary care doctor because of the cost	12.92%
Unable to see specialist because of the cost	7.61%
Unable to buy medications due to the cost	20.18%
Missed at least one day of work in the past 12 months due asthma	35.41%
Limited usual activities “a lot” within the past 12 months due to asthma	9.16%
Had no asthma symptom-free days during the past 2 weeks	20.74%

Asthma Emergency Department Visits

Asthma* ED visit rates,** Indiana, 2004–2013

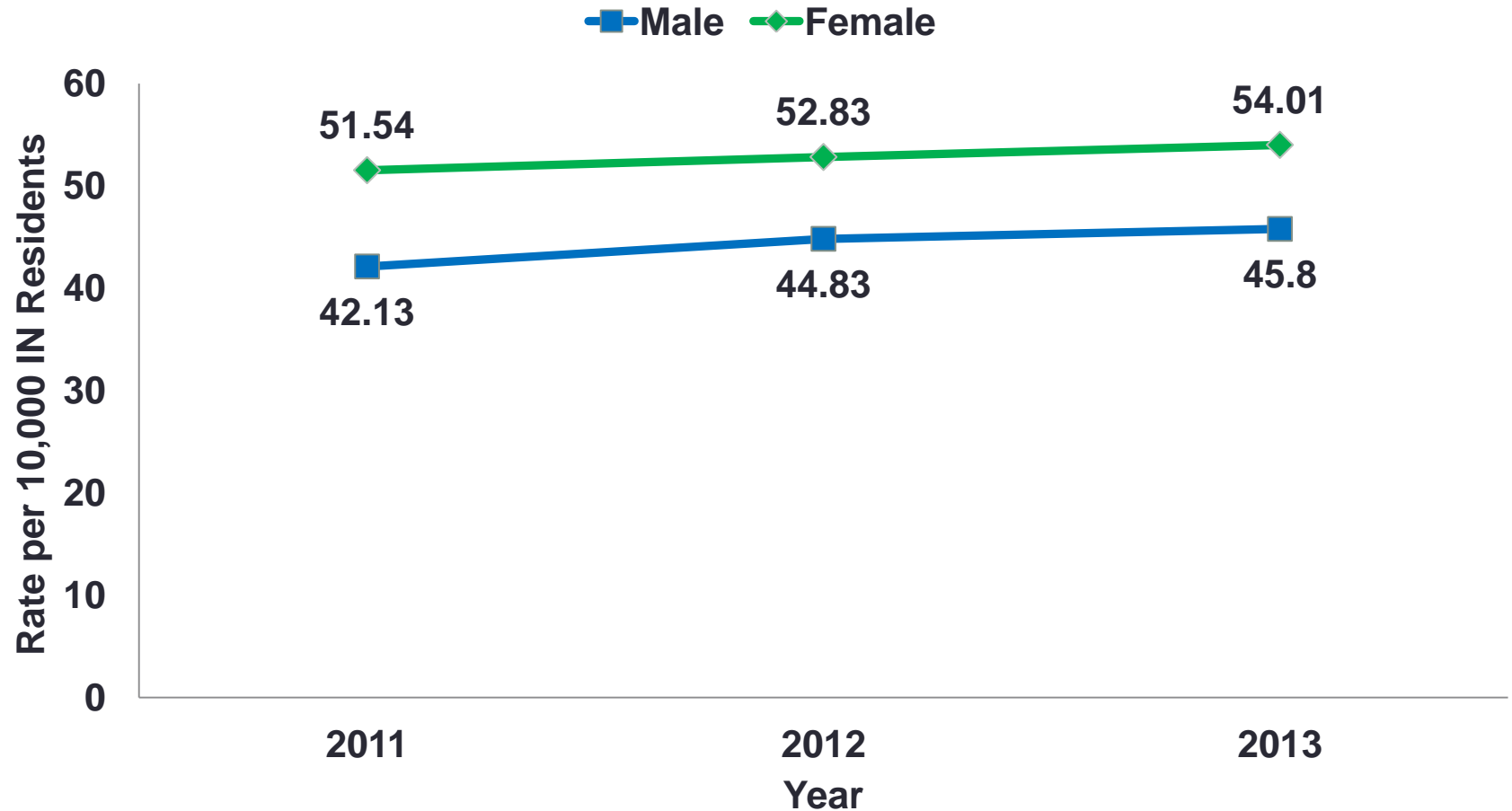


*Primary diagnosis asthma emergency department visits.

**Age-adjusted rates per 10,000 population.

Source: [Indiana State Department of Health. \(2014\). Indiana Hospital Discharge Data Files, 2004-2013.](#)

Asthma* ED Visit Rates** by Sex, Indiana, 2011-2013



*Primary diagnosis asthma emergency department visits.

**Sex- and aged-adjusted rates per 10,000 population.

Source: [Indiana State Department of Health. \(2014\). Indiana Hospital Discharge Data Files, 2013.](#)

Asthma Hospitalizations



Asthma* hospitalization rates,** Indiana, 2004–2013

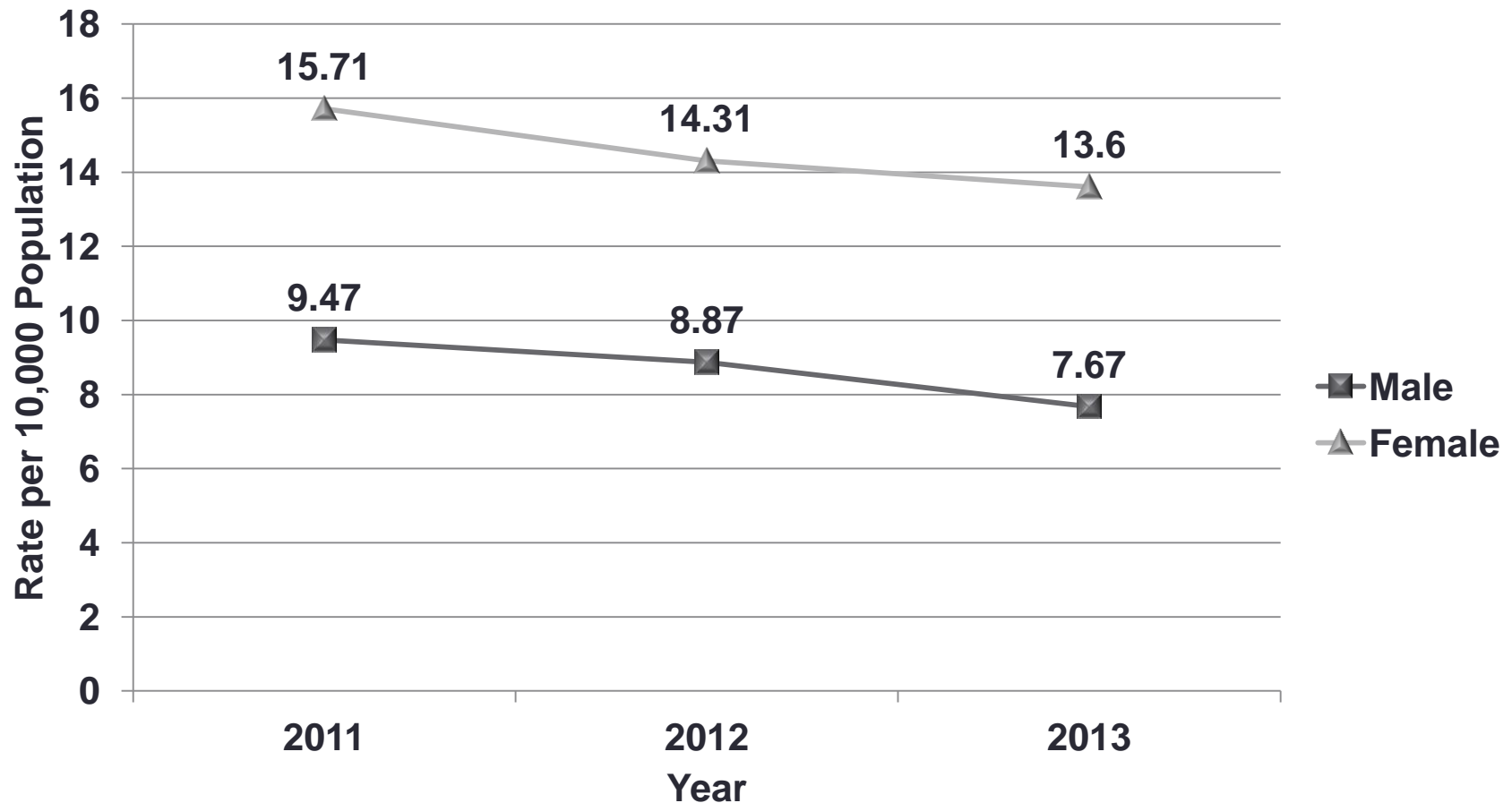


*Primary diagnosis asthma hospitalizations.

**Age-adjusted rates per 10,000 population.

Source: [Indiana State Department of Health. \(2014\). Indiana Hospital Discharge Data Files, 2004-2013.](#)

Asthma* Hospitalization Rates** by Sex, Indiana, 2011–2013



*Primary diagnosis asthma hospitalizations.

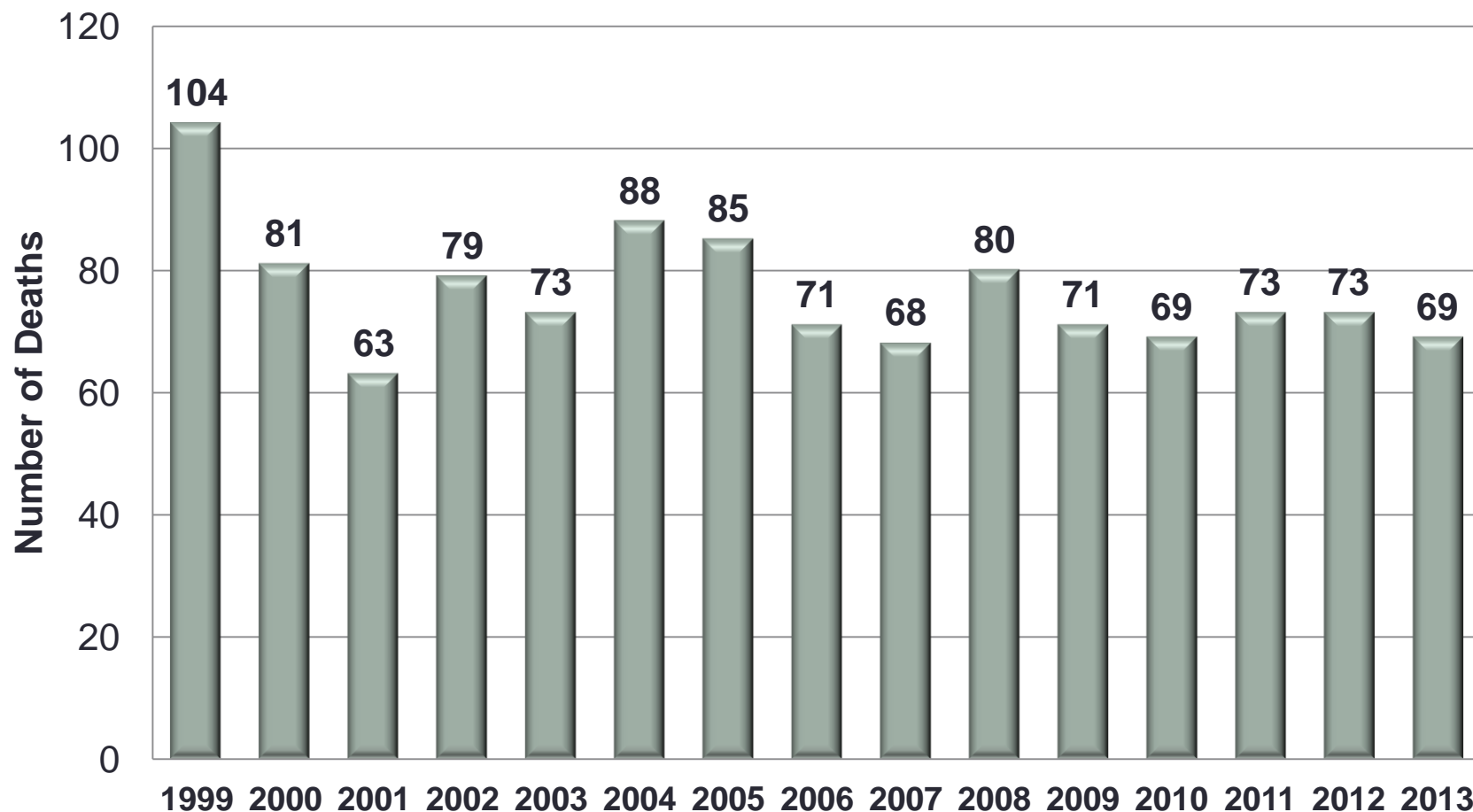
**Rates are adjusted by age and sex per 10,000 population.

Source: [Indiana State Department of Health. \(2014\). Indiana Hospital Discharge Data Files, 2011–2013.](#)

Asthma Mortality

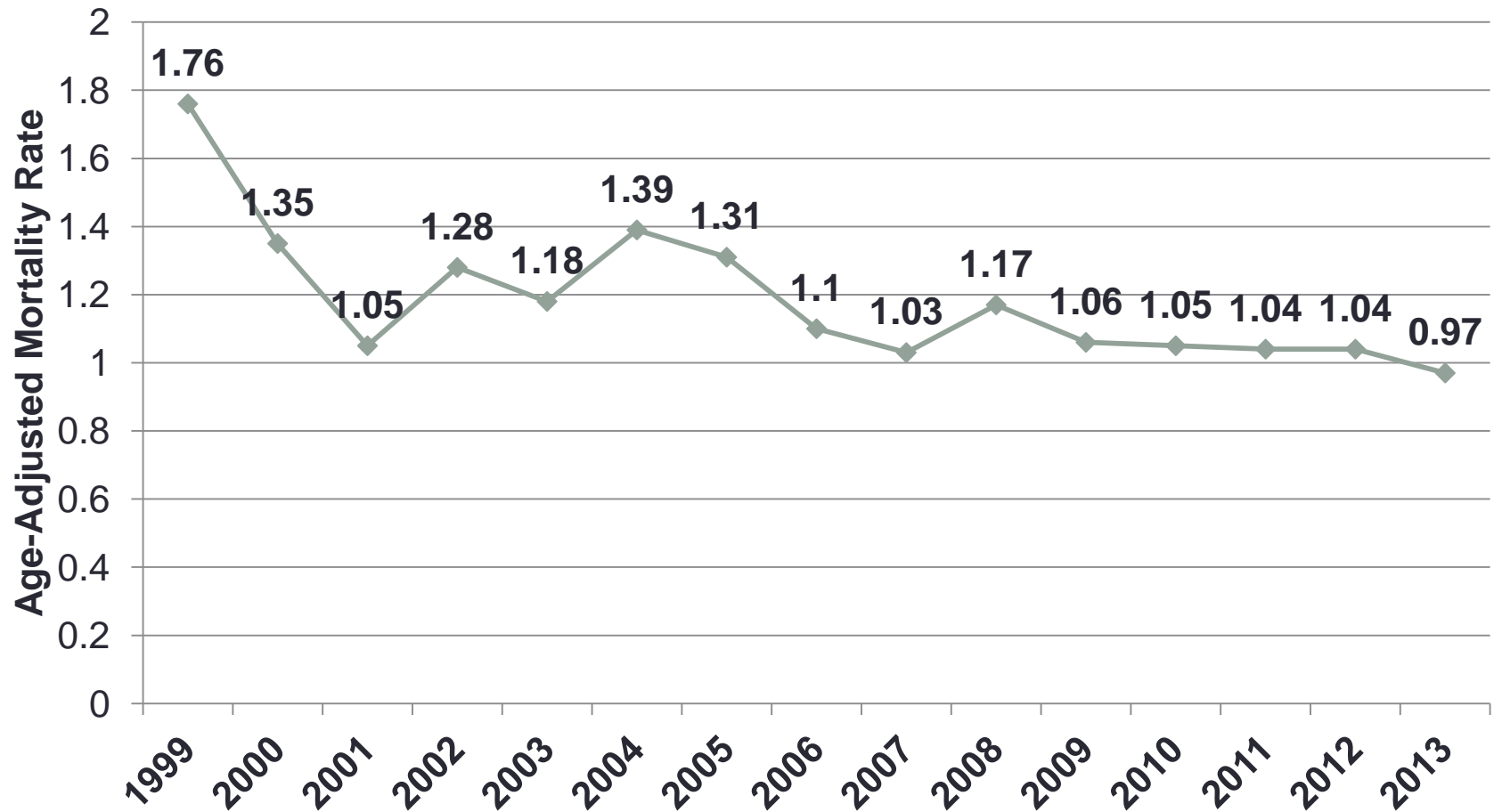


Number of Asthma Deaths, Indiana, 1999–2013



Source: [ISDH Data Analysis Team. Death Reports \(Mortality\), 1999-2013.](#)

Age-adjusted asthma mortality rates*, Indiana, 1999–2013



*Rate per 100,000 population.

Source: [ISDH Data Analysis Team. Death Reports \(Mortality\), 1999-2013.](#)

For more information

- ❑ **ISDH Asthma Program website**
 - <http://www.in.gov/isdh/24965.htm>

- ❑ **Most current Indiana data**
 - <http://www.in.gov/isdh/17279.htm>

- ❑ **Data request form**
 - http://www.in.gov/isdh/files/Asthma_ISDH_Data_Request_Form.docx

- ❑ **Indiana INdicators: health-related indicators for the state and by county**
 - <http://indianaindicators.org/>

Asthma Data Request Form



Indiana State Department of Health Chronic Respiratory Disease Section Epidemiology

2 N. Meridian, 6th Floor
Indianapolis, IN 46204
Phone: 317-234-7631
IDSAsthma@isdh.IN.gov

Data Request Sent	Click here to enter a date.	Proposed Request Deadline*	Click here to enter a date.
<p><i>*NOTE: Data requests are processed as quickly as possible; however, due to staffing and complexity of the requests it can take longer. Please provide as much detail as possible to expedite the process. If you have examples of previous data requests or graphs, please attach.</i></p>			
Requestor Information			
Name		Title & Organization	
Phone		Email	
Description of Data Request			
Background Information and/or Question			
Intended audience			
Data Sets (if known)	<input type="checkbox"/> Behavioral Risk Factor Surveillance System (BRFSS) <input type="checkbox"/> Hospital Discharge (ED and Hospitalizations) <input type="checkbox"/> Mortality <input type="checkbox"/> Asthma Call Back Survey <input type="checkbox"/> Other –specify		

Asthma Data Request Form

Purpose of Request		
Purpose	<input type="checkbox"/> Analysis or support for decision-making activities (i.e., policies, program changes) <input type="checkbox"/> Grant materials and evidence <input type="checkbox"/> Quarterly, semi-annual or annual report	<input type="checkbox"/> Presentation <input type="checkbox"/> Research project <input type="checkbox"/> Other –specify
Please describe the purpose in detail:		
Parameters		
Time Period		CY = Calendar Year (e.g., CY12 = 01/01/12 – 12/31/12) SFY = State Fiscal Year (e.g., SFY12 = 07/01/12 – 06/30/12) FFY = Federal Fiscal Year (e.g., FFY12 = 10/01/12 – 09/30/12)
Geography		Statewide (aggregate), by County, Other
Specific Demographics		Age, Sex, Race, Ethnicity, Other
Diagnosis Codes		List ICD <u>codes</u> as appropriate

[FOR INTERNAL USE ONLY]

NOTES	
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Data Report



Chronic Respiratory Disease Section

Request received:

Request completed:

By: Jack Kinsey

Contact information:

Name, Title, Affiliation

Phone number | email

Scope:

Included in the request:

1.

NOTE: Hospitalization counts and are suppressed if counts are less than 5 for the geographic region (i.e. zip code, county). Rates are considered unstable and therefore suppressed if the count is less than 20. Prevalence estimates are suppressed if counts are less than 50.

Data Report



Chronic Respiratory Disease Section

Information Requested

1. Asthma prevalence rates for children (0 to 17 years) in Gibson, Posey, Vanderburgh and Warrick counties (2008 to 2010)

NOTE: Estimates are based on weighting to the state population and should **NOT** be shared publicly. It is acceptable to include them in the grant application.

Suggested Citation

Indiana State Department of Health Data Analysis Team. (July 2013). Data Request, [Indiana Behavioral Risk Factor Surveillance System Data](#), 2009-2011.

Contact Information

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For more asthma data, visit the Asthma Program's [Data and Reports](http://www.in.gov/isdh/17279.htm) webpage at <http://www.in.gov/isdh/17279.htm>.



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