

Pediatric Asthma in Dallas, Texas and Surrounding Areas: A Look at Population-Level Data

Children's Medical Center Dallas
August 1st, 2013

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- **Introduction**
- **Asthma prevalence, 2011**
 - Behavioral Risk Factor Surveillance System (BRFSS)
- **Asthma hospitalizations, 2011**
- **BRFSS Child Asthma Call-Back Survey data, 2006-2010**
- **Summary**

- **Asthma prevalence¹ among children in Texas, 2011:**
 - An estimated **992,826** children (**14.3%**) had lifetime asthma (Ever been told by a doctor or other health professional that they have asthma)
 - An estimated **556,773** children (**8.0%**) had current asthma (Ever been told by a doctor or other health professional that they have asthma and still have asthma)
- **Among children age 0-17 years, **9,280** asthma-related hospitalizations were reported in 2011²**
 - **45%** of child asthma hospitalizations occurred among children age 0-4 years.

¹ Texas Behavioral Risk Factor Surveillance System, 2011

² Texas Health Care Information Collection (THCIC), Inpatient Hospital Discharge Public Use Data File, 2011.

- **Total charges for pediatric asthma hospitalizations, 2011²:**
 - Texas: \$172.9 million
 - Public Health Region 3 (PHR 3): \$53.9 million
 - Dallas County: **\$32 million**

- **Mortality rates per 100,000 for asthma among children, 2006-2011³:**
 - Texas: 0.23 (95% CI: 0.18-0.27); 89 deaths
 - PHR 3: 0.27 (95% CI: 0.17-0.37); 29 deaths
 - Dallas County: 0.30 (95% CI: 0.13-0.47); 12 deaths

² Texas Health Care Information Collection (THCIC), Inpatient Hospital Discharge Public Use Data File, 2011.

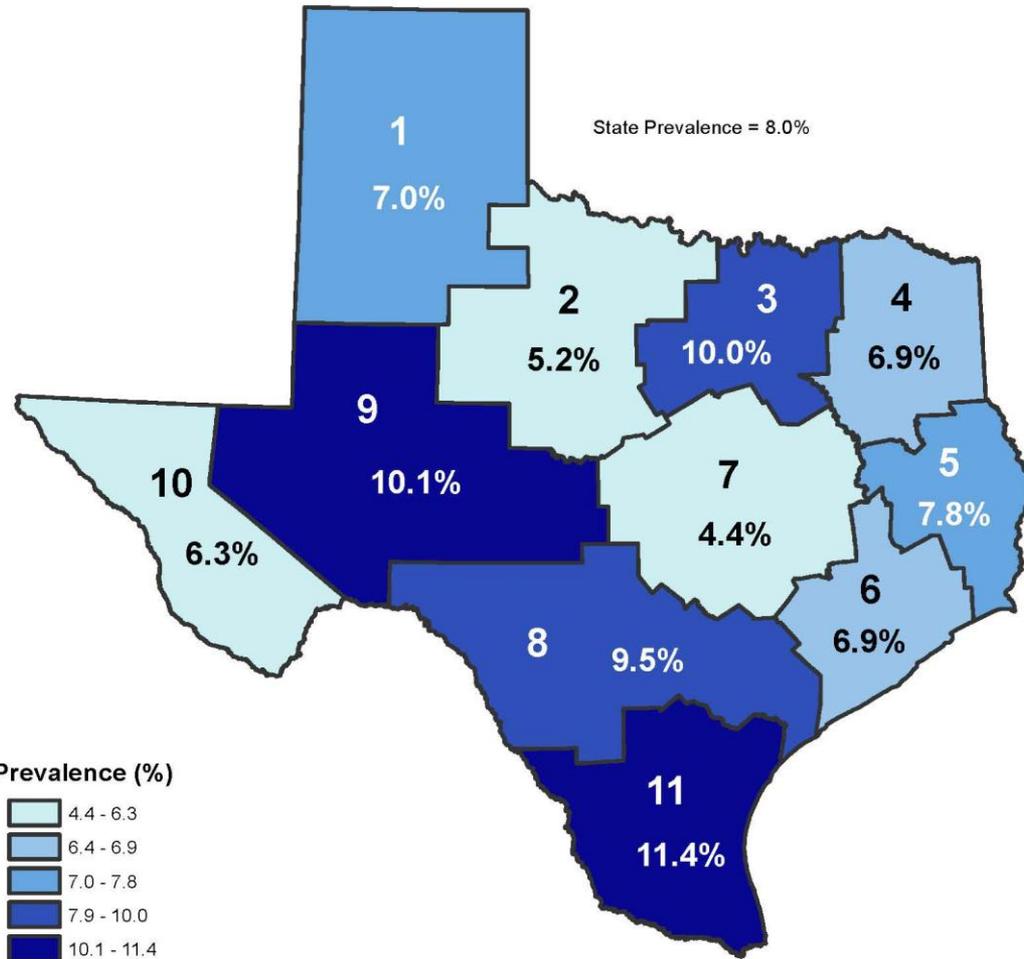
³ Vital Statistics Unit, Center for Health Statistics, 2011, Texas Department of State Health Services.

Asthma Prevalence

TEXAS, 2011

Due to improvements in BRFSS sampling methodology and a change in weighting procedures used for the survey data, 2011 BRFSS data cannot be compared to survey data from previous years to assess trends. Shifts in prevalence estimates for 2011 compared to previous years might not represent trends in prevalence in the Texas population but instead merely reflect improved methods of measuring disease and risk factors.

Childhood Current Asthma Prevalence by Public Health Region, Texas, 2011



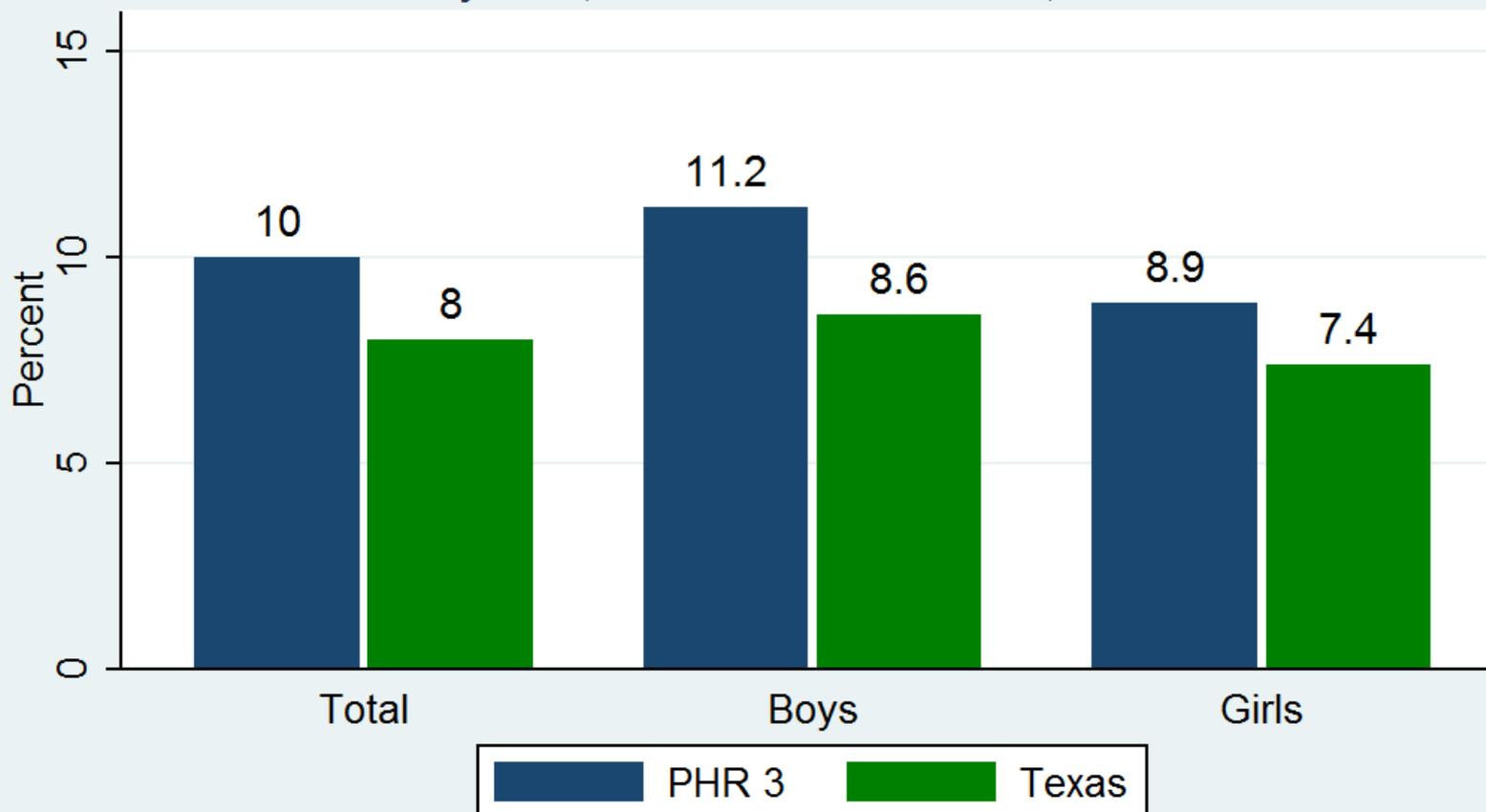
Data Source: Texas Behavioral Risk Factor Surveillance System (BRFSS), 2011.
Center for Health Statistics, DSHS.

Date: 4/11/2013



Asthma Prevalence

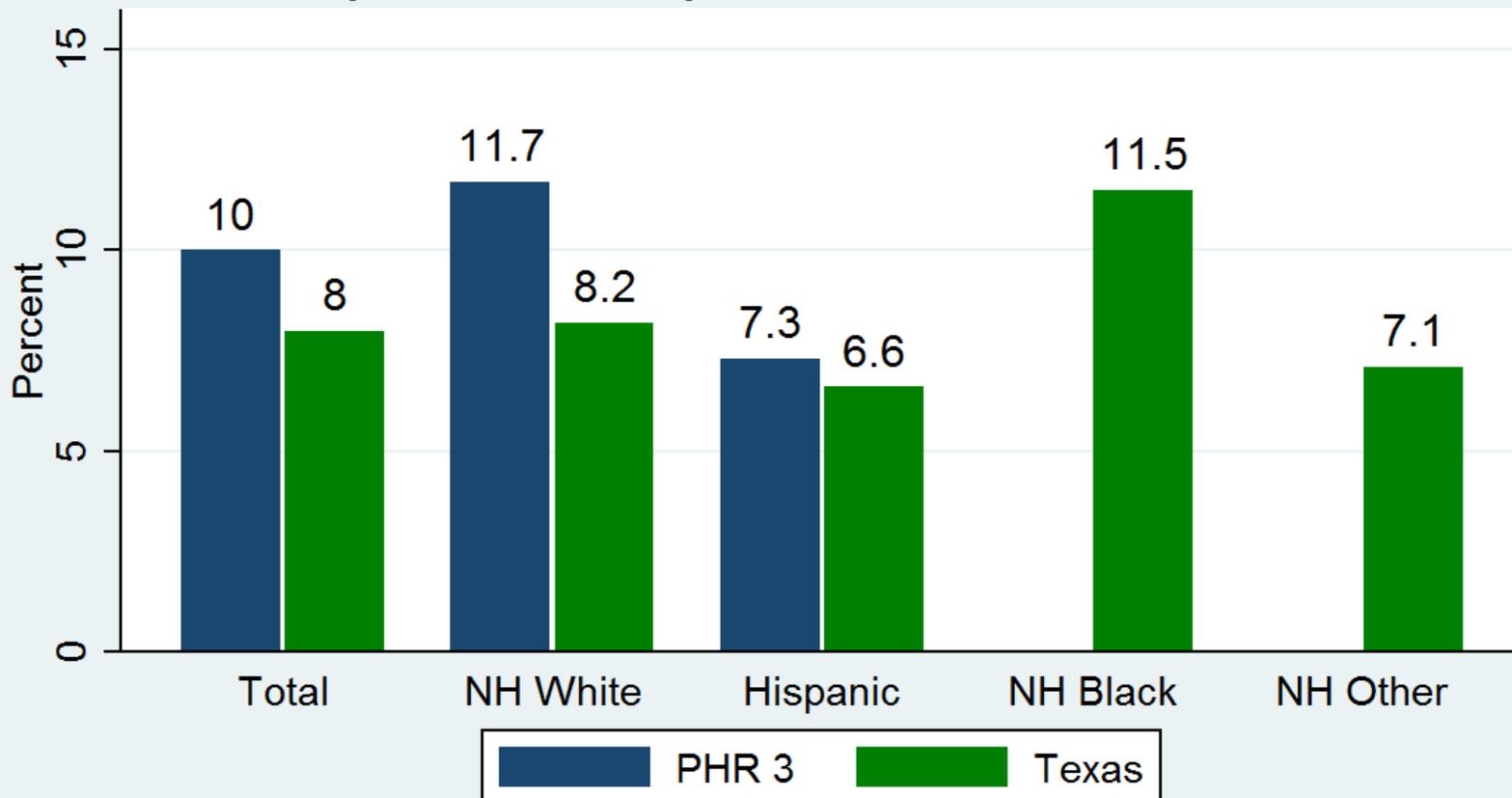
Prevalence of current asthma among children by sex, PHR 3 and Texas, 2011



Data Source: Texas Behavioral Risk Factor Surveillance System (BRFSS), 2011.
Data for children are based on information provided by an adult respondent about a child living in the home.
Survey question: 'Has a doctor, nurse or other health professional ever said that the child has asthma?'

Asthma Prevalence

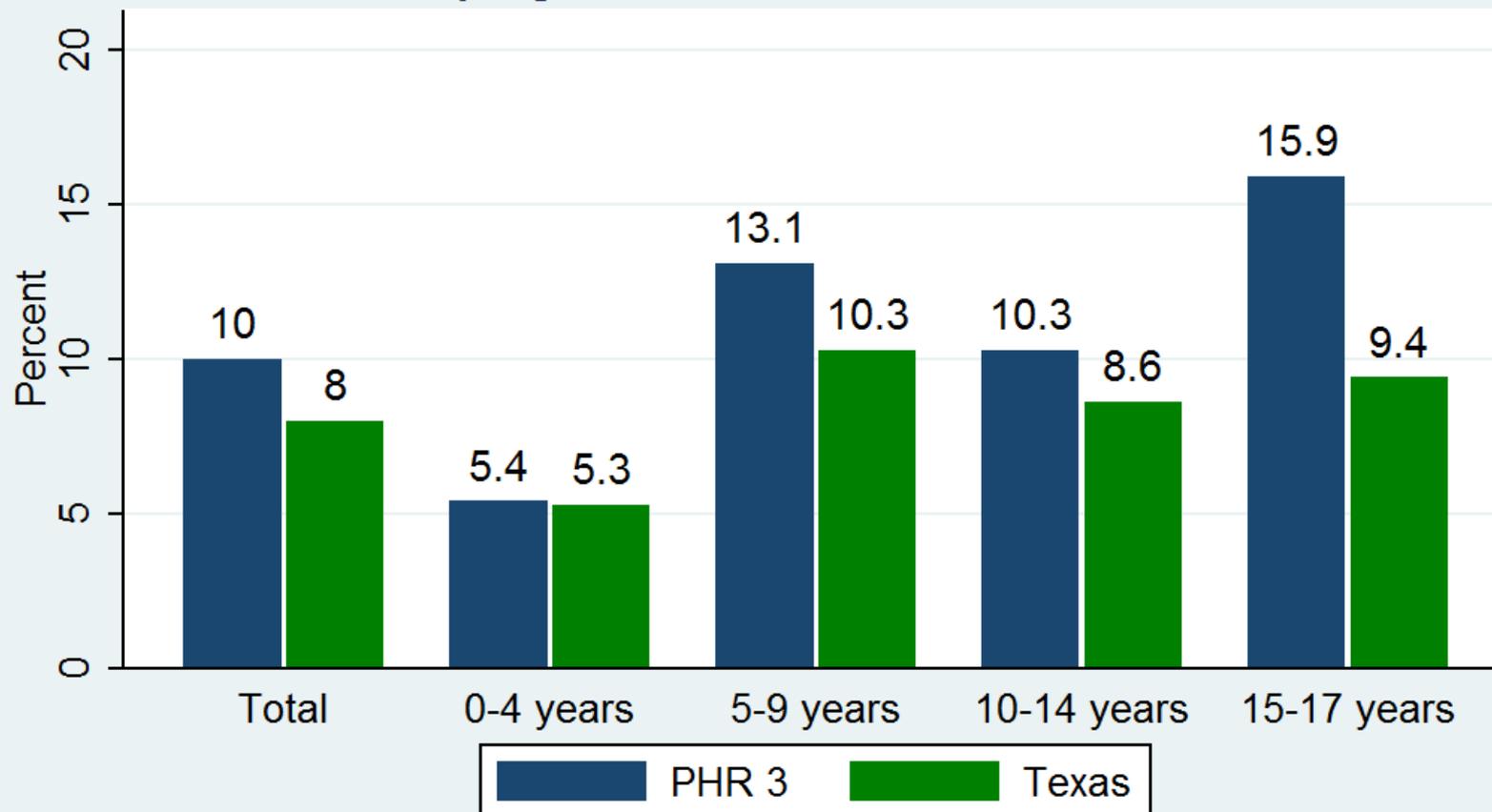
Prevalence of current asthma among children by race/ethnicity, PHR 3 and Texas, 2011



Data Source: Texas Behavioral Risk Factor Surveillance System (BRFSS), 2011.
Data for children are based on information provided by an adult respondent about a child living in the home.
Survey question: 'Has a doctor, nurse or other health professional ever said that the child has asthma?'
Prevalence estimates are suppressed for small sample size (if numerator is < 5 or denominator is < 50).

Asthma Prevalence

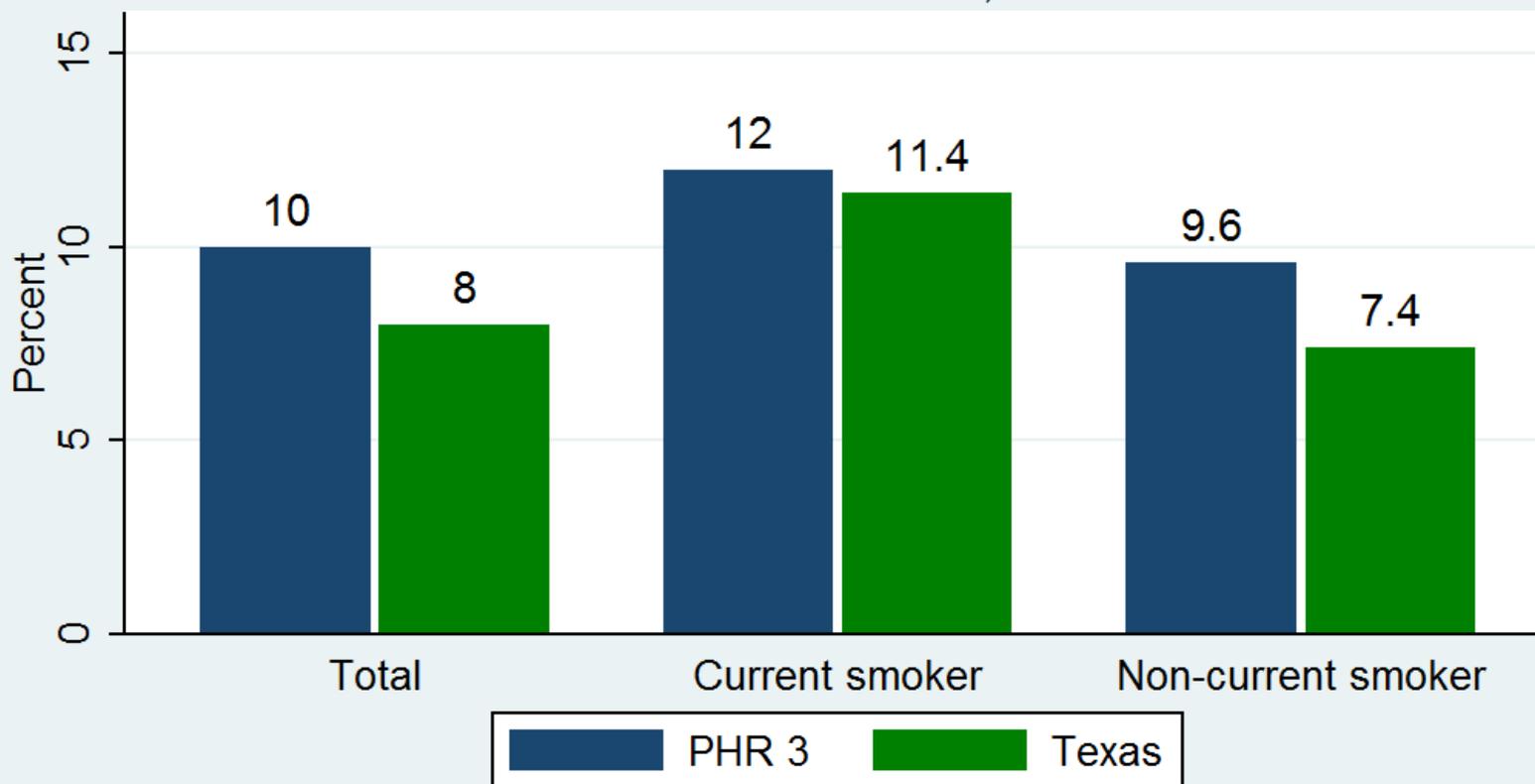
Prevalence of current asthma among children by age, PHR 3 and Texas, 2011



Data Source: Texas Behavioral Risk Factor Surveillance System (BRFSS), 2011.
Data for children are based on information provided by an adult respondent about a child living in the home.
Survey question: 'Has a doctor, nurse or other health professional ever said that the child has asthma?'

Asthma Prevalence

Prevalence of current asthma among children
by adult respondent's current smoking status,
PHR 3 and Texas, 2011



Data Source: Texas Behavioral Risk Factor Surveillance System (BRFSS), 2011.
Data for children are based on information provided by an adult respondent about a child living in the home.
Survey question: 'Has a doctor, nurse or other health professional ever said that the child has asthma?'

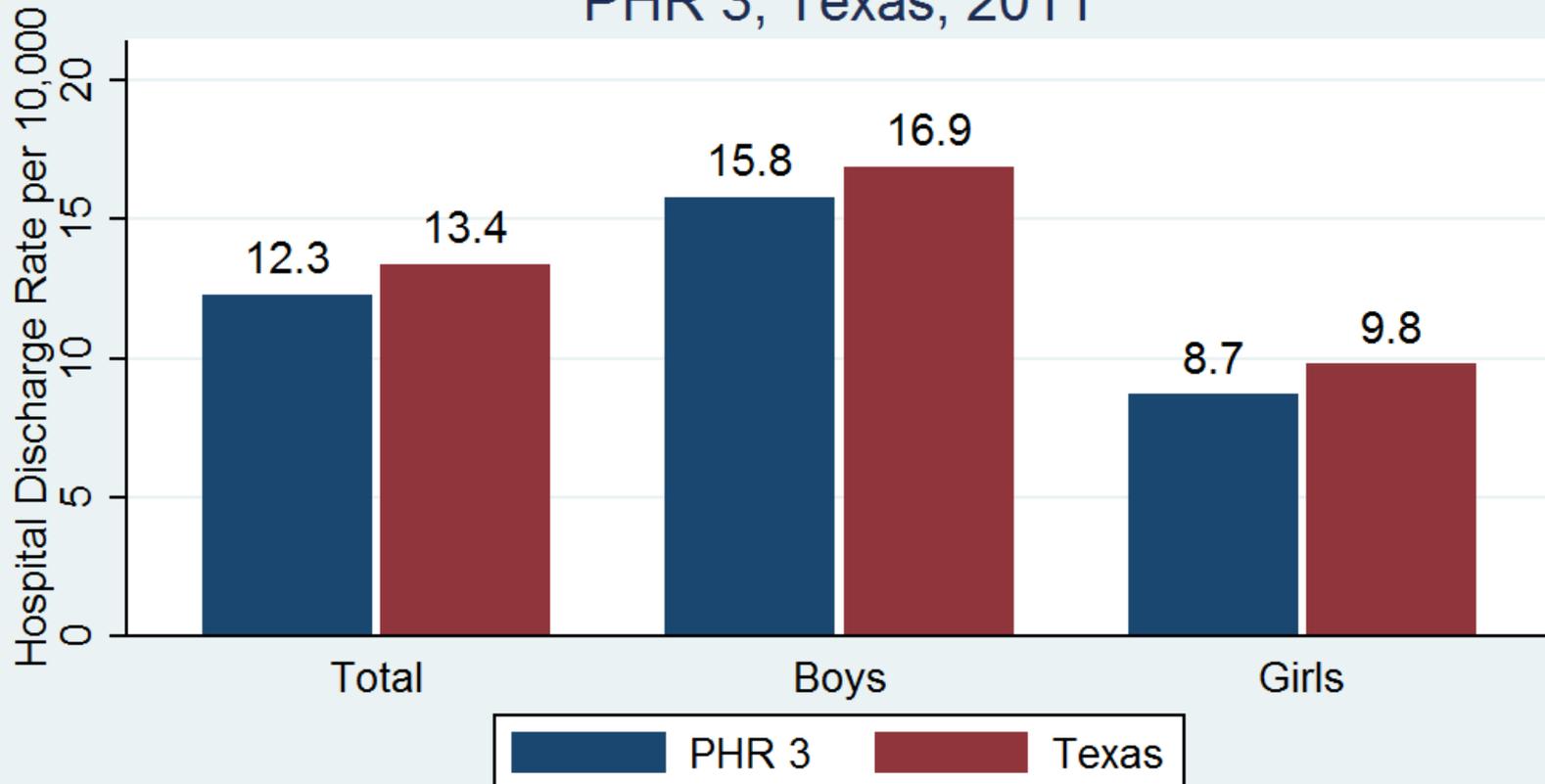
- **10% of children in PHR 3 had current asthma in 2011**
- **Asthma prevalence in PHR 3 was higher than in PHR 7, where child asthma prevalence was 4.4%**
- **Asthma prevalence among children in PHR 3 may be higher for boys, non-Hispanic whites, and those living with a survey respondent who was a current smoker**
- **2011 asthma prevalence data should not be compared directly with data from previous years to assess trends over time**

Asthma Hospitalizations

TEXAS, 2011

Hospital Discharge Rates

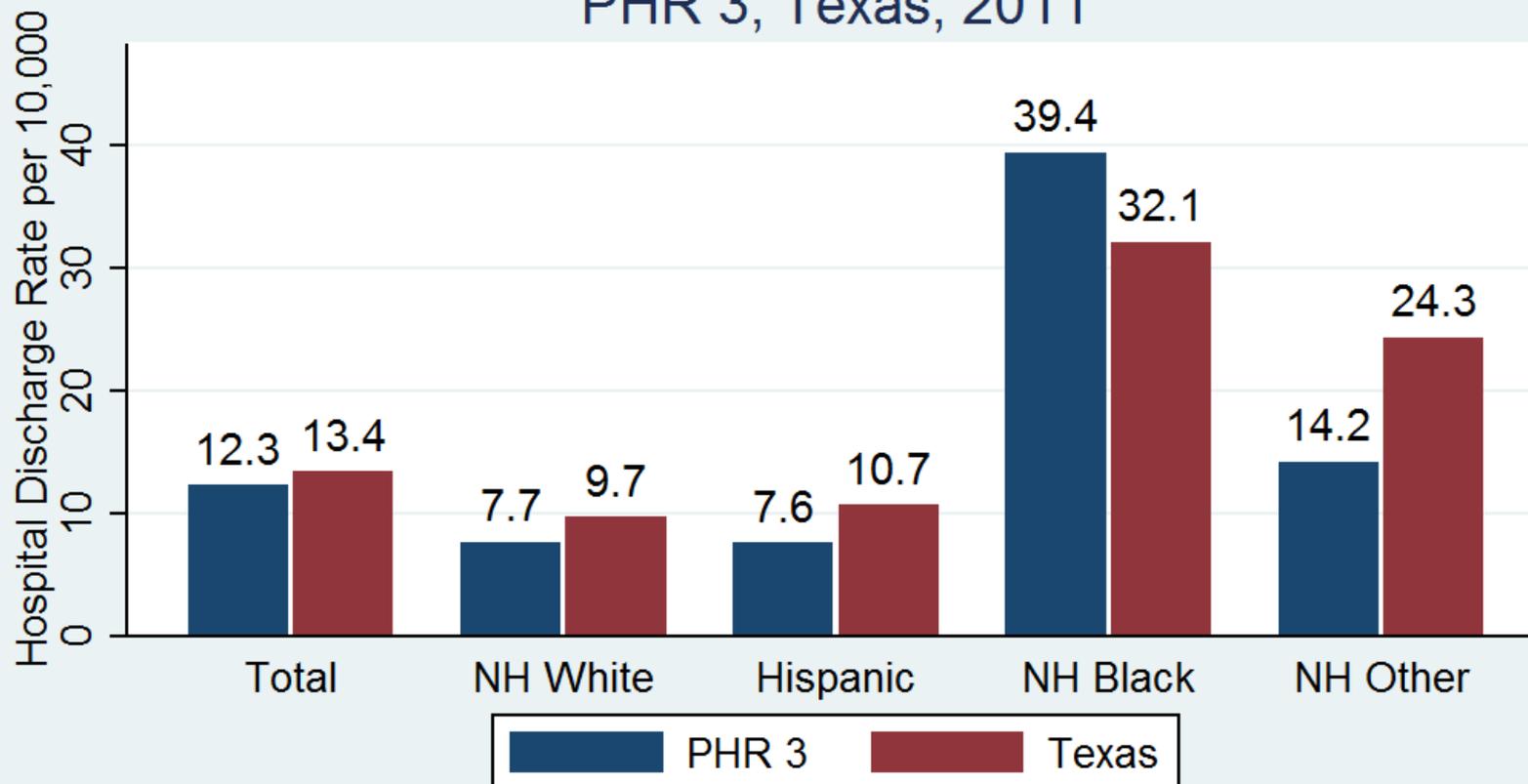
Age-adjusted asthma* hospital discharge rates per 10,000 among children by sex, PHR 3, Texas, 2011



Data Source: Texas Health Care Information Collection (THCIC), Inpatient Hospital Discharge Public Use Data File, 2011.
Population Data Source: Center for Health Statistics, Texas Department of State Health Services.
*Hospital records listing ICD-9 codes 493.0 - 493.9 as the principal diagnosis.
Results do not include HIV and drug/alcohol use patients.

Hospital Discharge Rates

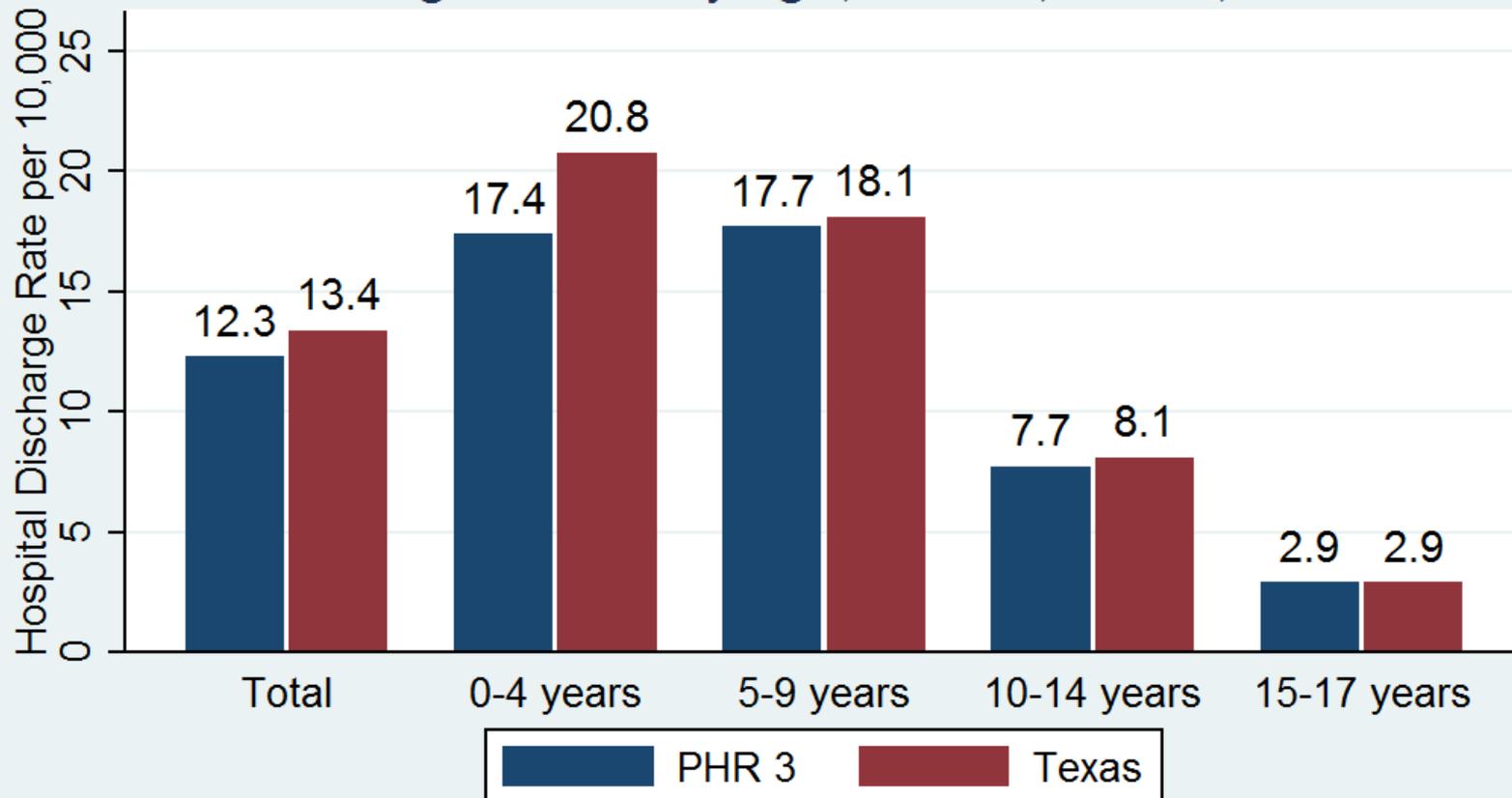
Age-adjusted asthma* hospital discharge rates per 10,000 among children by race/ethnicity, PHR 3, Texas, 2011



Data Source: Texas Health Care Information Collection (THCIC), Inpatient Hospital Discharge Public Use Data File, 2011.
Population Data Source: Center for Health Statistics, Texas Department of State Health Services.
*Hospital records listing ICD-9 codes 493.0 - 493.9 as the principal diagnosis.
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Hospital Discharge Rates

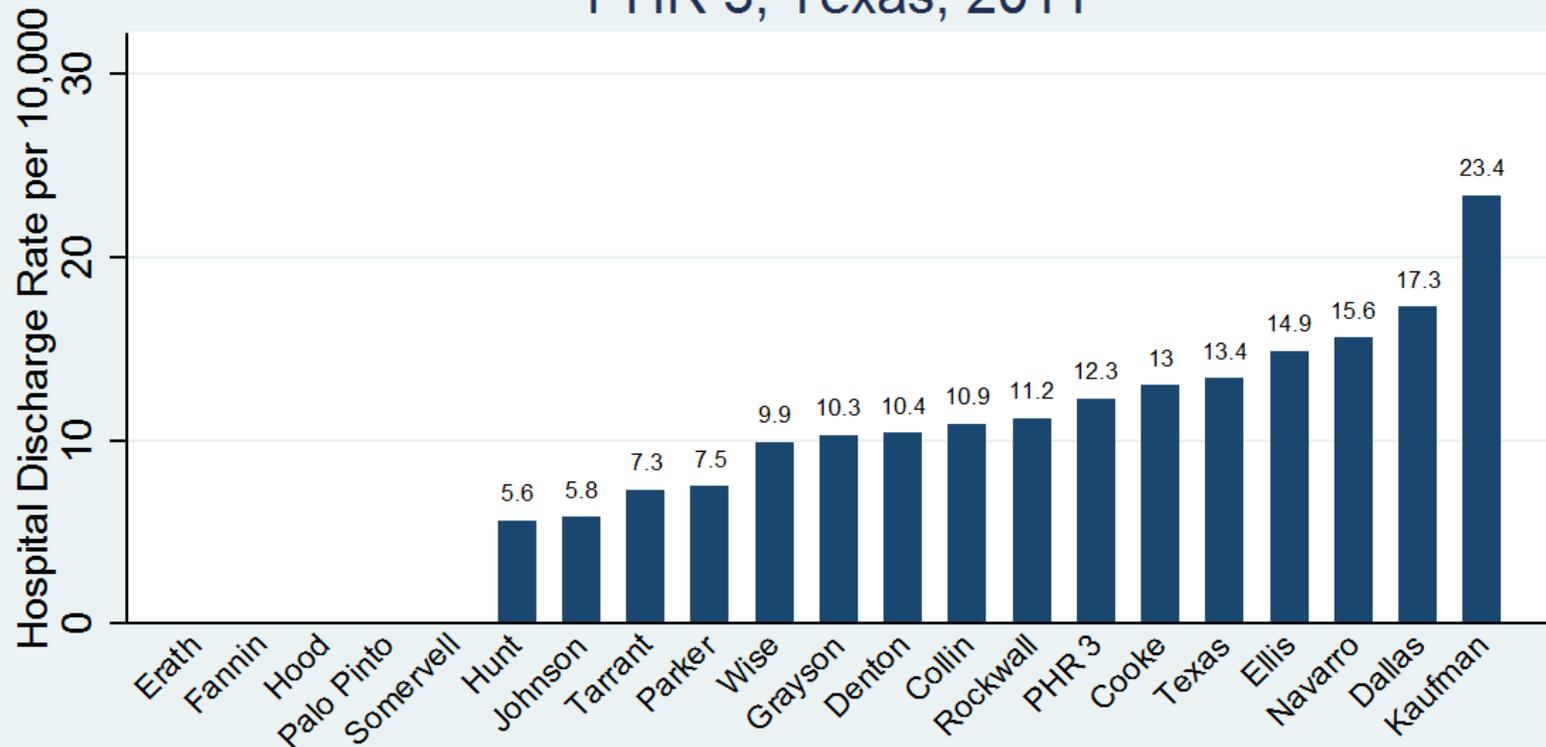
Asthma* hospital discharge rates per 10,000 among children by age, PHR 3, Texas, 2011



Data Source: Texas Health Care Information Collection (THCIC), Inpatient Hospital Discharge Public Use Data File, 2011.
Population Data Source: Center for Health Statistics, Texas Department of State Health Services.
* Hospital records listing ICD-9 codes 493.0 - 493.9 as the principal diagnosis.
Results do not include HIV and drug/alcohol use patients.

Hospital Discharge Rates

Age-adjusted asthma* hospital discharge rates per 10,000 among children by county of residence, PHR 3, Texas, 2011



Data Source: Texas Health Care Information Collection (THCIC), Inpatient Hospital Discharge Public Use Data File, 2011.

Population Data Source: Center for Health Statistics, Texas Department of State Health Services.

*Hospital records listing ICD-9 codes 493.0 - 493.9 as the principal diagnosis.

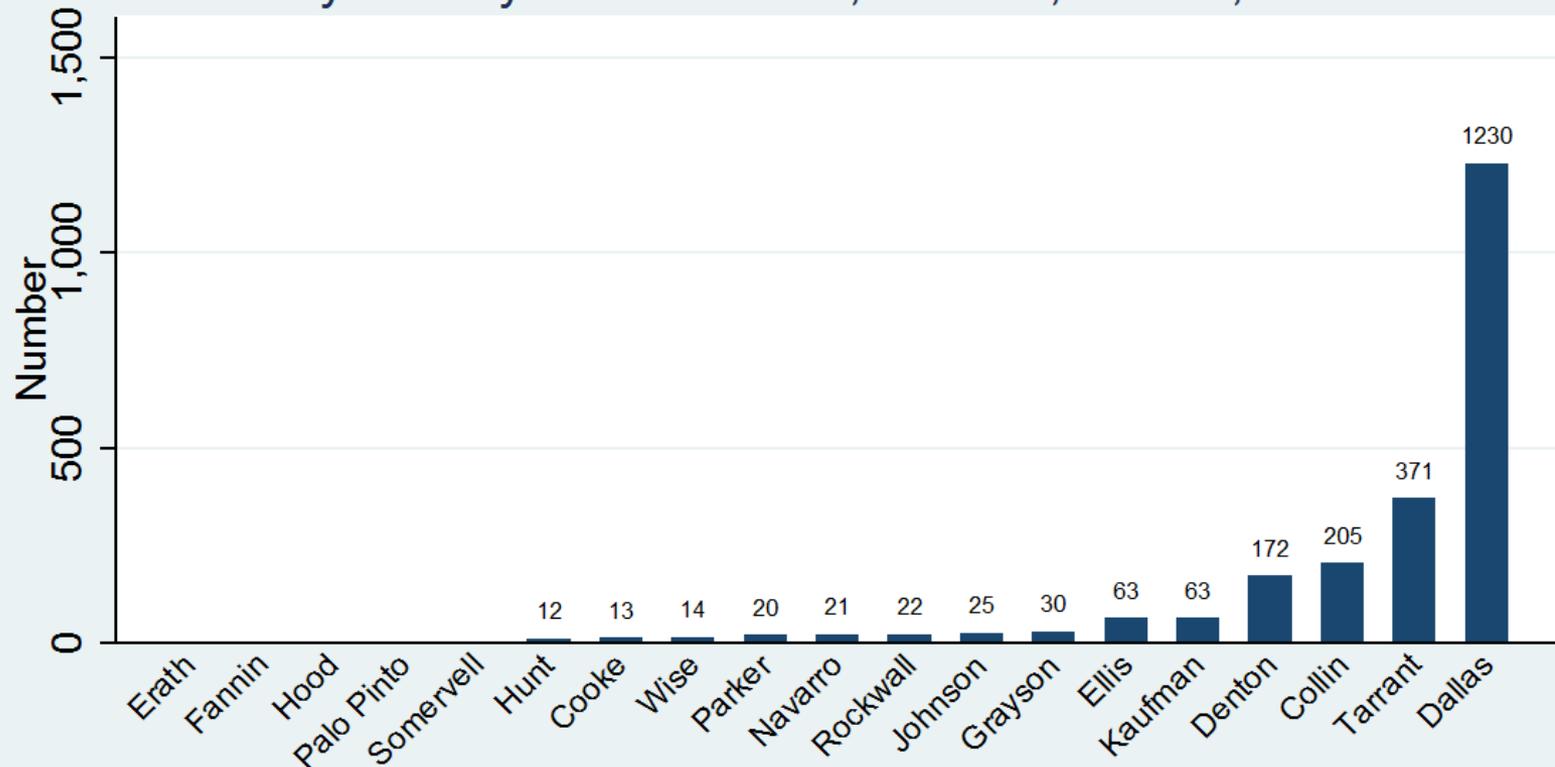
Rates are suppressed for counties in which fewer than 12 asthma hospital discharges were reported among children.

Results do not include HIV and drug/alcohol use patients.

Number of Hospital Discharges



Number of asthma hospital discharges among children by county of residence, PHR 3, Texas, 2011



NOTE: In 2011, the number of asthma hospital discharges among children in Public Health Region 3 was 2,286 and in Texas was 9,280.

Data Source: Texas Health Care Information Collection (THCIC), Inpatient Hospital Discharge Public Use Data File, 2011.

*Hospital records listing ICD-9 codes 493.0 - 493.9 as the principal diagnosis.

Number of discharges are suppressed for counties in which fewer than 12 asthma hospital discharges were reported among children. Results do not include HIV and drug/alcohol use patients.

- **Child asthma hospitalization rates were higher among boys and younger children in PHR 3 and Texas**
- **Asthma hospitalization rates among non-Hispanic black children were significantly higher than any other race/ethnic groups in PHR 3 and Texas**
- **Dallas County had the highest number of child asthma hospitalizations in PHR 3 and one of the highest child hospitalization rates for asthma**

BRFSS Child Asthma Call-Back Survey

TEXAS, 2006-2010

- **After completing the main BRFSS survey, adult respondents living with a child who has ever been diagnosed with asthma are called a few weeks later to answer specific questions about the child's asthma**
- **Survey results are representative of children in Texas who have ever been diagnosed with asthma**
- **Due to small sample size (even after combining 5 years of data), results cannot be analyzed at the region or county level**

Child Asthma Call-Back Survey Demographics

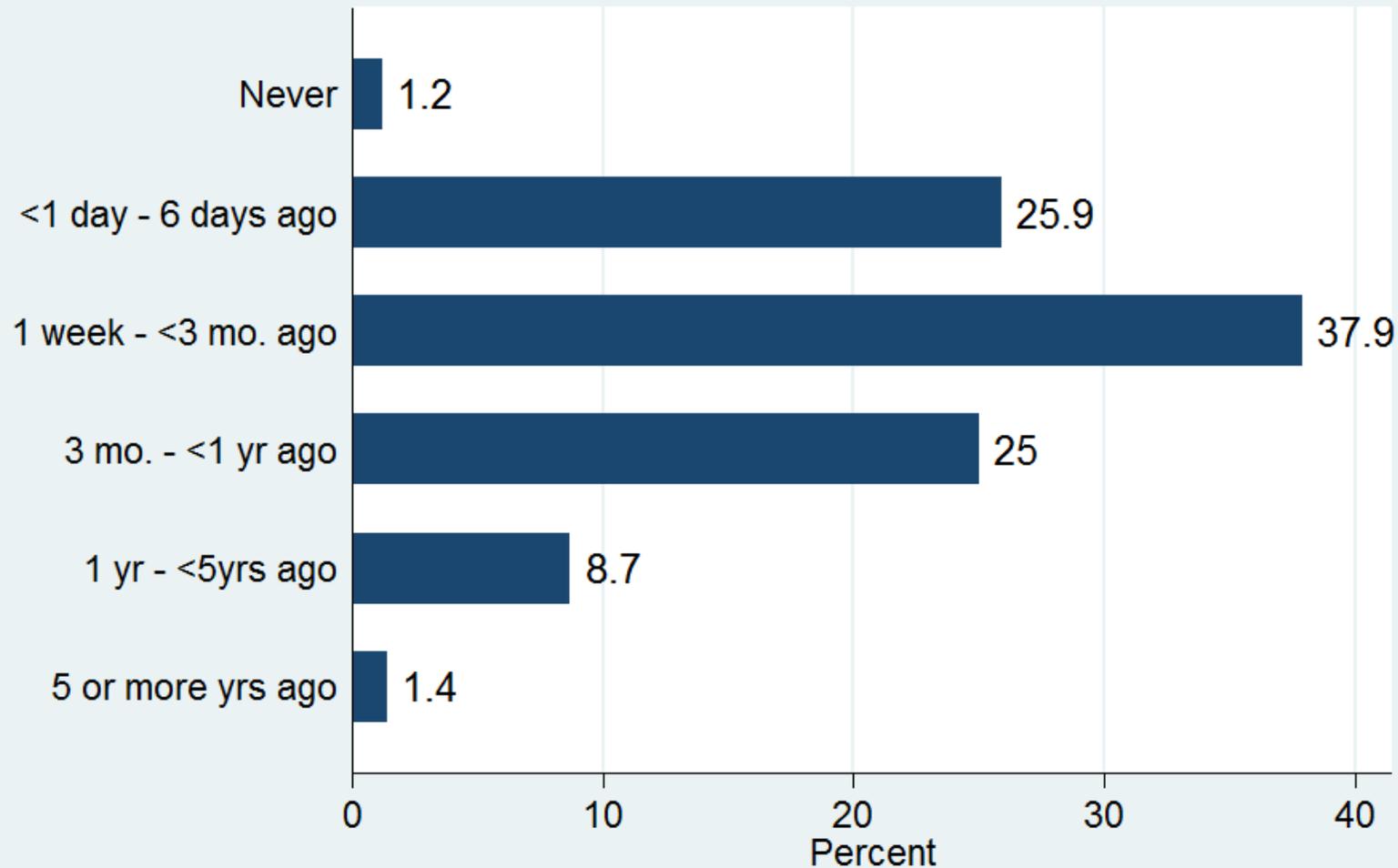


Demographics of children and adult respondents of the
Texas BRFSS Child Asthma Call-Back Survey, 2006-2010

Child characteristics	Weighted percent (%)
Age (years)	
0-4	35.9
5-11	36.4
12-17	27.7
Boy	60.4
Race/Ethnicity	
Non-Hispanic white	43.6
Non-Hispanic black	15.3
Hispanic	38.5
Other	2.6
Household Income	
<\$25,000	29.1
\$25,000-49,000	21.0
50,000 or more	42.2
Unknown	7.7
Insurance (yes)	90.8
Current flu vaccine	45.7
Someone smokes inside home	9.0
Current asthma	62.8
Active asthma	73.8
Adult respondent characteristics	
Education	
≤ HS graduate	39.8
Some college	26.9
College graduate	33.3
Current smoker	20.5

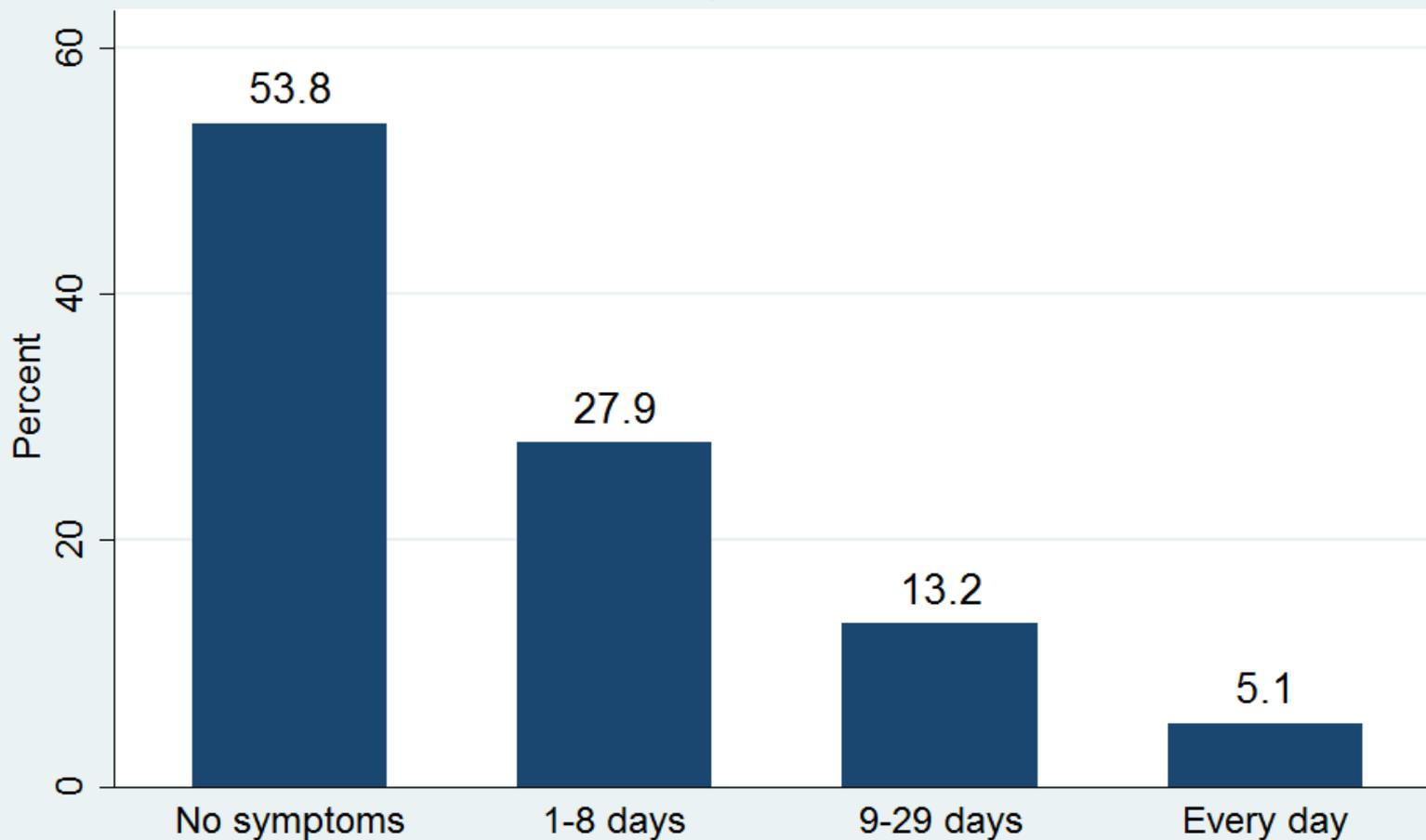
Asthma Symptoms

Last time had symptoms among children with current asthma, Texas, 2006-2010



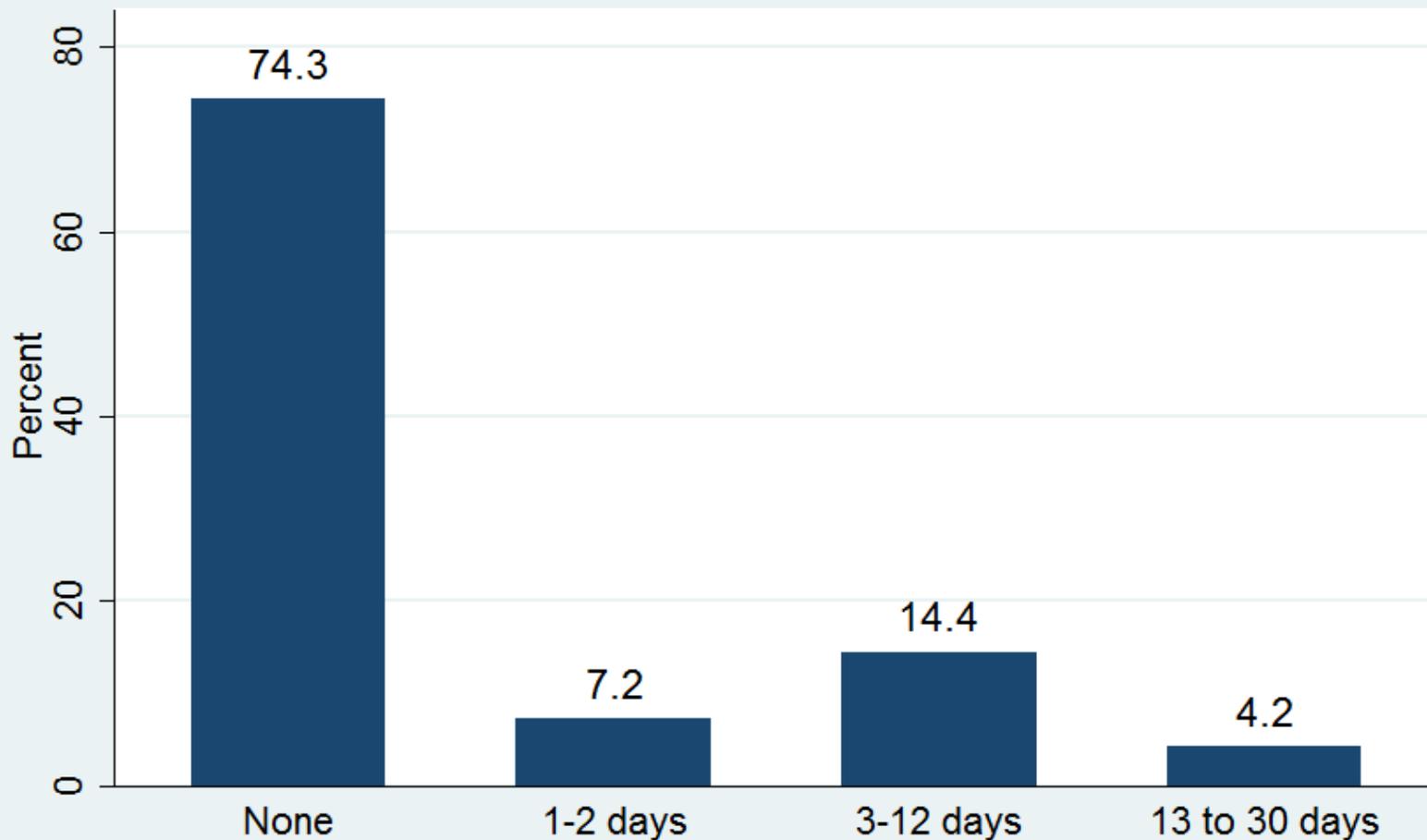
Asthma Symptoms

Number of days asthma symptoms experienced
in past 30 days among children with current asthma,
Texas, 2006-2010



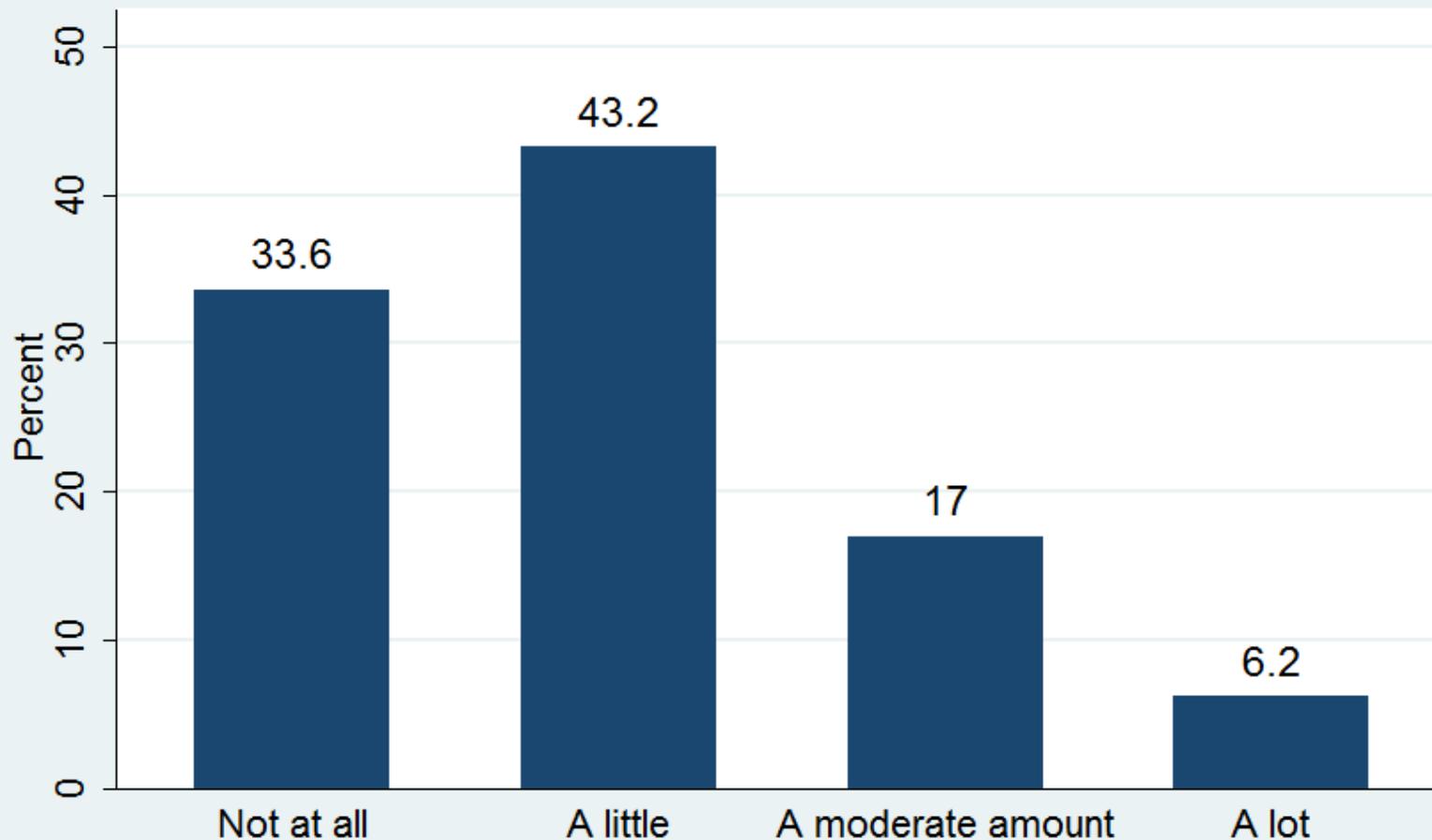
Asthma Symptoms

Nights asthma symptoms made it difficult to stay asleep in the past 30 days among children with current asthma, Texas 2006-2010

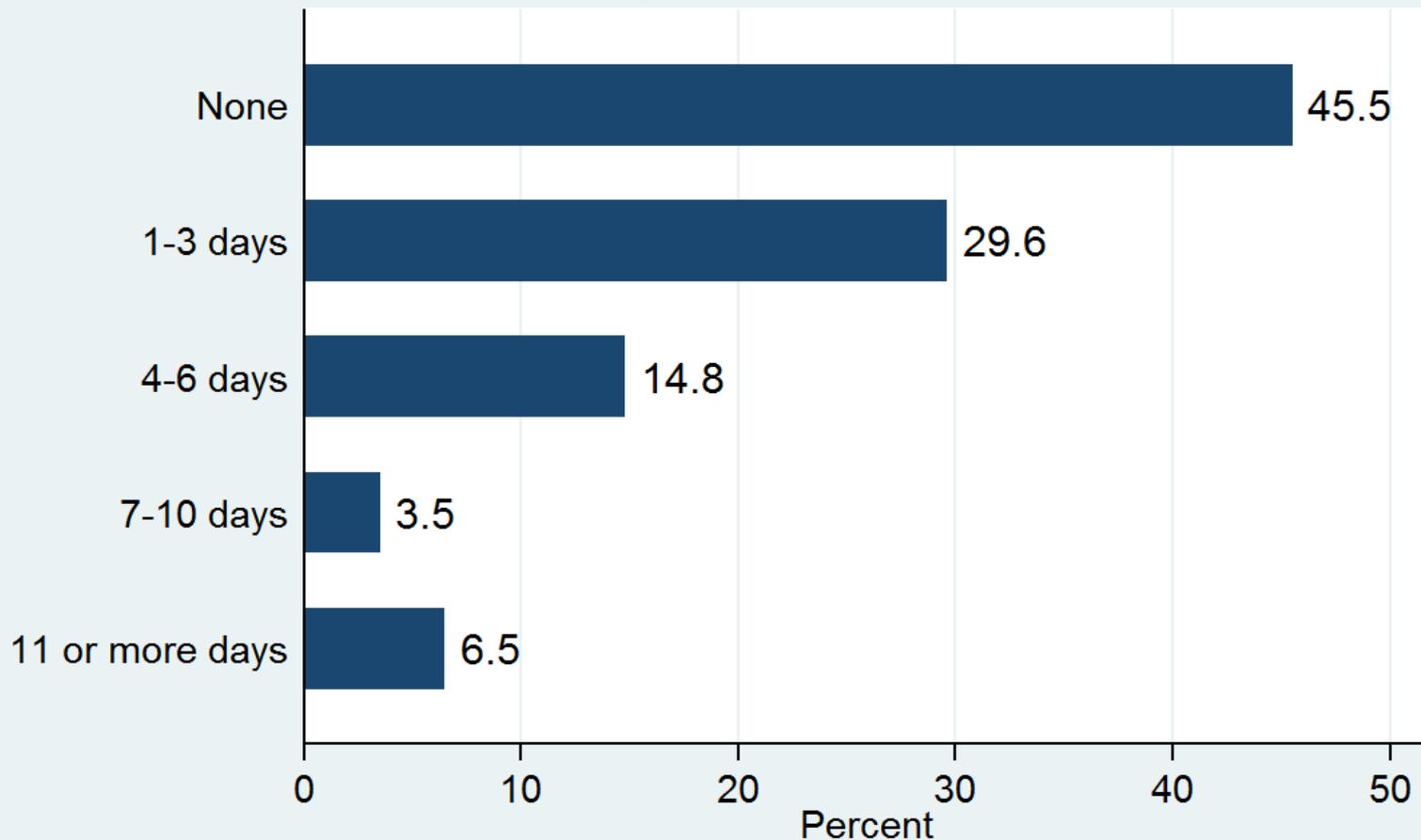


Asthma Symptoms

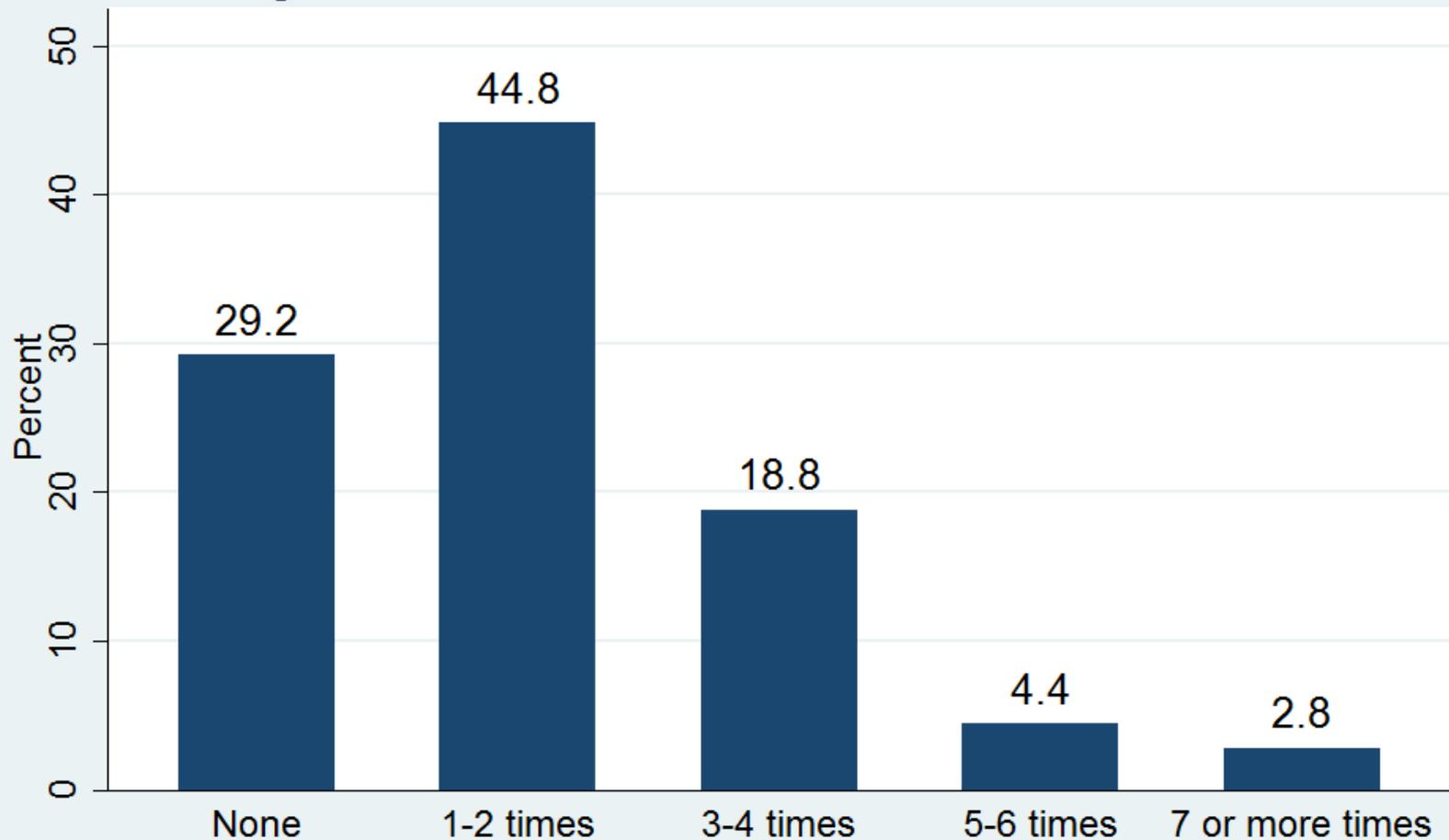
Prevalence of activity limitations due to asthma in past 12 months among children with current asthma, Texas, 2006-2010



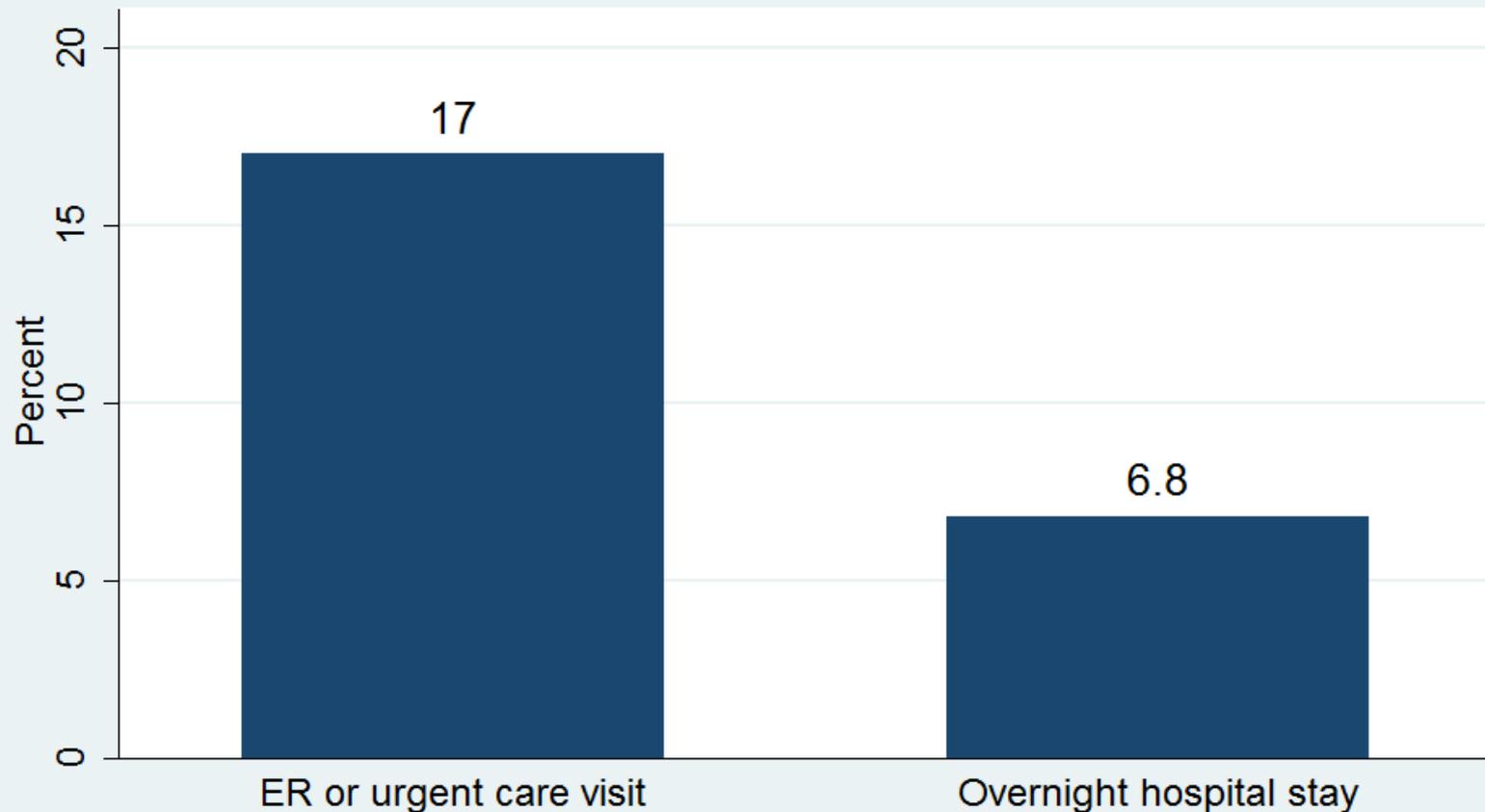
Number of days unable to attend school in past 12 months due to asthma among children with current asthma, Texas, 2006-2010



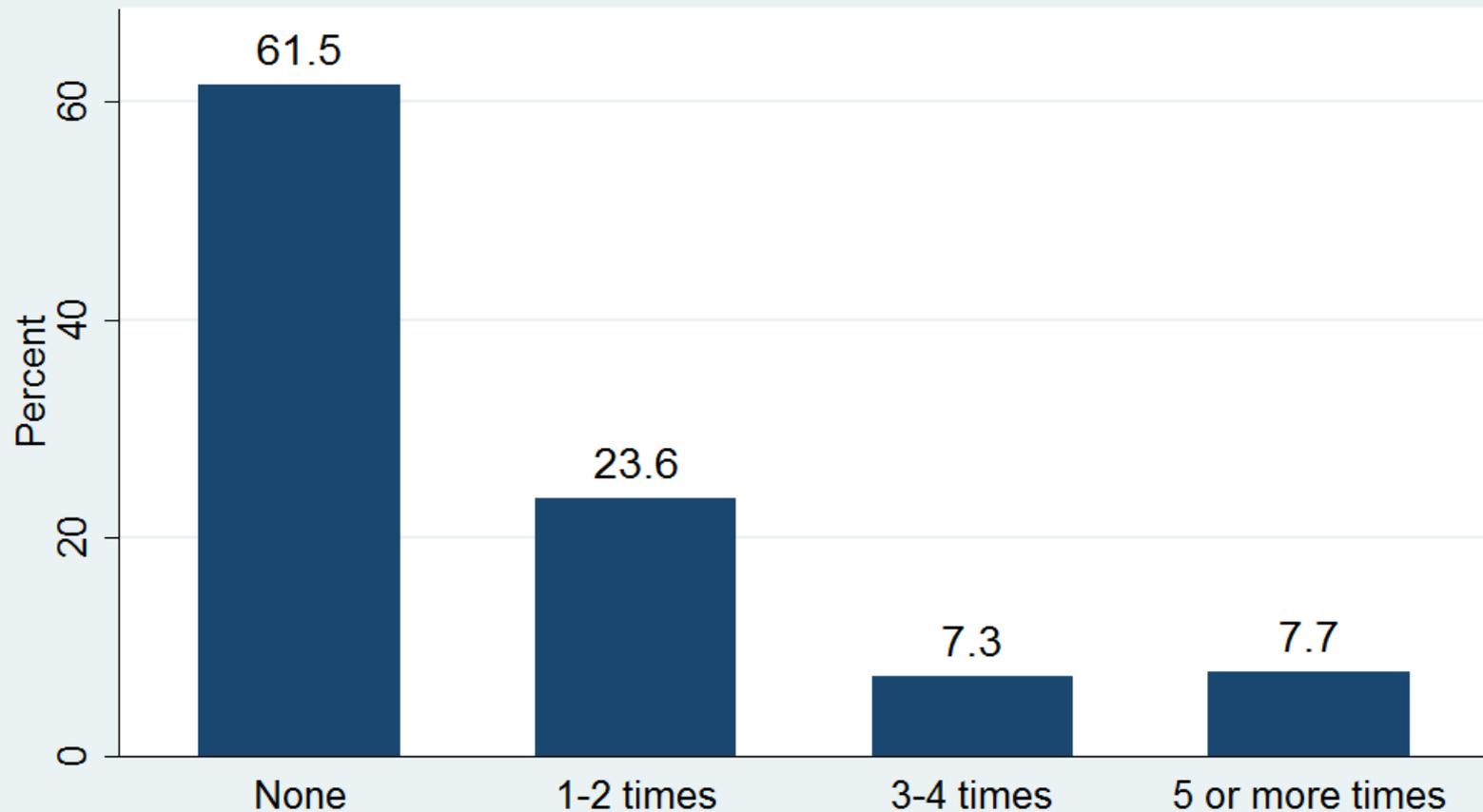
Prevalence of visiting a doctor or other health professional for routine checkup for asthma in the past 12 months among children with current asthma, Texas, 2006-2010



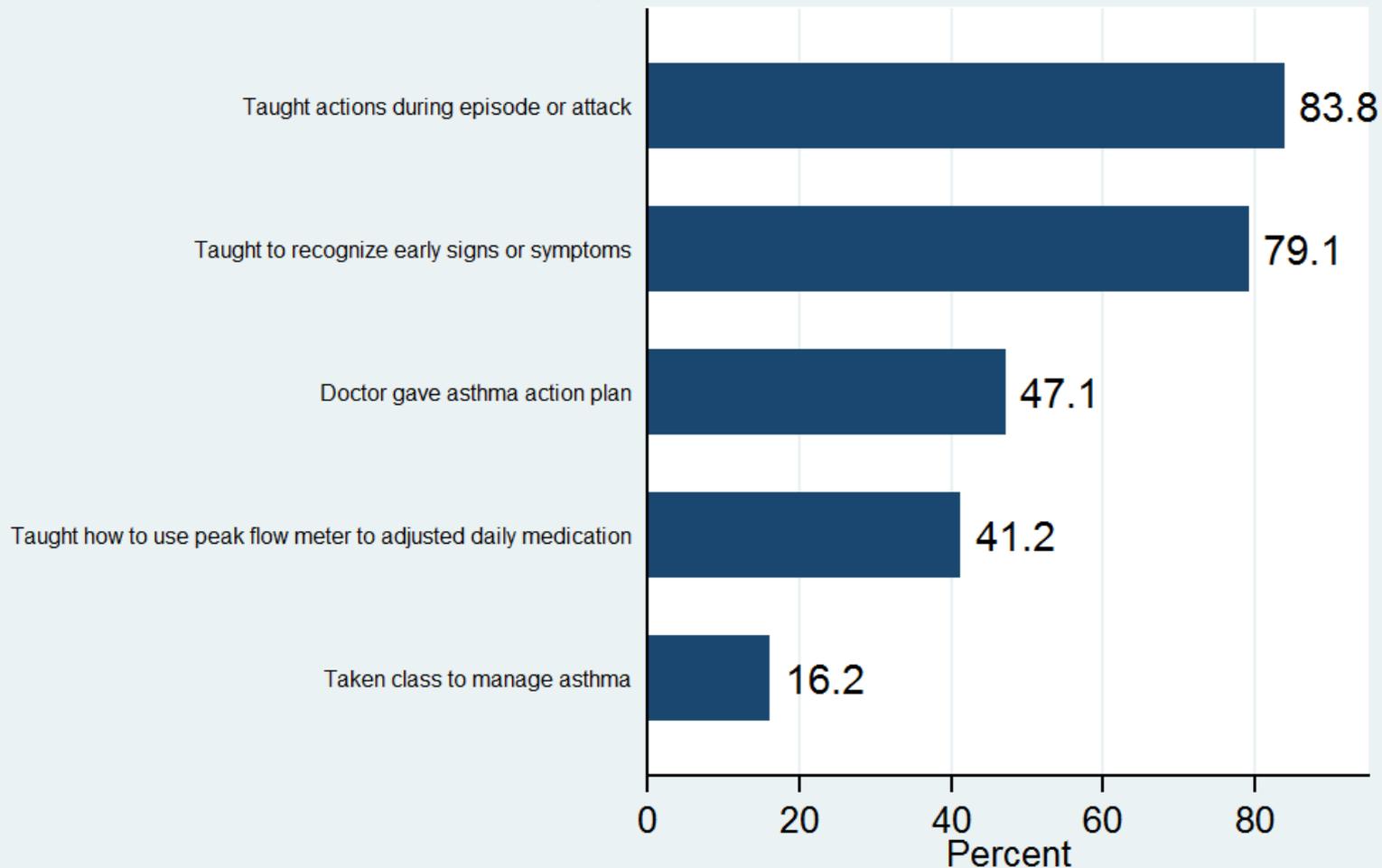
Prevalence of visiting the ER or an urgent care center, or an overnight hospital stay because of asthma in past 12 months among children with current asthma, Texas, 2006-2010



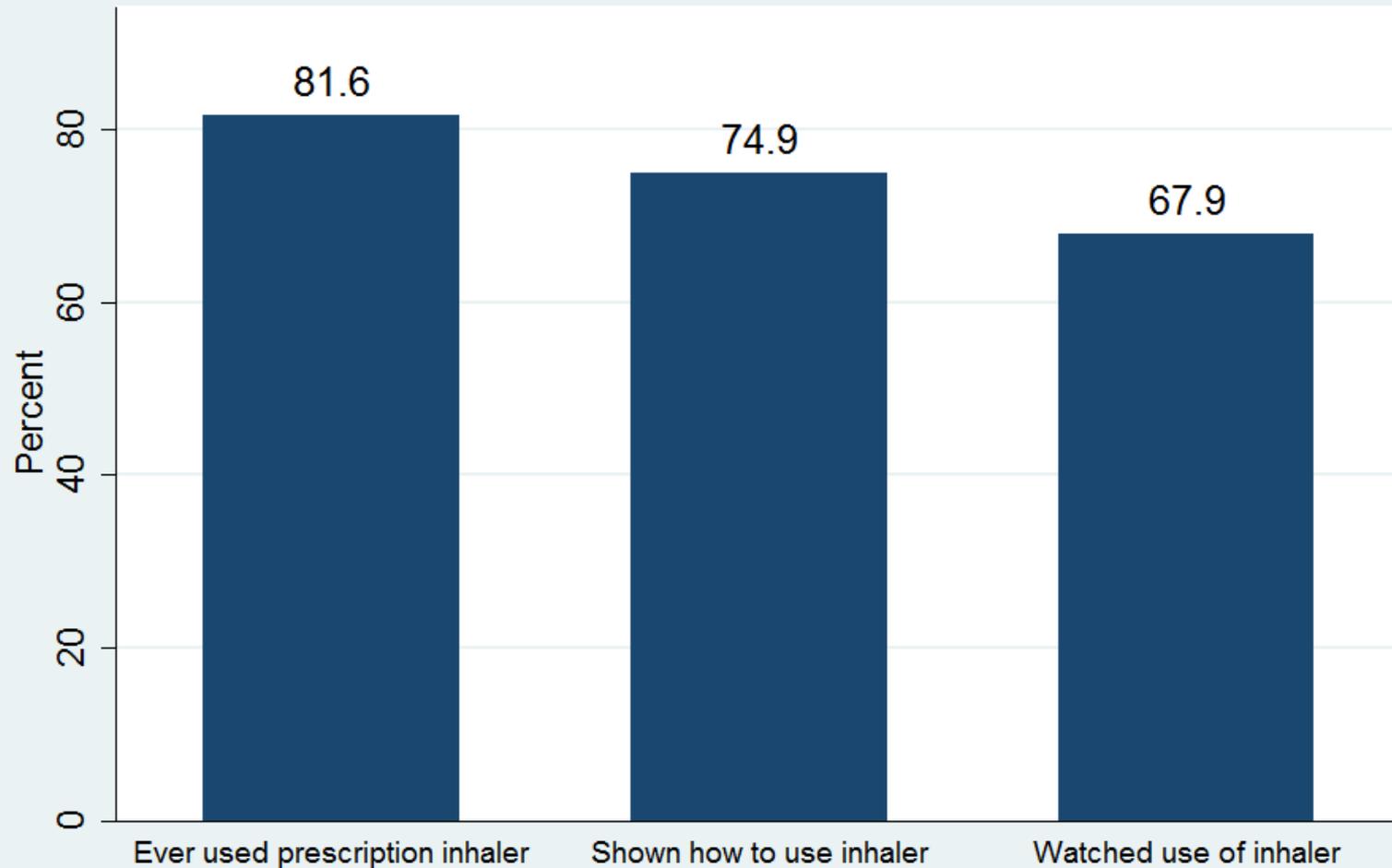
Prevalence of seeking urgent treatment for worsening asthma symptoms or an asthma episode or attack in past 12 months among children with current asthma, Texas, 2006-2010



Asthma education among children with current asthma, Texas, 2006-2010

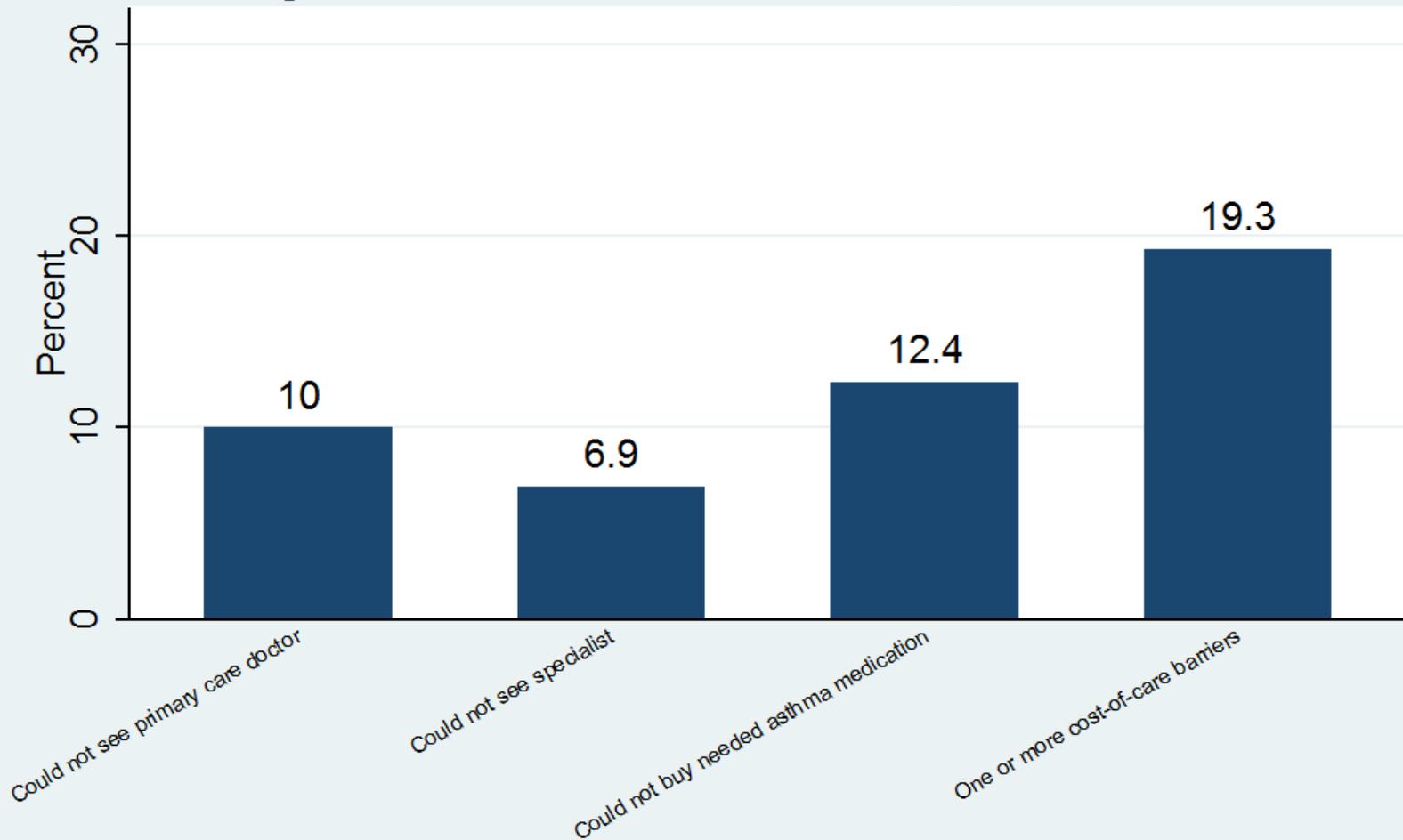


Inhaler use and education among children with current asthma, Texas, 2006-2010



Cost Barriers to Asthma Care

Prevalence of cost-of-care barriers in the past 12 months among children with current asthma, Texas, 2006-2010



Among children with current asthma:

- 89% experienced symptoms within the past 12 months
- 66% experienced some activity limitations
- 55% missed at least one school day in the past 12 months because of their asthma
- 29% had not visited a doctor for a routine checkup in the past 12 months
- 17% visited the emergency room or an urgent care center in the past 12 months because of their asthma

Among children with current asthma:

- 41% had been shown how to use a peak flow meter to adjust daily medication
- 47% had ever been given an asthma action plan by a doctor
- 82% have used a prescription inhaler, of whom, 93% have been shown how to use the inhaler
- 19% were unable to see a primary care doctor, see a referred asthma specialist, or buy needed asthma medication

- Asthma is more common among older children than younger children yet the rate of asthma hospitalization is much higher among young children
- Asthma hospitalization rates were significantly higher among non-Hispanic black children
- Dallas County has one of the highest child asthma hospitalization rates in PHR 3
- Most children with asthma have missed school because of their asthma
- 17% of children with asthma visited an ED or urgent care center for their asthma in the previous year
- Less than half of children with asthma had been given an asthma action plan by their doctor

Thank You.

Please contact me at:

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Texas Asthma Control Program website:

<http://www.dshs.state.tx.us/asthma/default.shtm>