

Vermont Department of Health

Asthma Data Pages 2012

Guidance • Support • Prevention • Protection

Vermont Department of Health
April, 2014

 VERMONT
DEPARTMENT OF HEALTH

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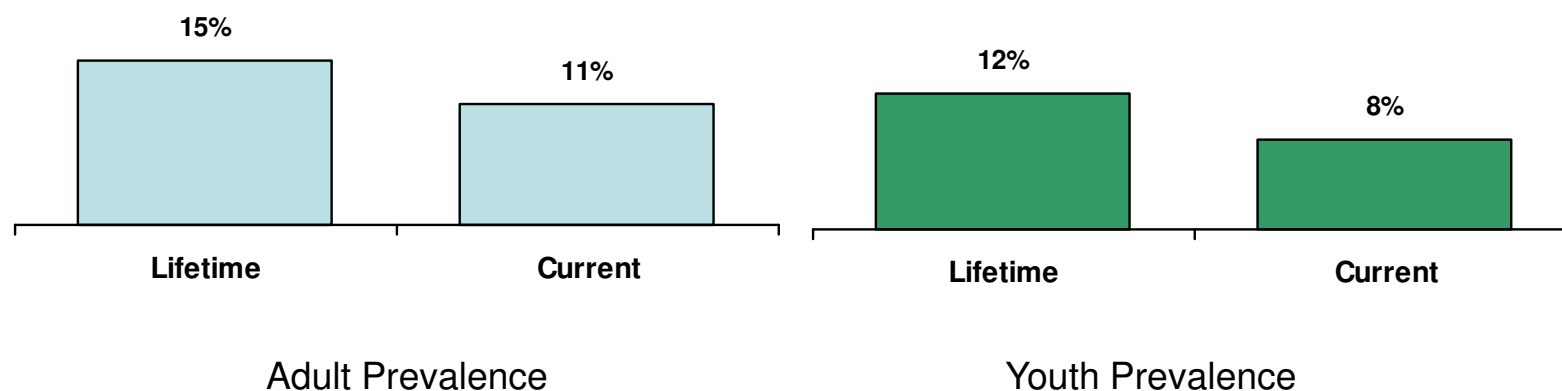
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Asthma Prevalence

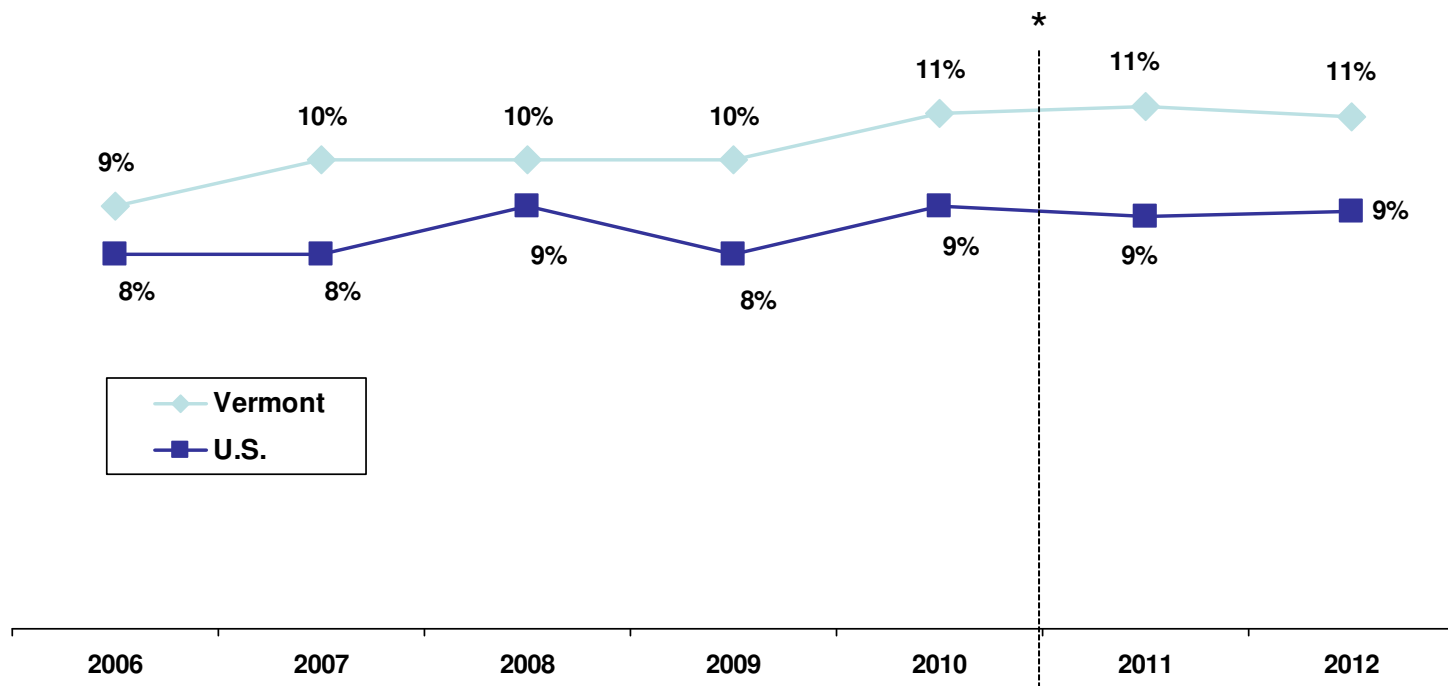
Asthma Prevalence In Vermont

In 2012, 11% of adult Vermonters reported having current asthma and 15% of adult Vermonters reported being diagnosed with asthma at some point in their lifetime. This equated to approximately 54,000 adult Vermonters with current asthma in 2012. One in 12 children in Vermont had current asthma in 2011, which equates to approximately 10,000 children.



Asthma Prevalence Among Adults

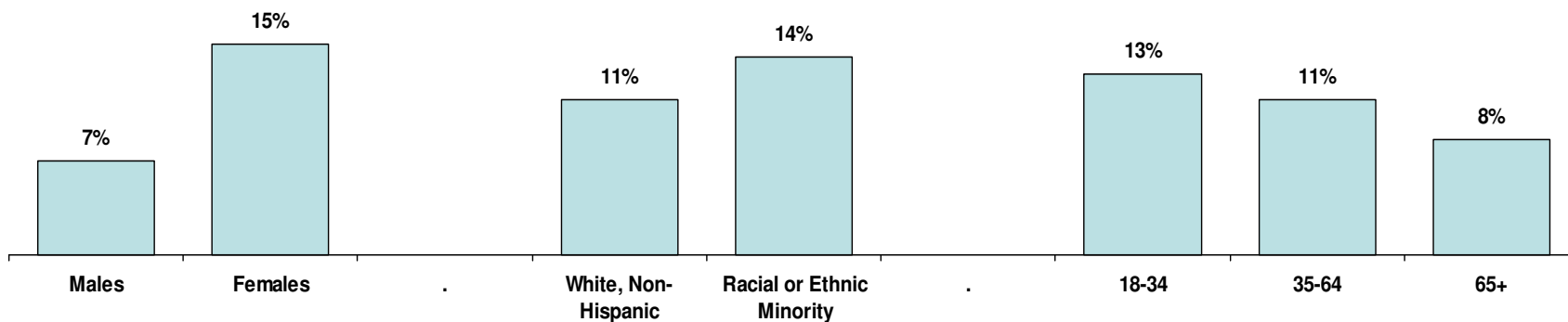
From 2007-2012, the prevalence of asthma in adult Vermonters has been significantly higher than the adult asthma prevalence in the U.S.



* Due to weighting methodology changes beginning in 2011, comparisons between data collected in 2011 and later and that from 2010 and earlier should be made with caution.

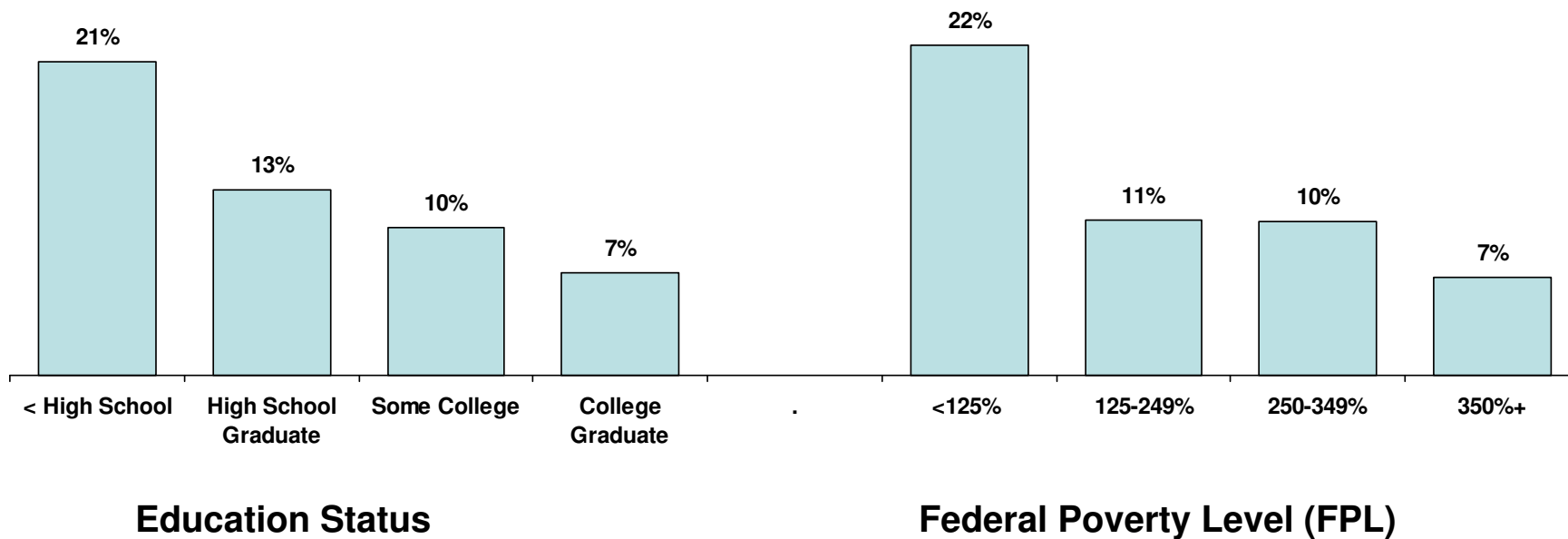
Asthma Prevalence Among Adults

Women had a significantly higher prevalence of current asthma compared to men. Adults 65 years of age and older had significantly lower prevalence of current asthma than ages 18-34.



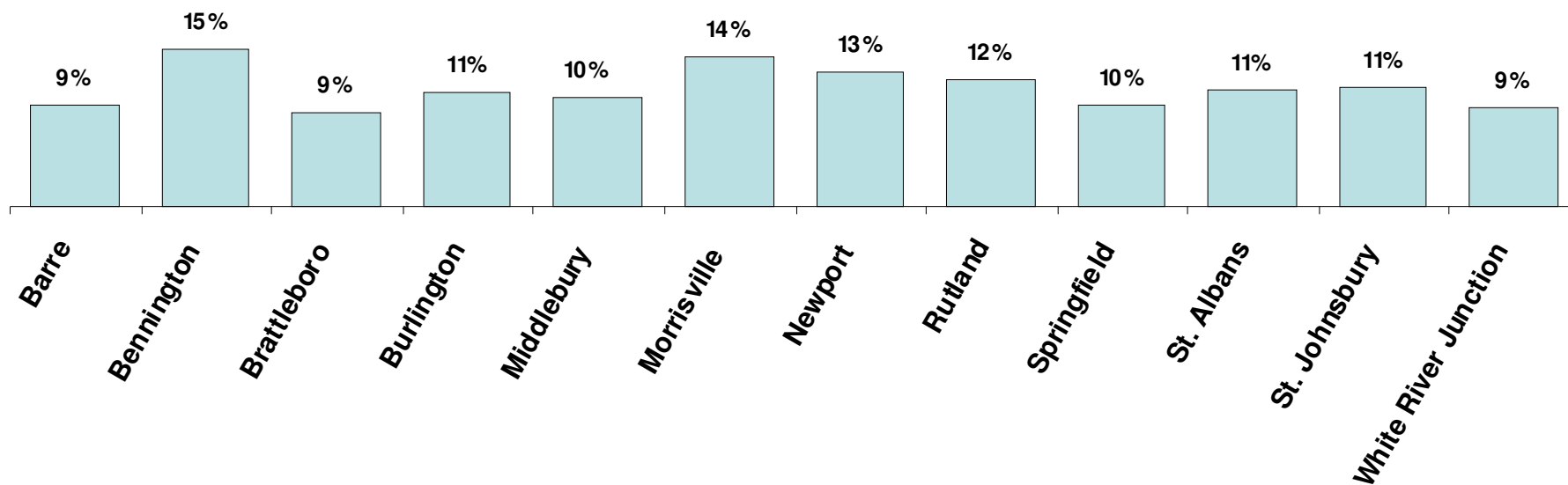
Adult Asthma Prevalence by Education and Income

Adults that did not graduate from high school had a significantly higher prevalence of current asthma than Vermonters with higher levels of education. Adults with a household income closer to the federal poverty level (FPL < 125%) had a significantly higher prevalence of current asthma than those with higher levels of household income.



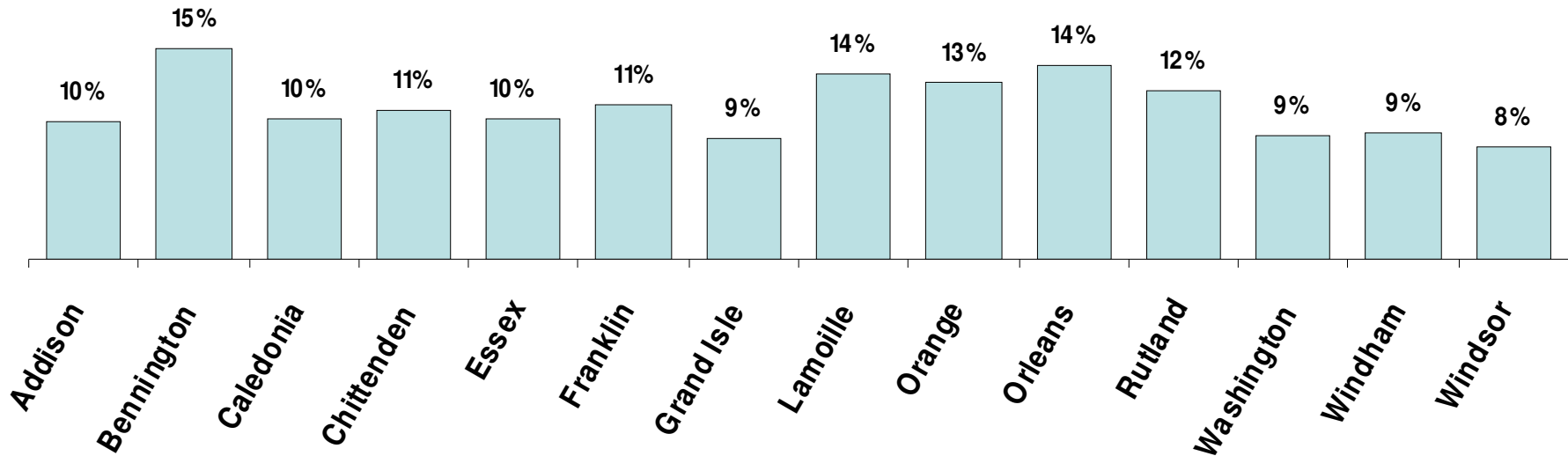
Adult Asthma Prevalence by District Office

The prevalence of current asthma in adult Vermonters ranged from 9% at the Barre, Brattleboro and White River Junction District Offices to 15% at the Bennington District Office (DO). There were no statistically significant differences in current asthma prevalence by DO and the current asthma prevalence of the state.



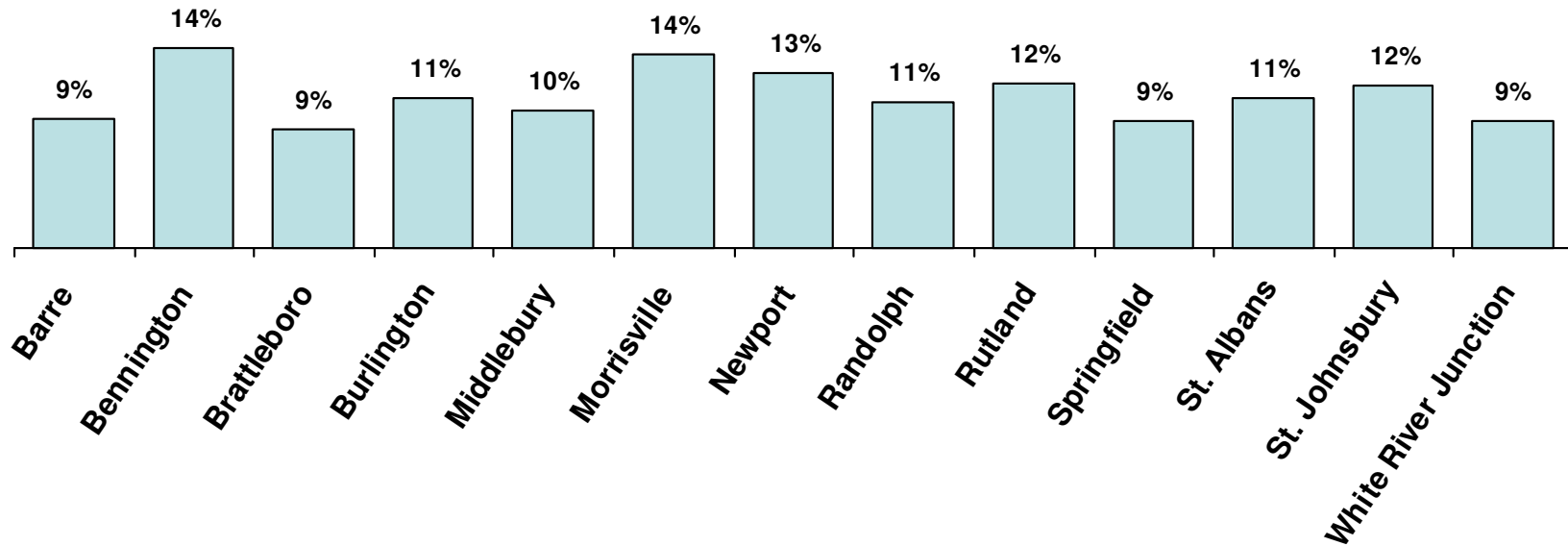
Adult Asthma Prevalence by County

Current asthma prevalence ranged from 8% in Windsor County to 15% in Bennington county. None of the counties had a statistically significant difference in current asthma prevalence when compared to the state prevalence.



Adult Asthma Prevalence by Hospital Service Area

Current asthma prevalence of adult Vermonters ranged from 9% in the Barre, Brattleboro, Springfield, and White River Junction hospital service areas (HSAs) to 14% in the Bennington and Morrisville HSAs. The asthma prevalence in each of the HSAs did not significantly differ from the statewide prevalence.



Asthma Morbidity

Quality of Life

Activity Limitation

In 2011, two-thirds of adults and youths indicated their daily activities were at least a little limited by asthma.

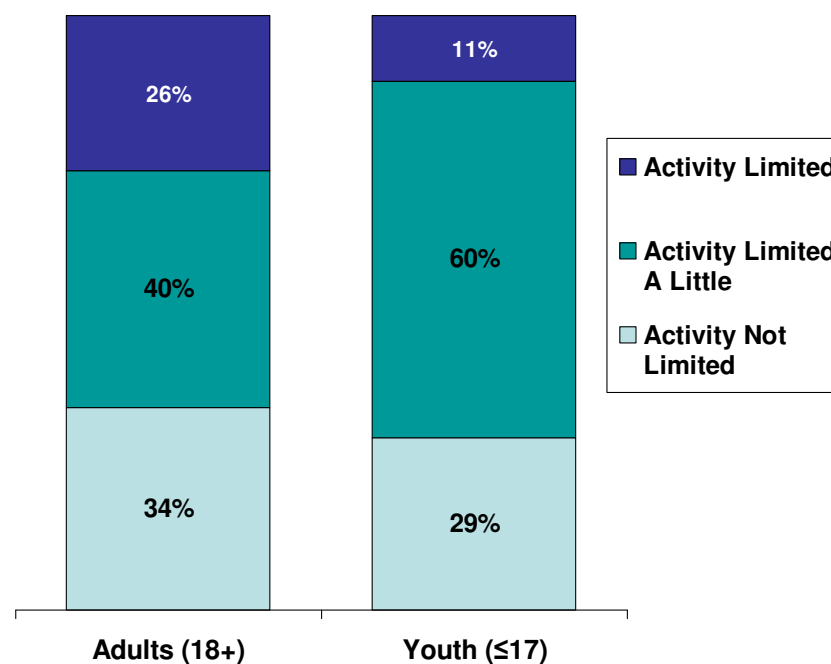
Sleep

Among adults with current asthma, 26% reported that symptoms made it difficult for them to sleep on one or more nights in the past month.

Absenteeism

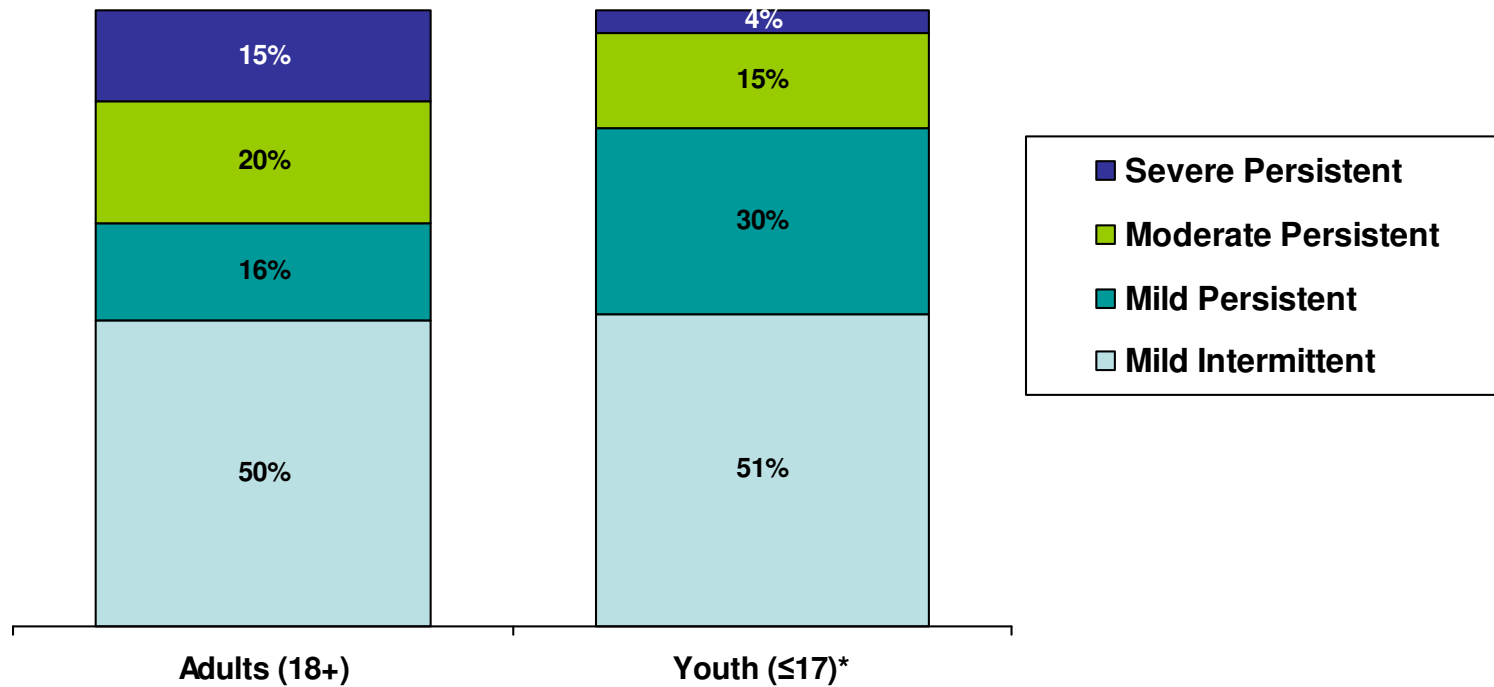
Approximately one quarter of adults reported missing at least one day of work in the past year due to their asthma (28%). In 2010, nearly half of school-aged youths missed school at least once in the past year because of their asthma (46%).

Activity Limitations Among Those with Current Asthma



Quality of Life - Asthma Severity

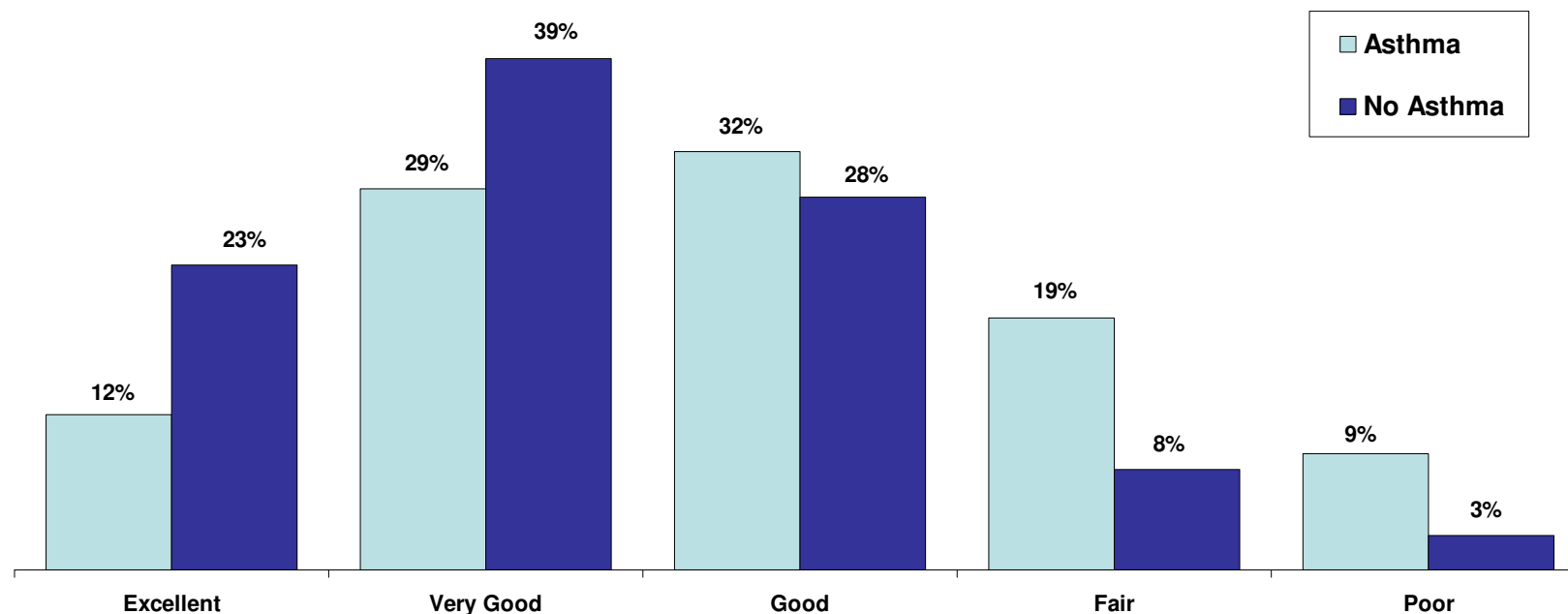
Approximately half of adults and youths with current asthma reported that their asthma was mild and intermittent. A third of adults and one out of five youths reported either moderate or severe asthma.



*Due to small numbers, youth data includes 2009-2010 data

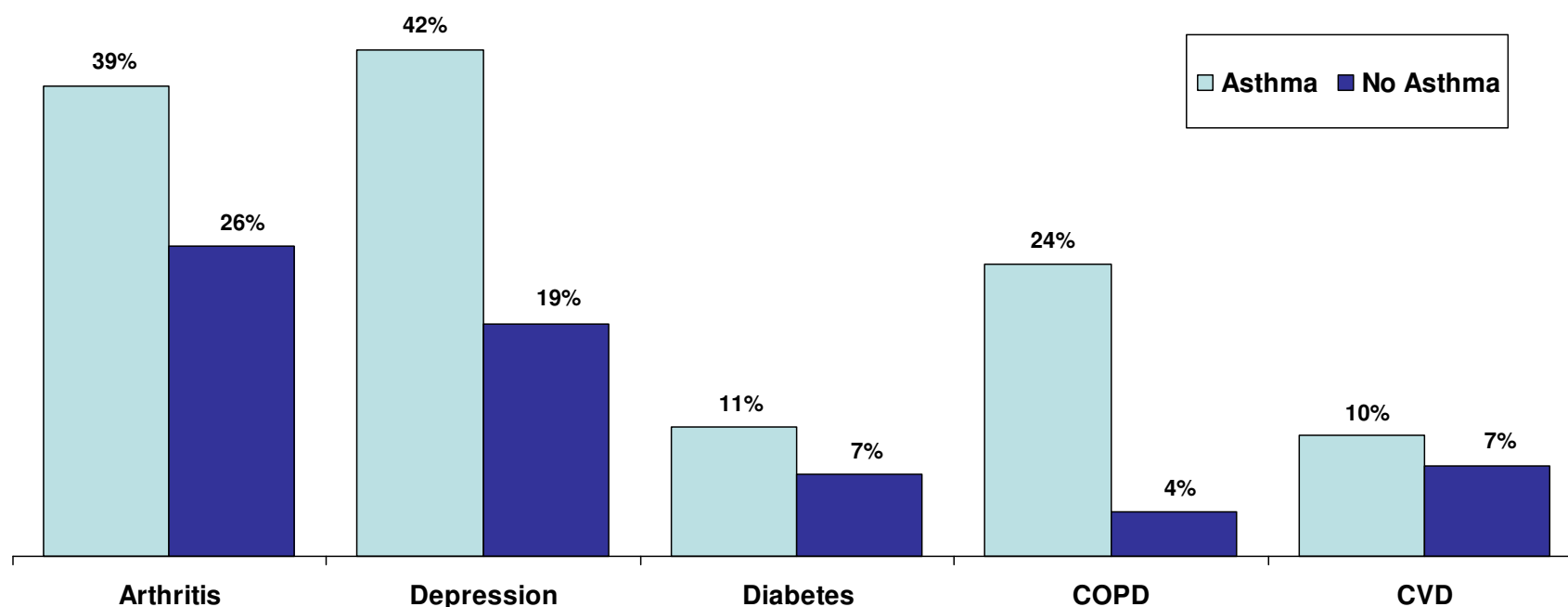
Asthma and Overall Health Status

Adults with current asthma were significantly less likely to rate their health as excellent or very good and more likely to rate their health as fair or poor and when compared to adults that do not have asthma.



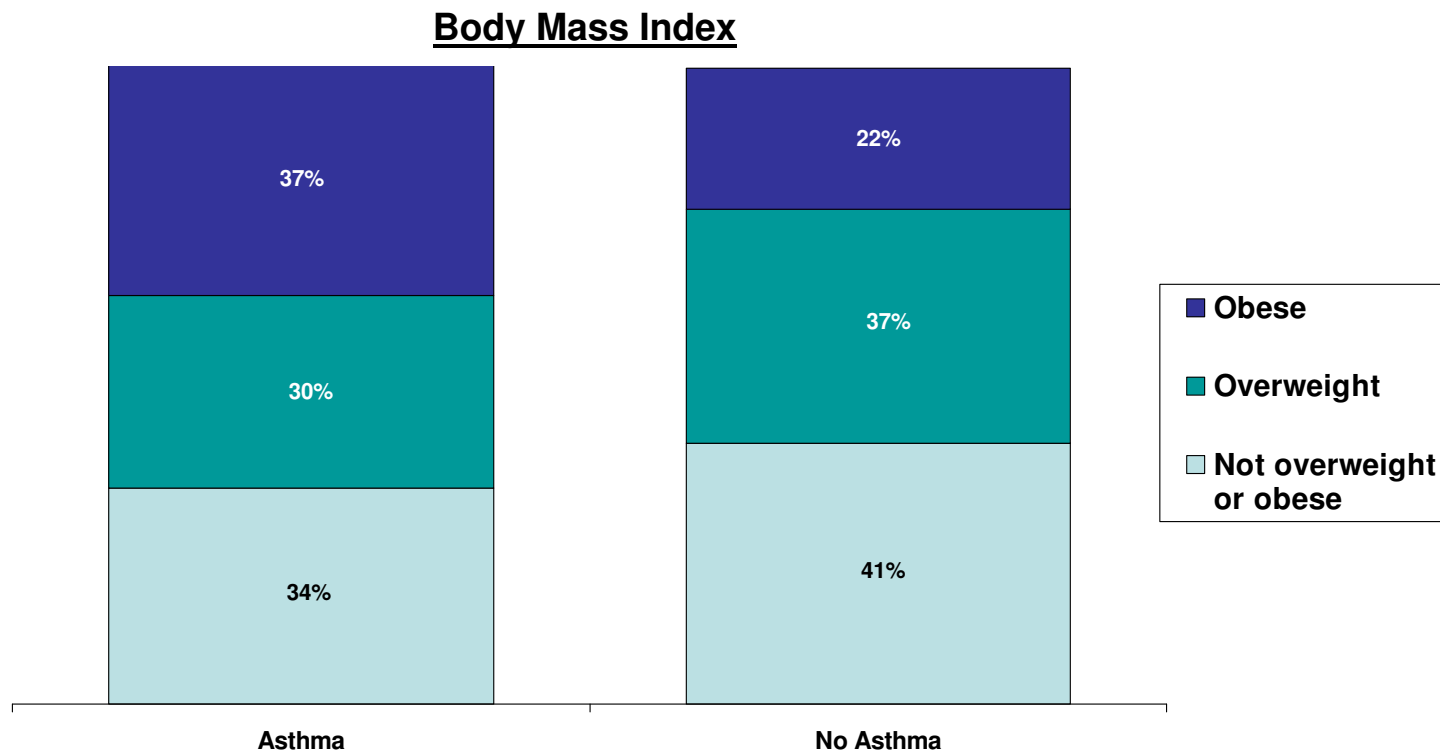
Adult Asthma Co-Morbidities

Those with current asthma were significantly more likely to report arthritis, depression, diabetes, and chronic obstructive pulmonary disease (COPD) than those without asthma. There were no significant differences in cardiovascular disease (CVD) rates based on current asthma status.



Adult Asthma Comorbidities

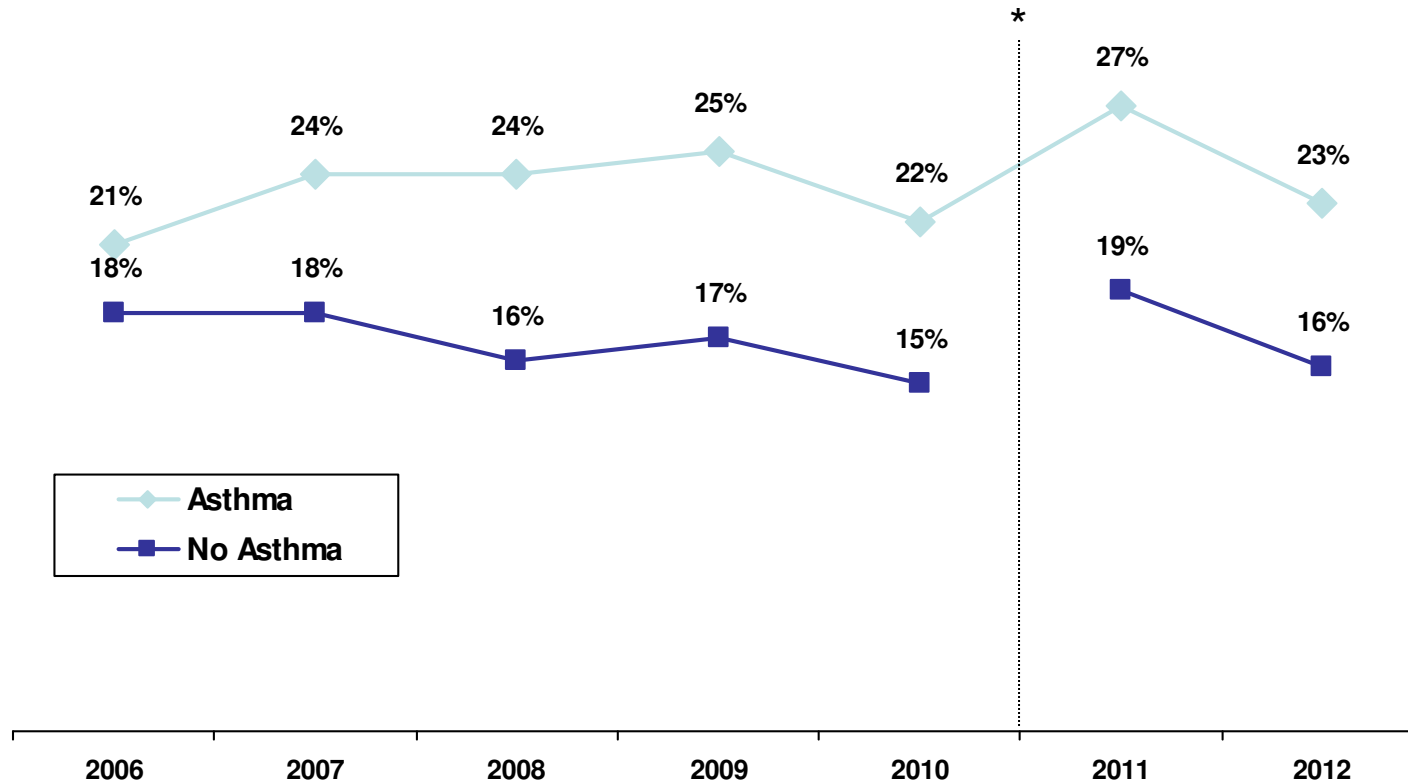
Vermont adults with current asthma were significantly more likely to be obese than those without asthma.



Asthma Risk Factors

Asthma Risk Factors – Smoking Prevalence

In the past several years, there has been a higher prevalence of smoking among adult Vermonters with current asthma than adults that do not have asthma. For each year since 2007, adult Vermonters with current asthma were significantly more likely to smoke than adults without asthma.

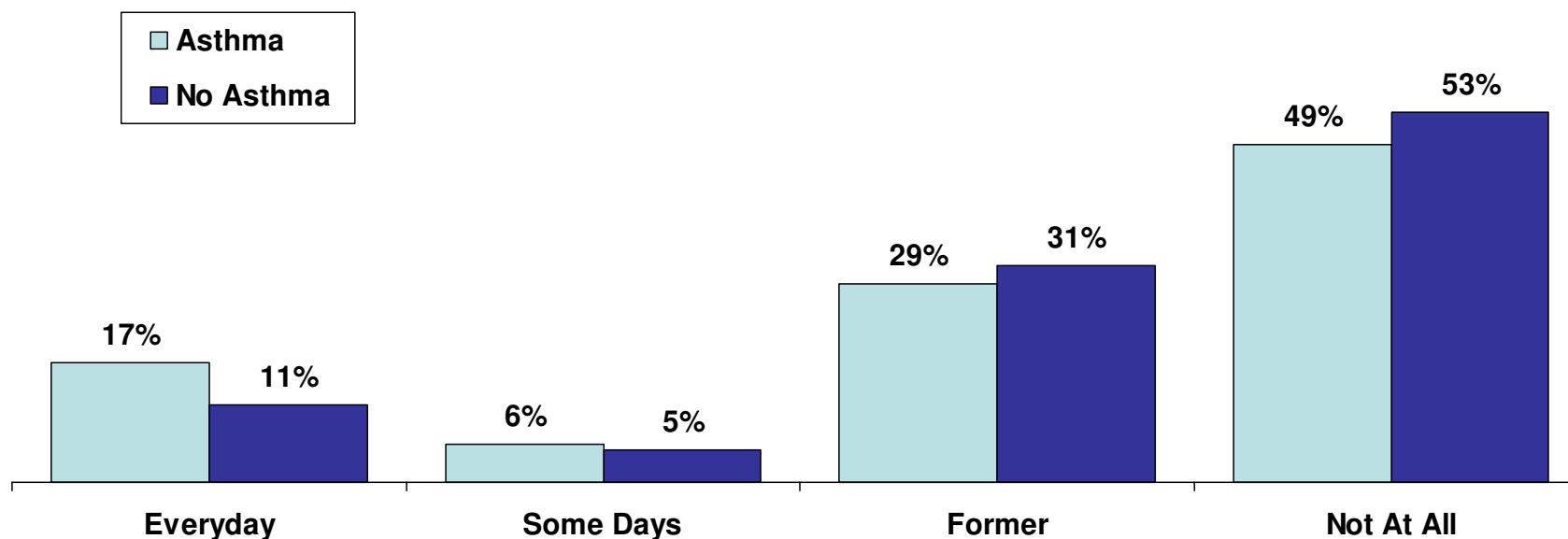


Source: Behavioral Risk Factor Surveillance System, 2006-2012; Data are age adjusted to the 2000 U.S. standard population.

* Due to change in survey methodology, comparisons between data collected in 2011 and later and that from 2010 and earlier should be made with caution. 18

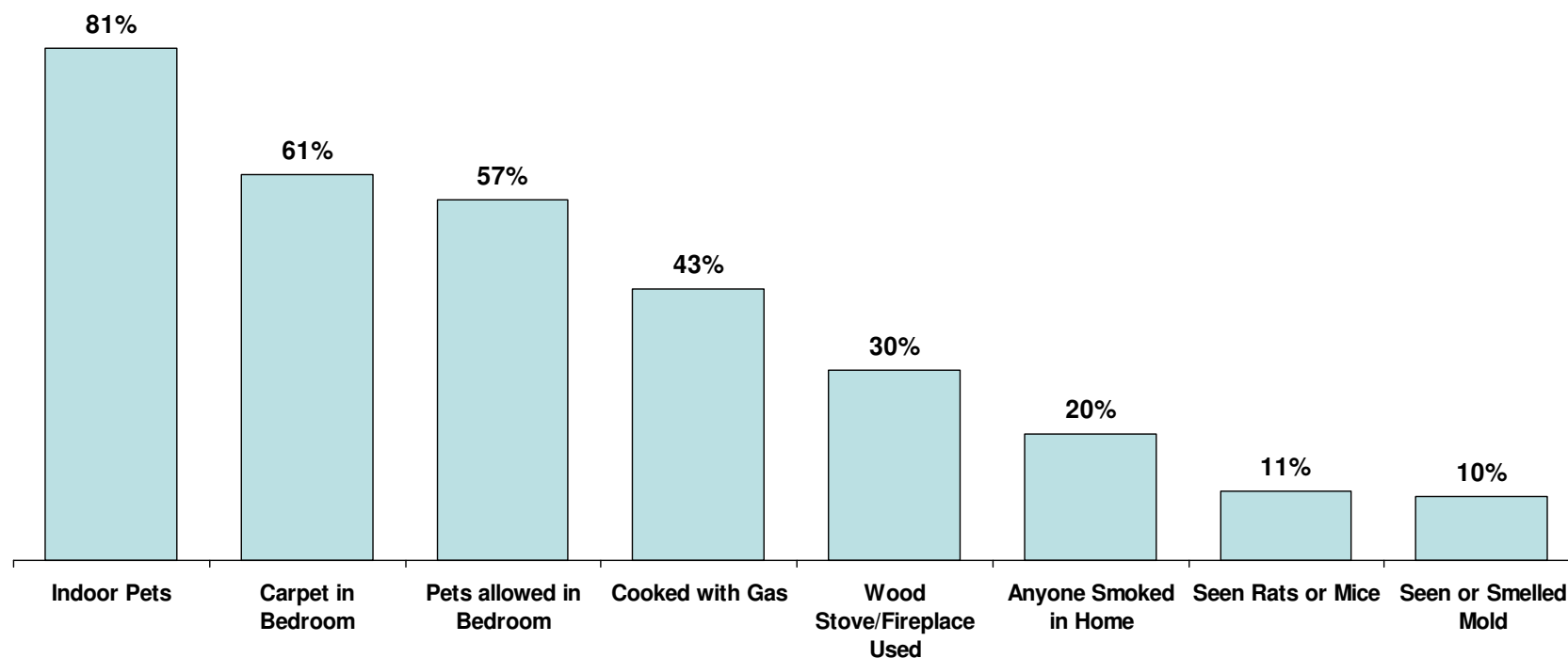
Asthma Risk Factors - Smoking

Adults with current asthma were significantly more likely to smoke everyday than adults that did not have asthma (17% and 11% respectively). Though not statistically significant, the number of quit attempts, where one stops smoking for at least a day, was higher among adults with current asthma (74%) than adults without asthma (62%).



Asthma Risk Factors - Individual Triggers at Home

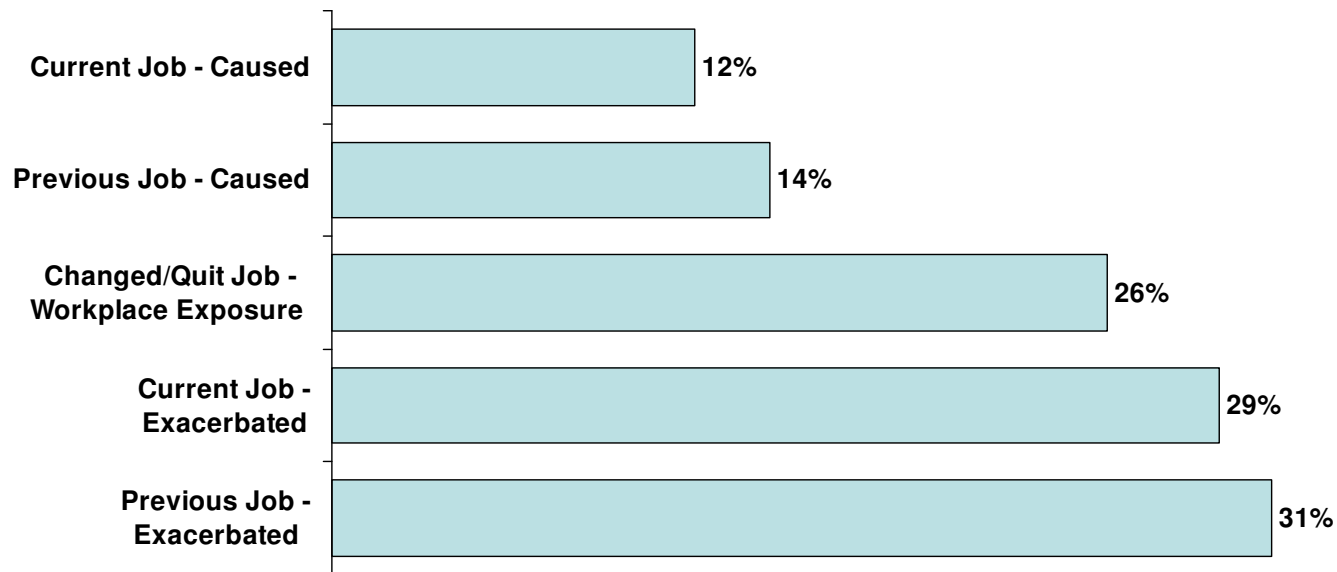
In 2011, the most common environmental trigger among adults was having an indoor pet. Carpeting in one's bedroom and allowing pets in the bedroom were also common with more than half of adults with current asthma reporting each respective trigger. The least common trigger was having seen or smelled mold.



Asthma Risk Factors - Workplace Exposure

In 2011, 12% of Vermont adults with asthma indicated they believe their asthma was caused by chemicals, smoke, fumes, or dust at their current workplace. Another 29% believe their asthma was made worse by these factors in their current job. Among adults with current asthma, 26% reported quitting a job due to workplace factors they believed caused their asthma or made it worse.

Despite the relatively high percentage of adults who reported issues with workplace exposures and asthma exacerbation, only 13% had told a doctor they believed their asthma was related to work and only 11% had actually been told by a doctor that their asthma was related to their work.

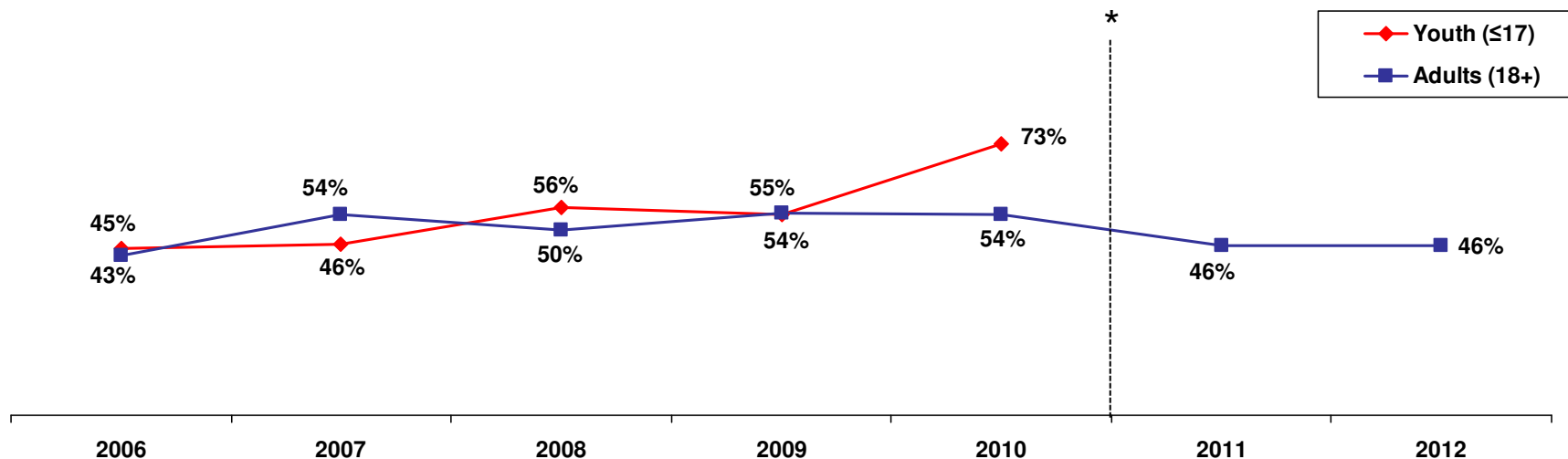


Asthma Risk Factors - Immunization

In 2012, approximately half of adults with current asthma (46%) had a flu shot/spray within the previous year. Among youths with current asthma in 2010, 73% had a flu vaccination within the previous year.

Adults with asthma were significantly more likely to receive a pneumonia vaccine (46%) when compared to adults without asthma (29%) in 2012.

Flu Vaccine in the Past Year - Current Asthma



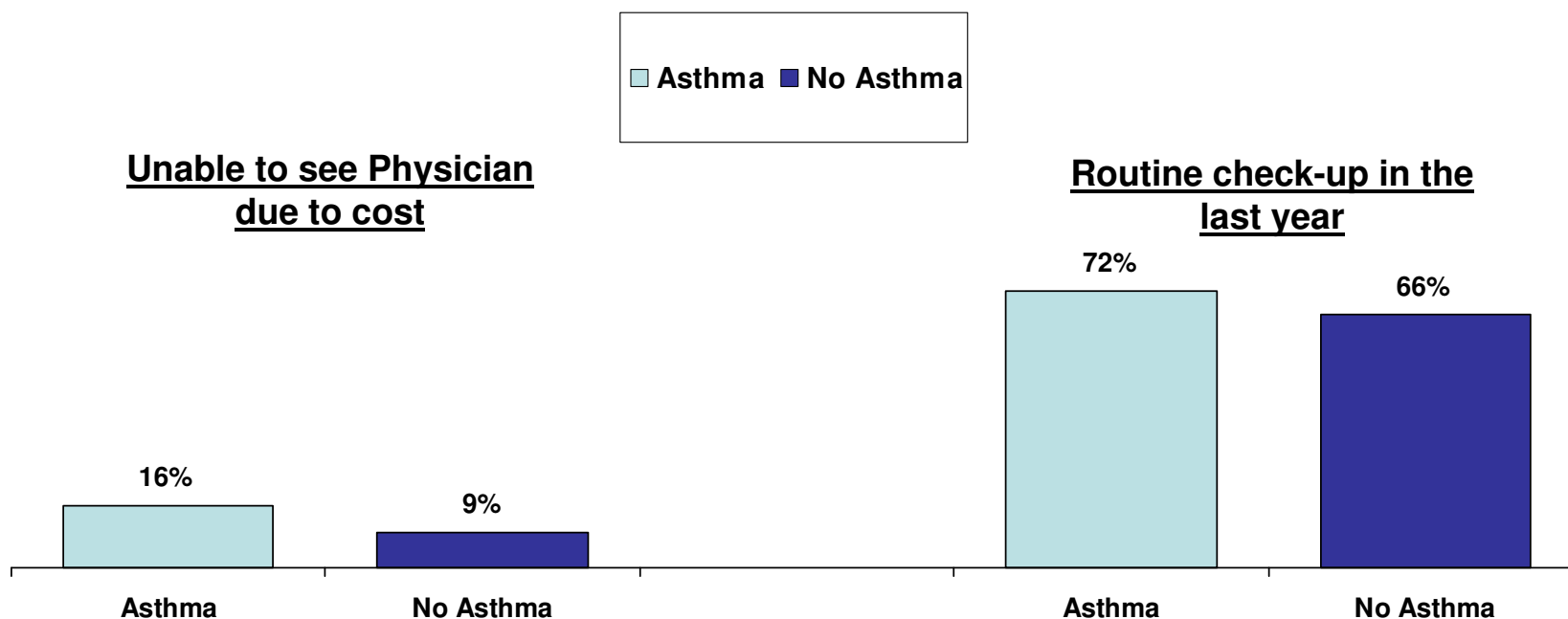
Source: Behavioral Risk Factor Surveillance System, 2006-2012 and Youth Asthma Callback Survey, 2006 – 2010

* Due to change in survey methodology, comparisons between data collected in 2011 and later and that from 2010 and earlier should be made with caution. 22

Self and Clinical Care Management

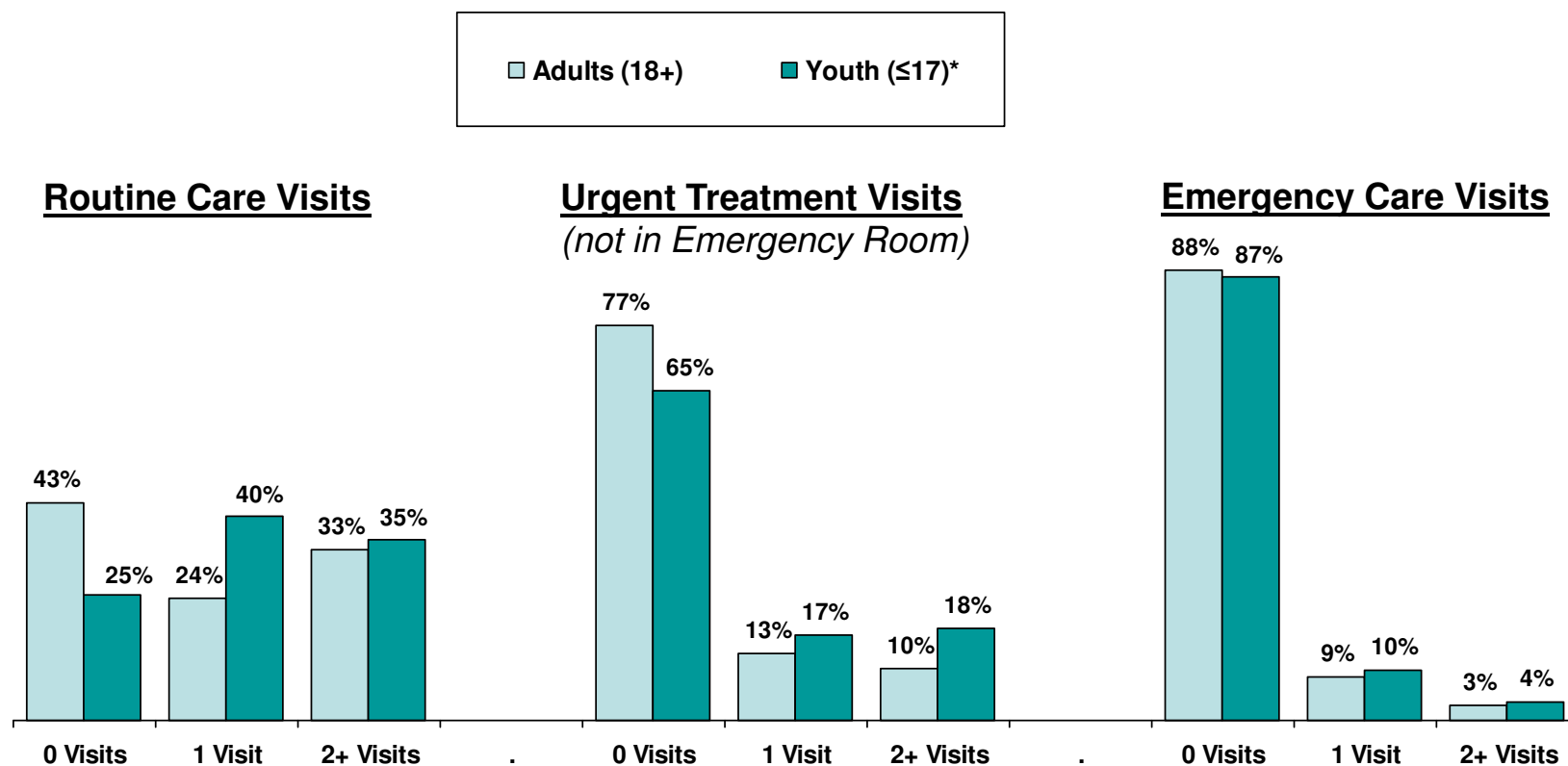
Health Care and Health Insurance

In 2012, 92% of adults with current asthma reported they had some type of health care coverage, which could include private insurance or government plans such as Medicare. Adults with current asthma were significantly more likely to report that they could not see a physician because of cost. Approximately 3 out of 4 adults with current asthma had a routine check-up in the last year.



Asthma Management – Clinical Care

Compared to adults, a higher proportion of youth had one or more routine or urgent care visits. Nine out of ten adults and youths did not need an emergency care visit for their asthma.

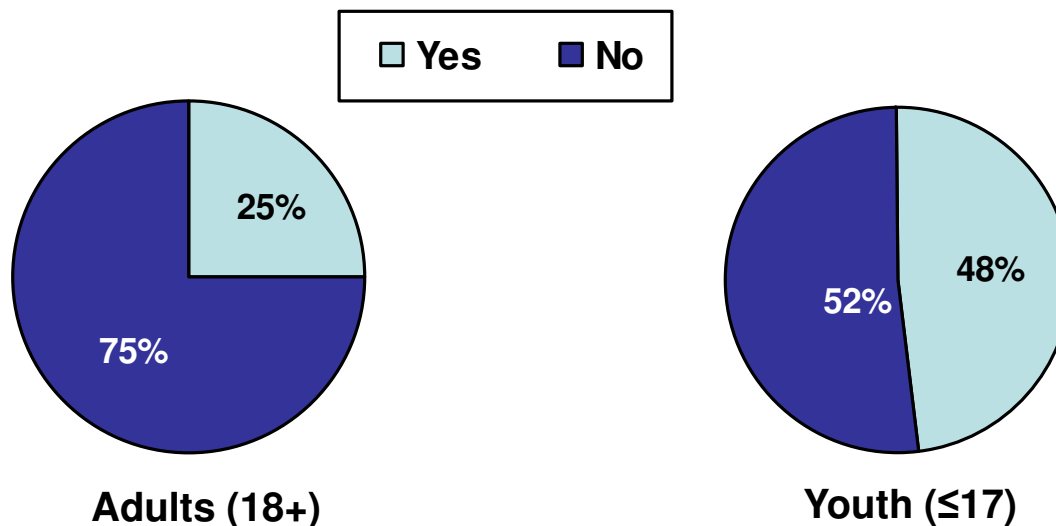


*Due to small numbers, youth data includes 2009-2010 data

Asthma Management – Action Plans

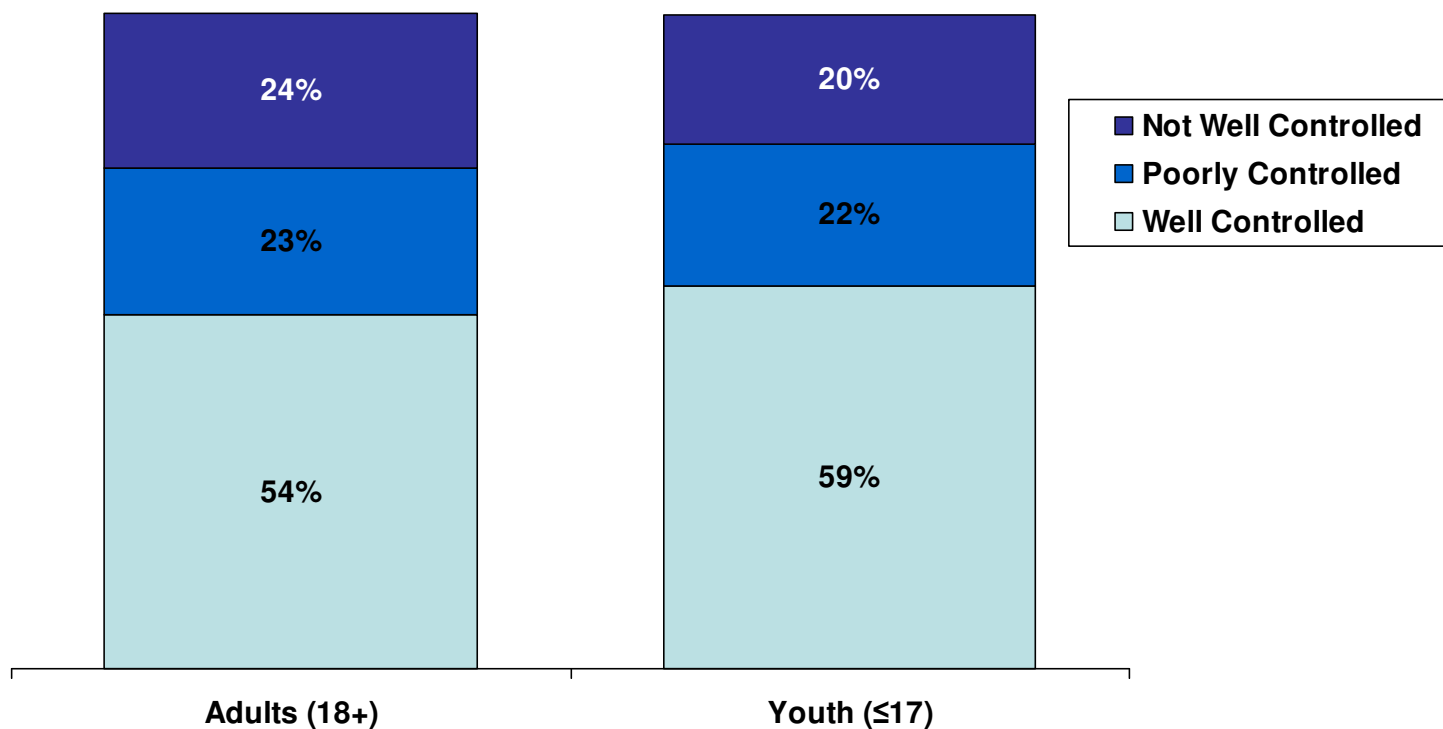
Approximately one-quarter of adult Vermonters with current asthma reported having ever received an asthma action plan from a health care provider. Almost half of youths had ever received an asthma action plan from their health care provider.

Have you ever received an asthma action plan?



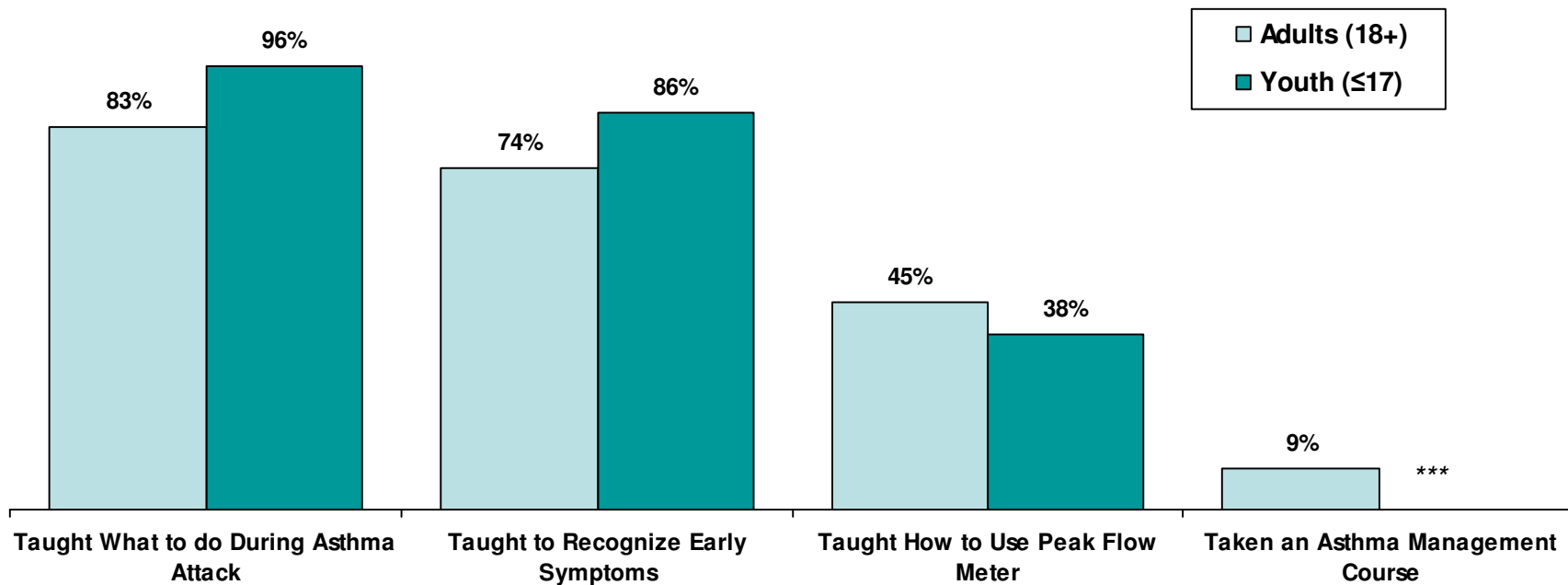
Asthma Management - Control

Among those with current asthma, over half had their asthma well controlled. About a quarter of adults and one in five youth had asthma that was not well controlled. Close to another quarter of adults and youths had their asthma poorly controlled.



Asthma Management – Self Care

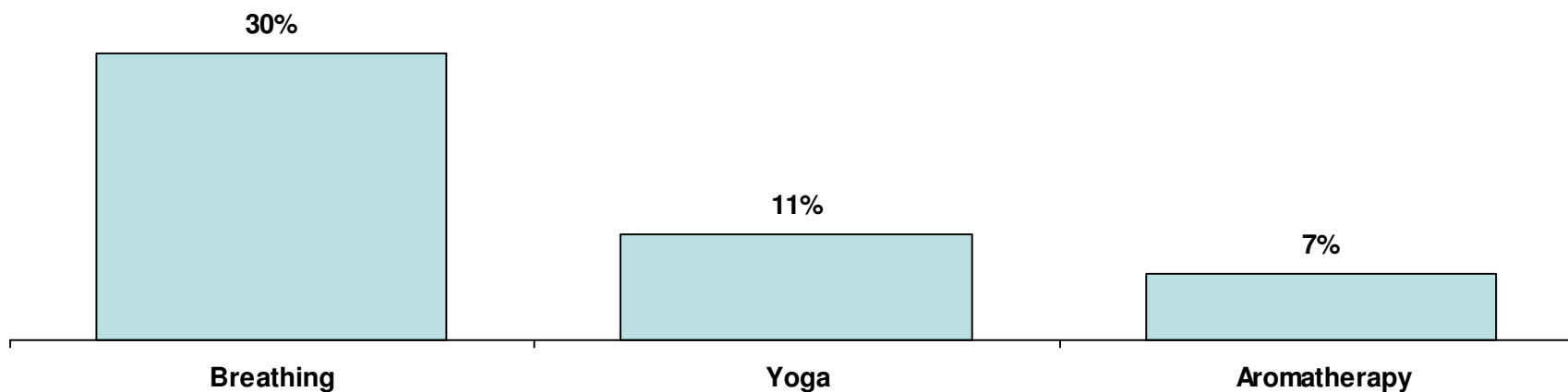
The majority of adults (83%) and youths (96%) with asthma reported that they were taught what to do during an asthma attack. Three-quarters of adults and most youths reported being taught to recognize early symptoms. Less than half of adults and youths reported being taught to use a peak flow meter. Very few adults and youths have ever taken an asthma management course.



*** Youth number too small to report

Asthma Management – Complementary and Alternative Medicine

Adults with asthma can use methods other than prescription medications to help treat or control their asthma. These methods are referred to as complementary or alternative medicine (CAM) therapy. In 2011, 42% of those with current asthma used CAM therapy. The most commonly used CAM therapies were breathing, yoga, and aromatherapy.



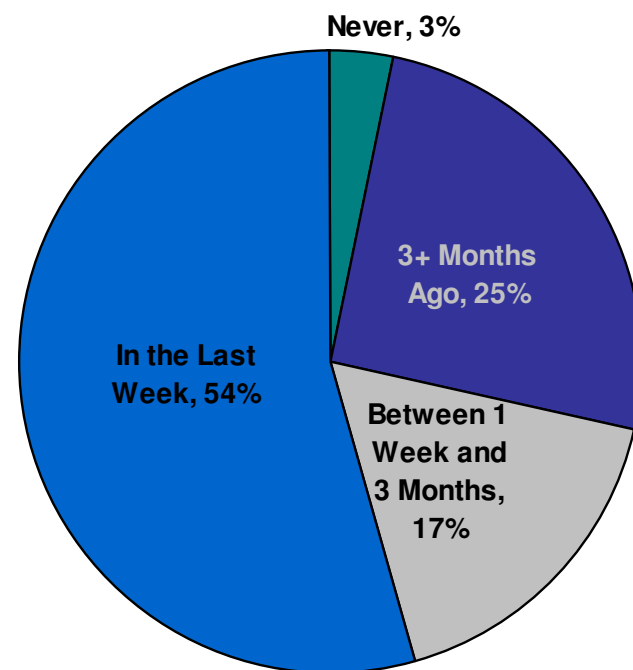
Asthma Management – Adult Medication Use

The majority of adults with asthma have used some type of asthma medication in the last three months (72%).

Among adults with asthma who used asthma medications in the past three months, inhalers were the most common medication used (95%). Other common medications used in the last three months include nebulizers (18%) and pills (13%).

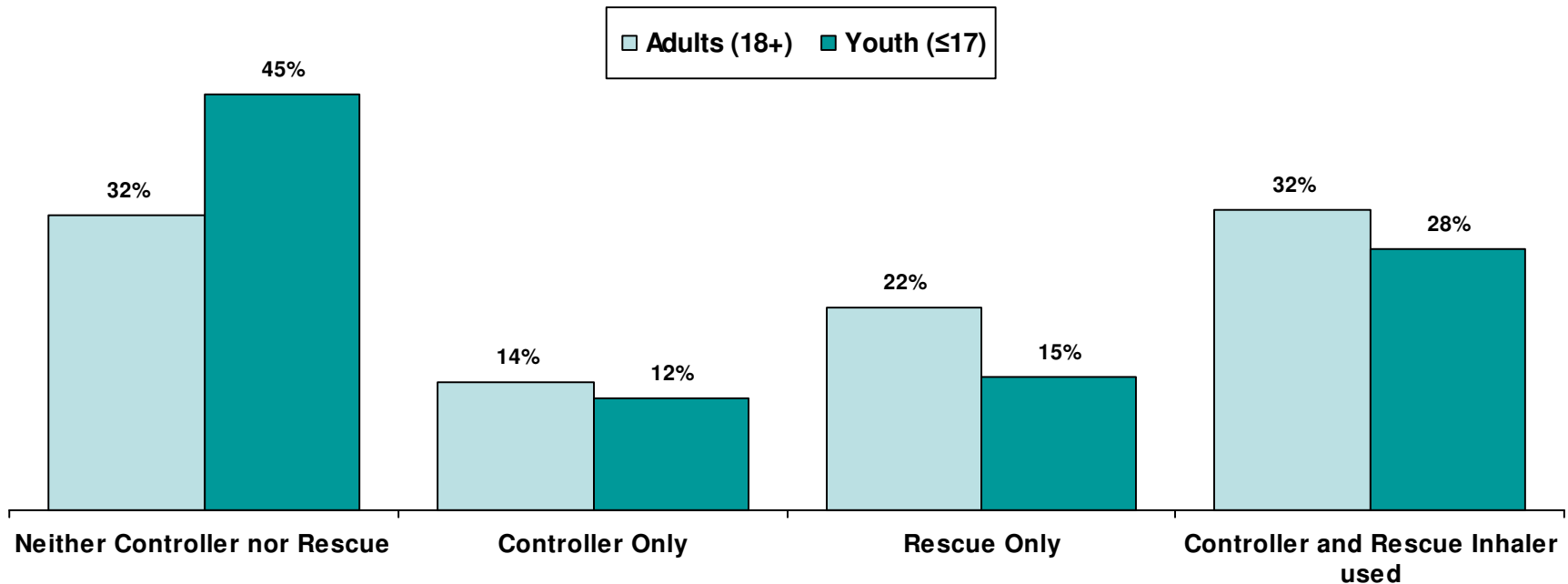
In 2011, 96% of adults with current asthma reported they had, at some point, used a prescription inhaler, while 28% said they had ever used an over the counter medication to control their asthma.

Recent Use of Asthma Medication



Rescue vs. Controller Use in Last 3 months

A third of adults and almost half of youths with current asthma have not used either a rescue or controller inhaler in the last three months. A third of adults and a quarter of youths have used both a controller and rescue inhaler. One in five adults have used a rescue inhaler only. One in seven adults and youths have used a controller inhaler only.

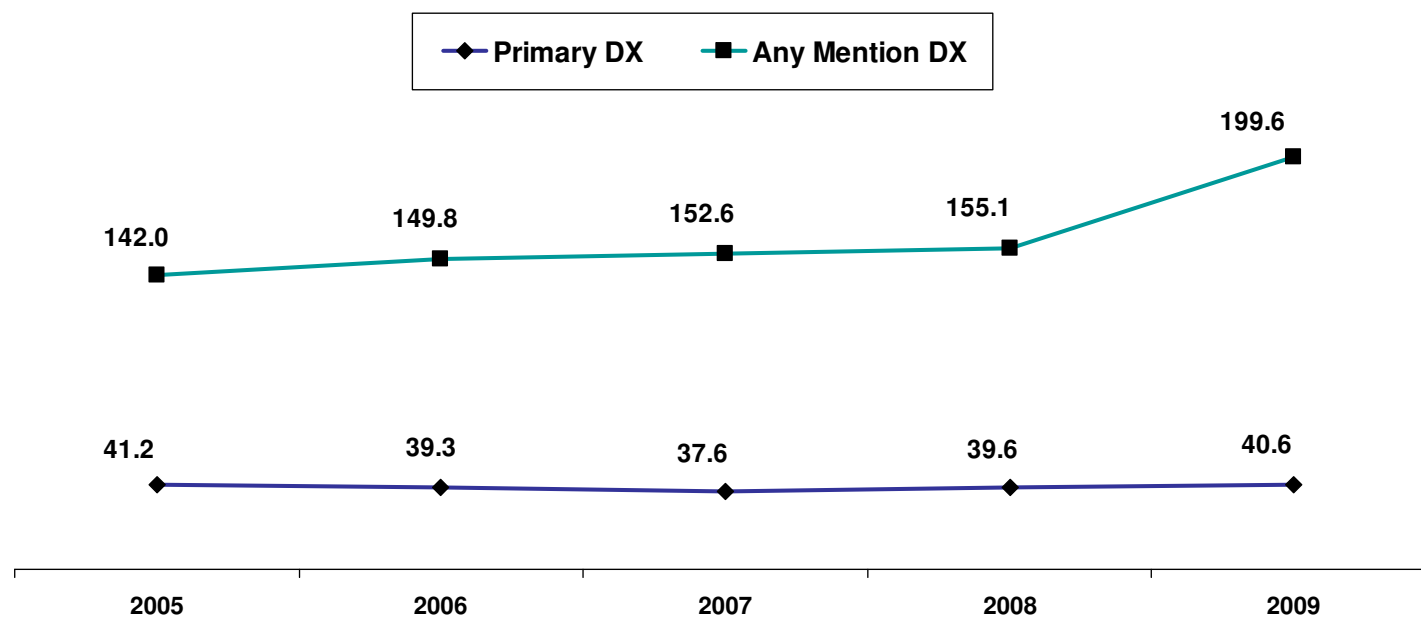


Indications of Poor Asthma Management

Emergency Department Visits

In 2009, among Vermont residents, there were 2,537 emergency department visits with a primary diagnosis of asthma, a rate of 40.6 ED visits per 10,000 Vermonters. Asthma was listed as a contributing factor in 12,473 ED visits, a rate of 199.6 per 10,000 Vermonters. This represents a significant increase in ED visits where there was any mention of asthma from 2008 (155.1 per 10,000) to 2009 (199.6 per 10,000).

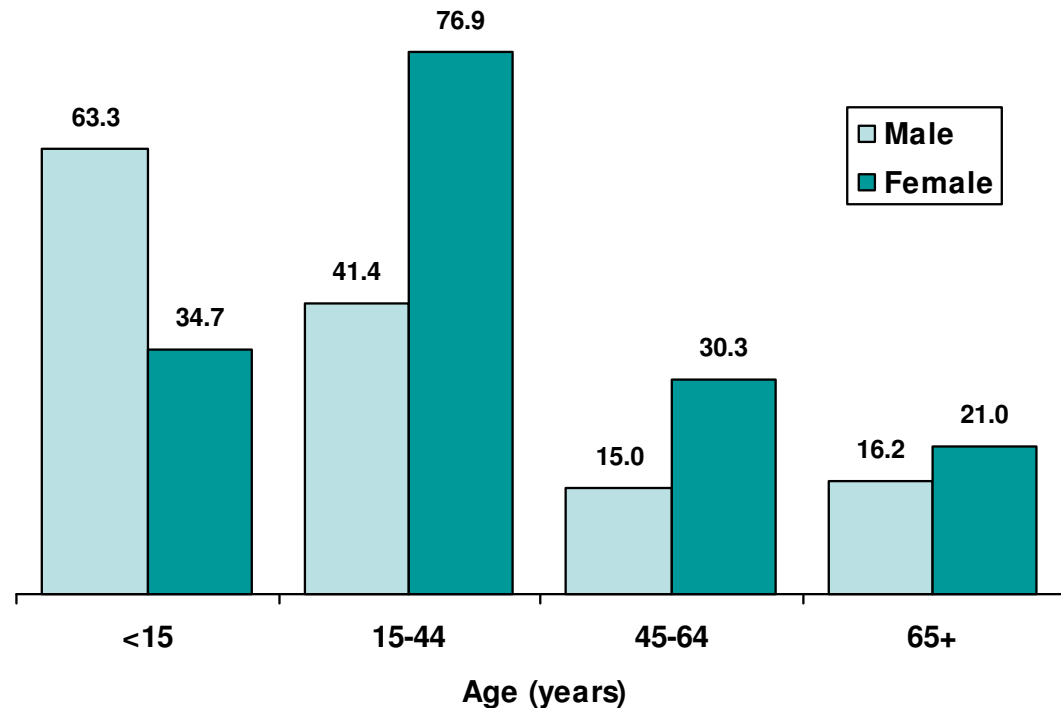
ED Visit with an Asthma Diagnosis (rate per 10,000) 2005-2009



Emergency Department Visits

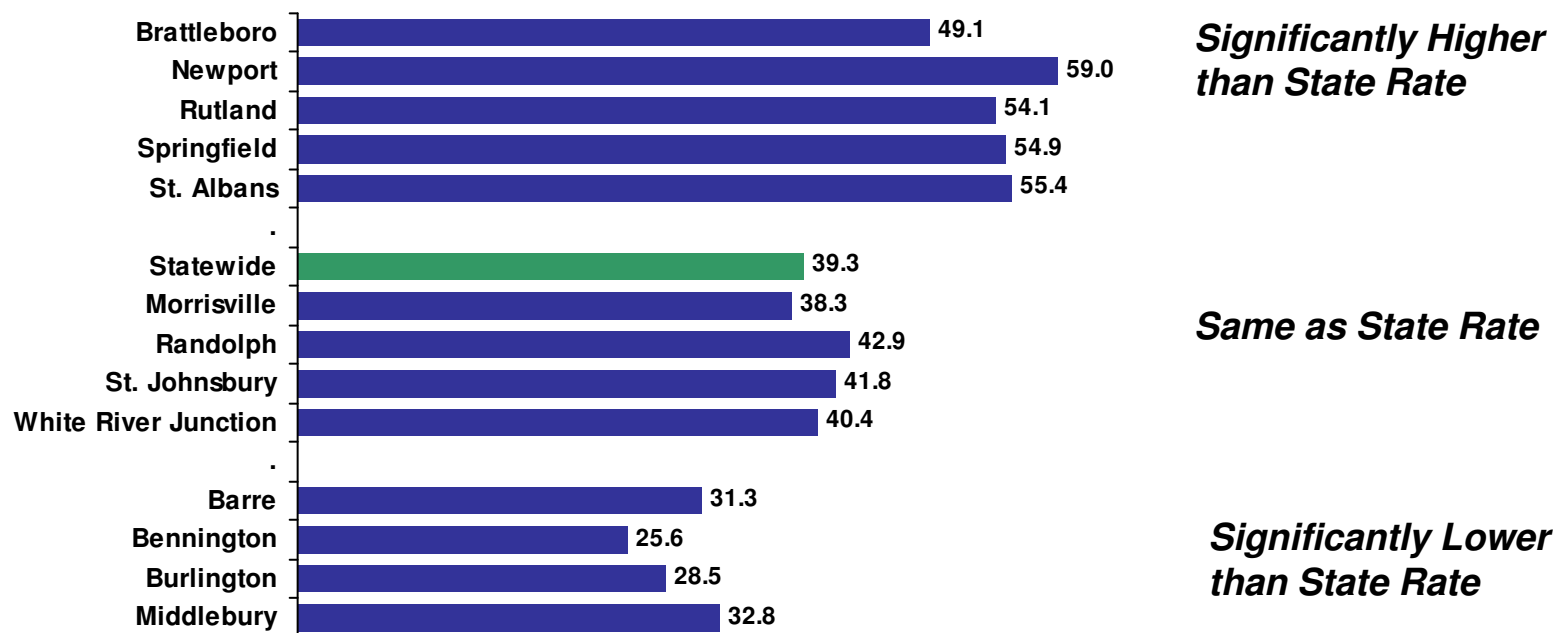
In 2009, when looking at emergency department data, females had a higher rate of visits with asthma as a primary diagnosis than males (47.1 per 10,000 vs. 34.0 per 10,000). When examined by age, the highest rates of emergency department visits with a primary diagnosis of asthma were seen among females 15-44 years of age, and males under the age of 15.

Primary Asthma Diagnosis (rate per 10,000), 2009



Emergency Department Visits by Hospital Service Area

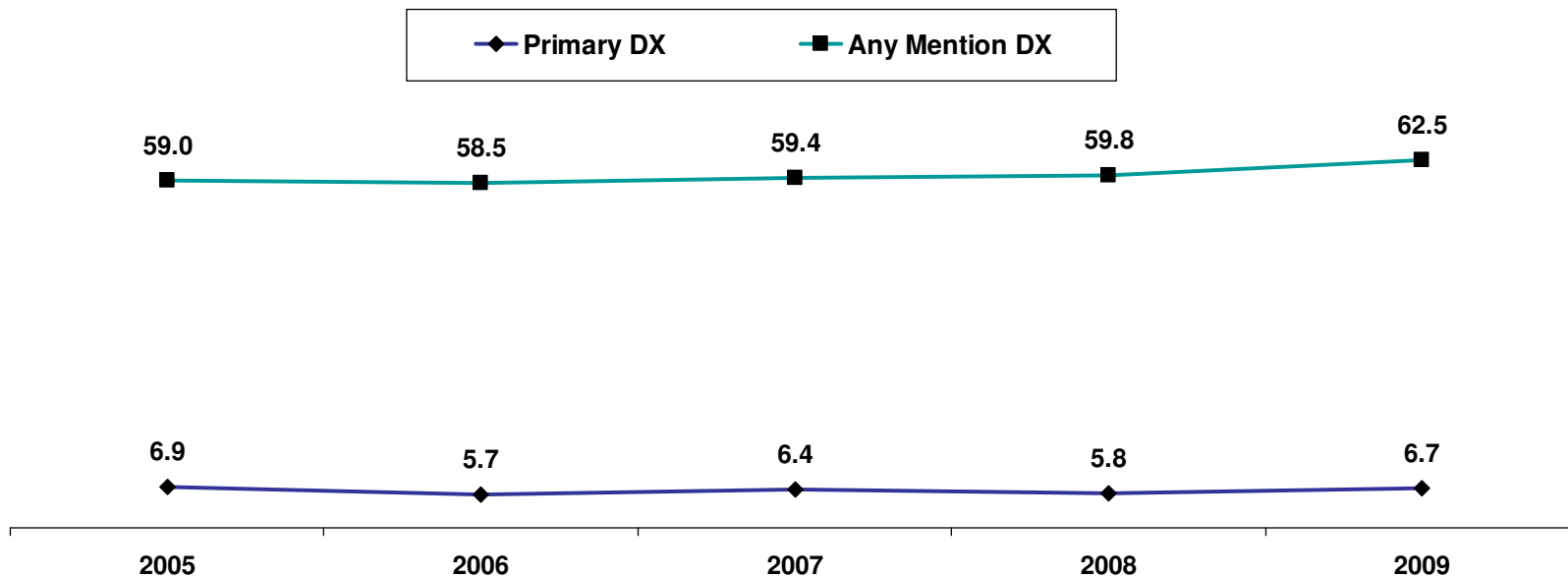
Emergency department visits with a primary diagnosis of asthma varied significantly by hospital service area (HSA). The Brattleboro, Newport, Rutland, Springfield, and St. Albans HSAs had significantly higher ED visit rates than the statewide rate, while the Barre, Bennington, Burlington, and Middlebury HSAs had significantly lower rates of ED visits per 10,000.



Hospitalizations

In 2009, 420 Vermonters were discharged from the hospital with a primary diagnosis of asthma (6.7 per 10,000 Vermonters). In 2009, there were 3,903 hospitalizations with any mention of asthma (62.5 per 10,000 Vermonters). The rate of hospitalizations with a primary diagnosis or any mention of asthma have remained relatively steady over the past five years.

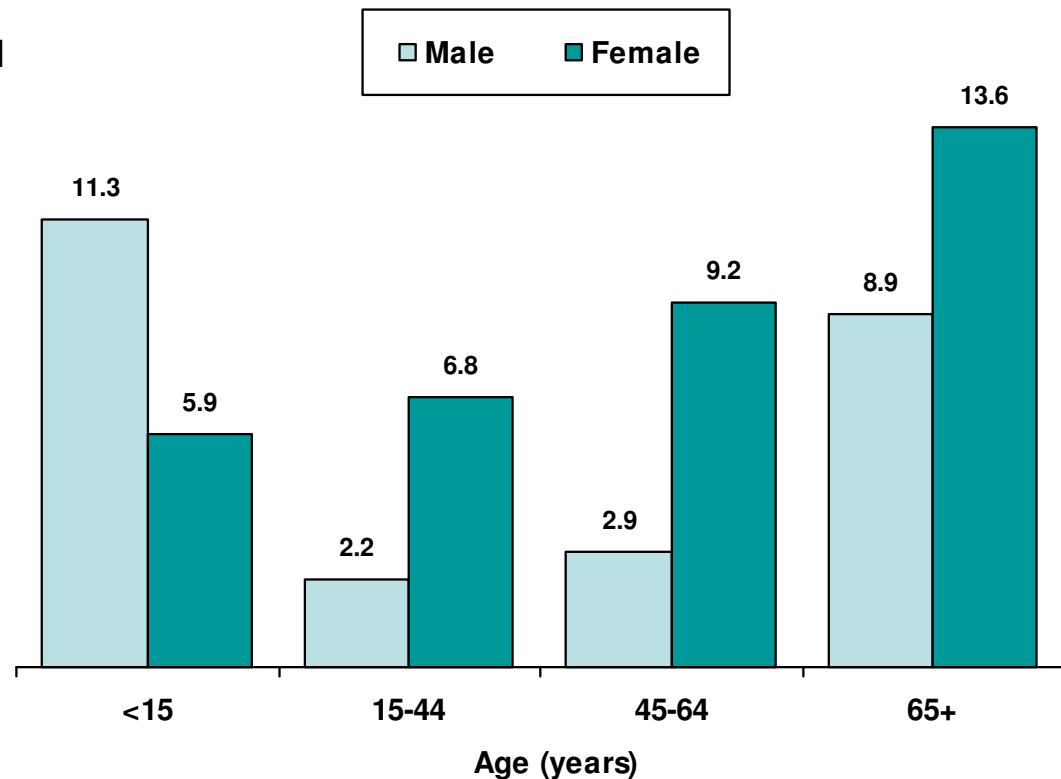
Hospital Discharge with an Asthma Diagnosis (rate per 10,000) 2005-2009



Hospitalizations

As with ED visits, females overall had a higher rate of hospitalizations than males (8.5 versus 4.9 per 10,000). The highest rate of hospitalizations with a primary diagnosis of asthma was seen among females 65 years and older and males under the age of 15.

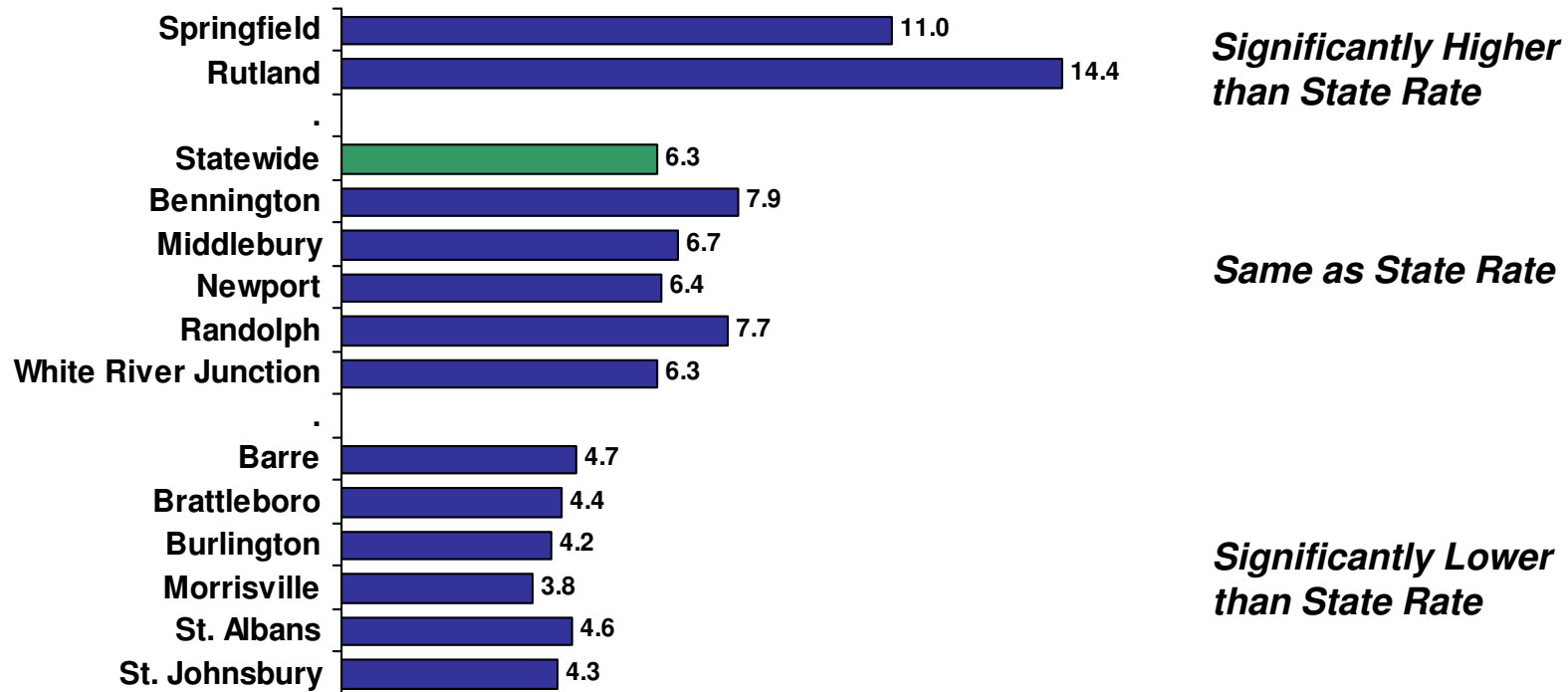
Primary Asthma Diagnosis (rate per 10,000), 2009



Hospitalizations by Hospital Service Area

The rate of hospital discharges with a primary diagnosis of asthma varied when looked at by hospital service area (HSA). The Rutland and Springfield HSAs had significantly higher hospitalizations rates as compared to the statewide rate, while the Barre, Brattleboro, Burlington, Morrisville, St. Albans, and St. Johnsbury HSAs had significantly lower rates of hospitalizations per 10,000.

Hospitalizations with a Primary Asthma Diagnosis by HSA (rate per 10,000) , 2007-2009



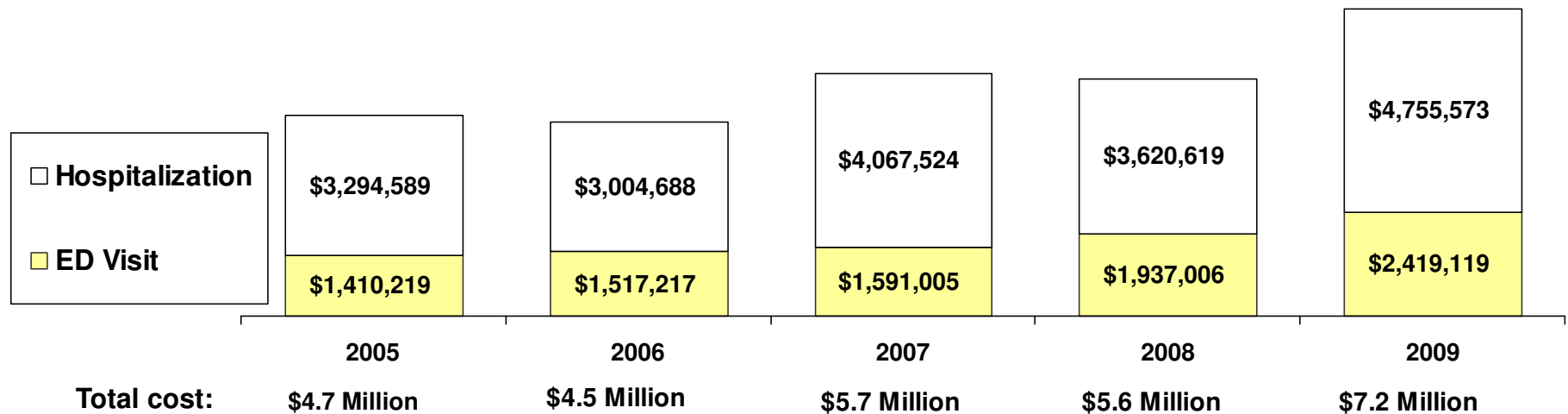
Charges of Poor Asthma Management

Death

In the past ten years, more than 70 Vermonters have died because of their asthma. In 2010, there were 11 deaths attributed to asthma. Between 2004 and 2010, there have been between 7 and 11 deaths per year due to asthma.

Health Care Charges

In addition to the negative health outcomes associated with poor asthma management, there are also financial costs. In 2009, hospitalizations and emergency department visits alone charged approximately \$7.2 million dollars, an increase over previous years. In 2009, hospitalizations with a primary diagnosis of asthma, resulted in close to \$5 million in charges; an average of ~\$11,000 per patient and emergency department visits for asthma cost roughly \$2.5 million (~\$950 per patient).

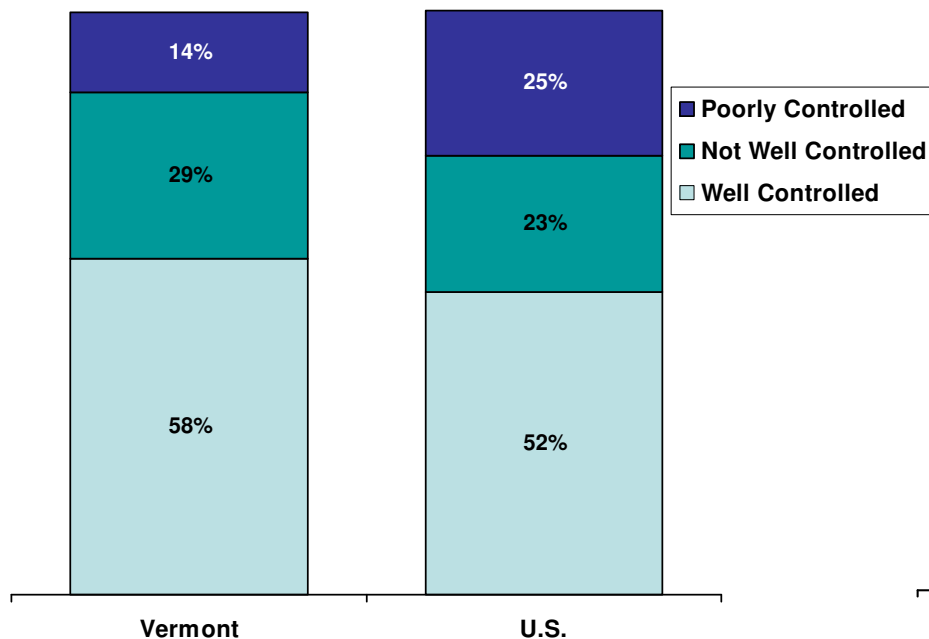


Comparisons to U.S.

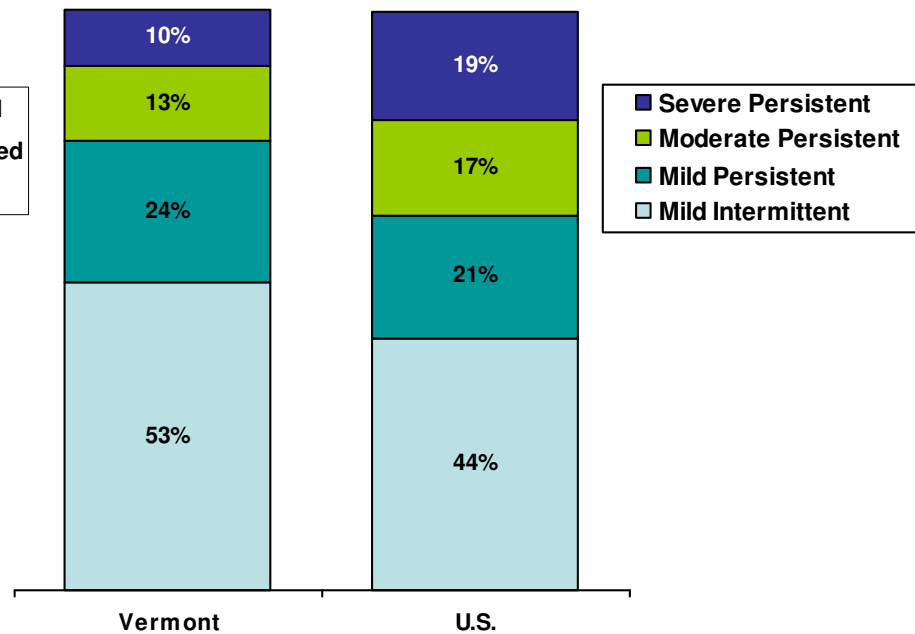
Vermont and U.S. Comparisons – Asthma Severity and Control

While Vermont has a higher adult asthma prevalence than the overall U.S. (11% vs. 9%, 2010), Vermonters with asthma are less likely to have poorly controlled or severe and persistent asthma than the U.S. states that do the Adult Asthma Callback Survey. Vermonters with asthma were also more likely to rate their general health as good or better (84% vs. 72%).

Asthma Control

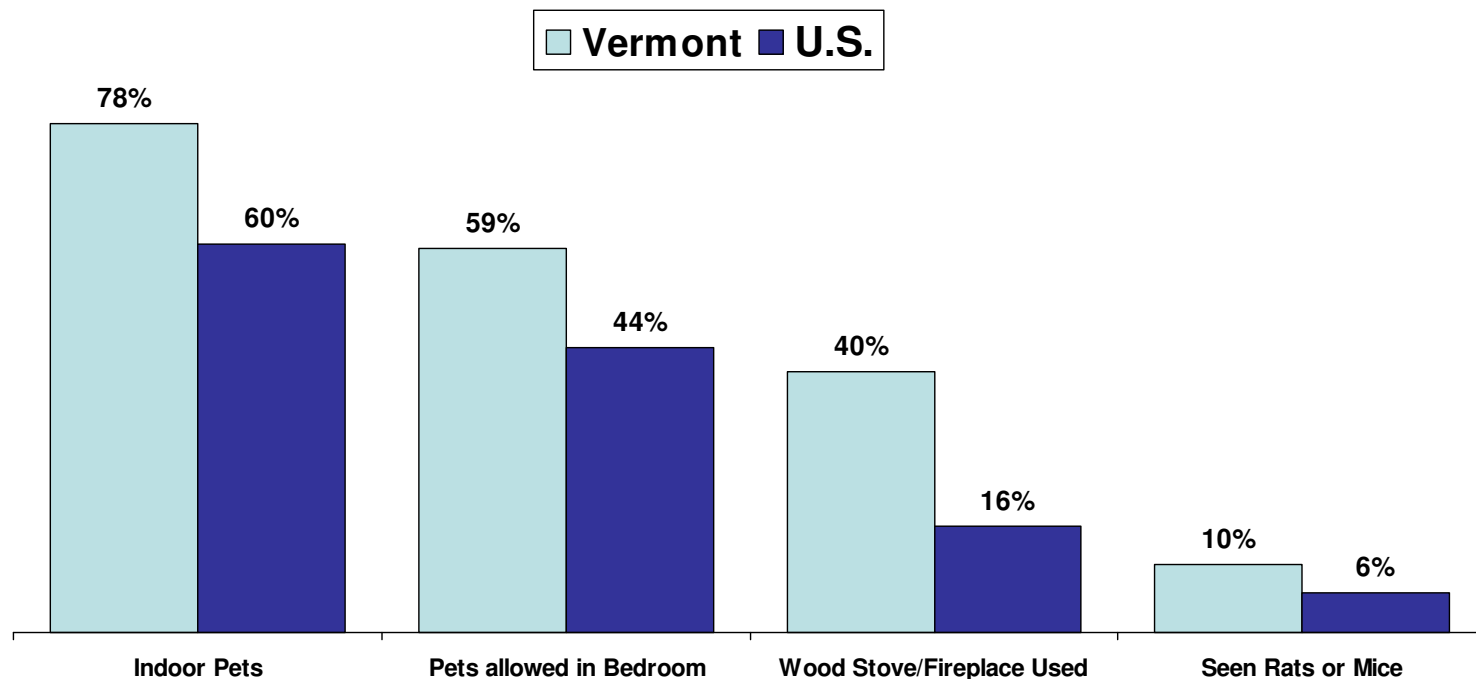


Asthma Severity



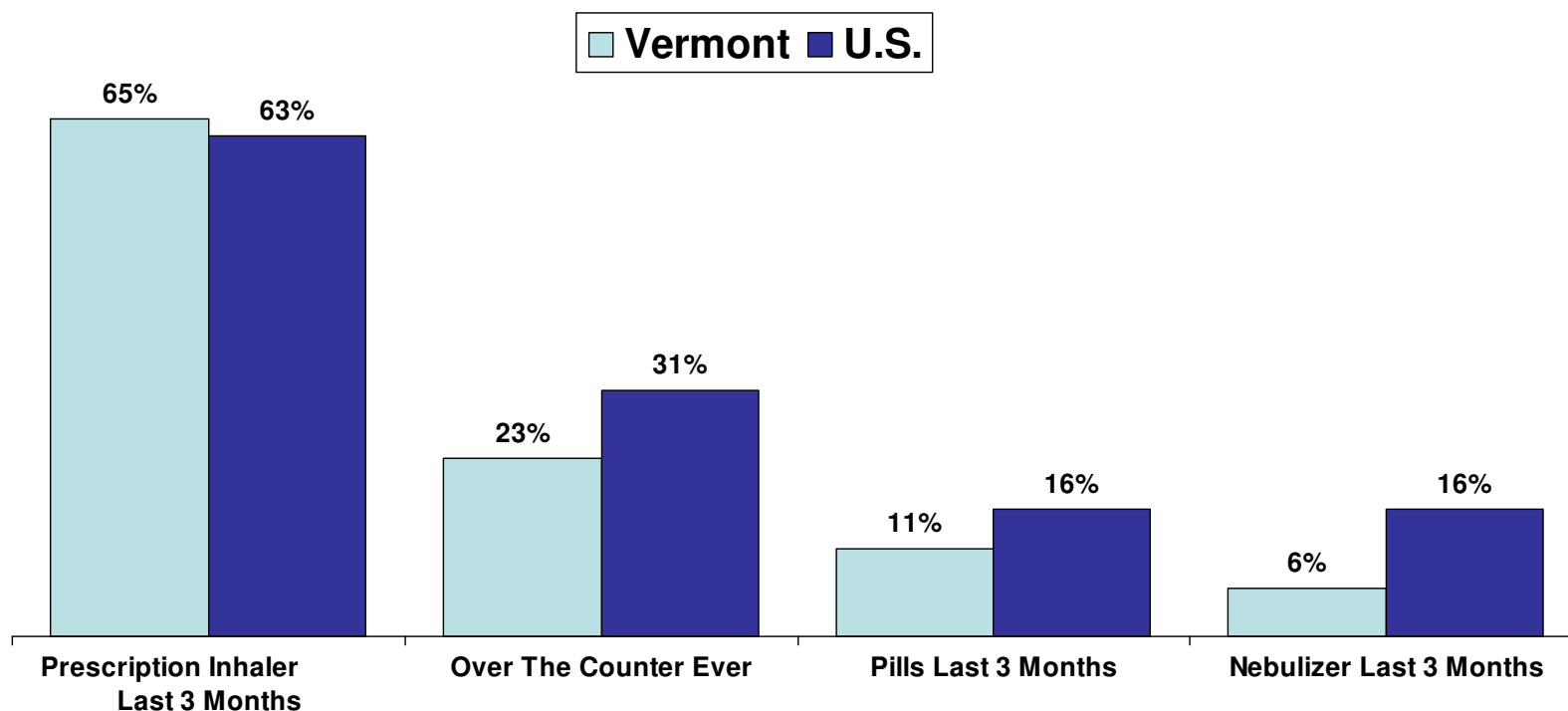
Vermont and U.S. Comparisons – Individual Triggers at Home

Adult Vermonters with asthma are more likely to have indoor pets, allow pets in their bedroom, have used a wood stove or fireplace and have seen a rat or mouse when compared to the U.S. states that do the Adult Asthma Callback Survey.



Vermont and U.S. Comparisons – Adult Medication Use

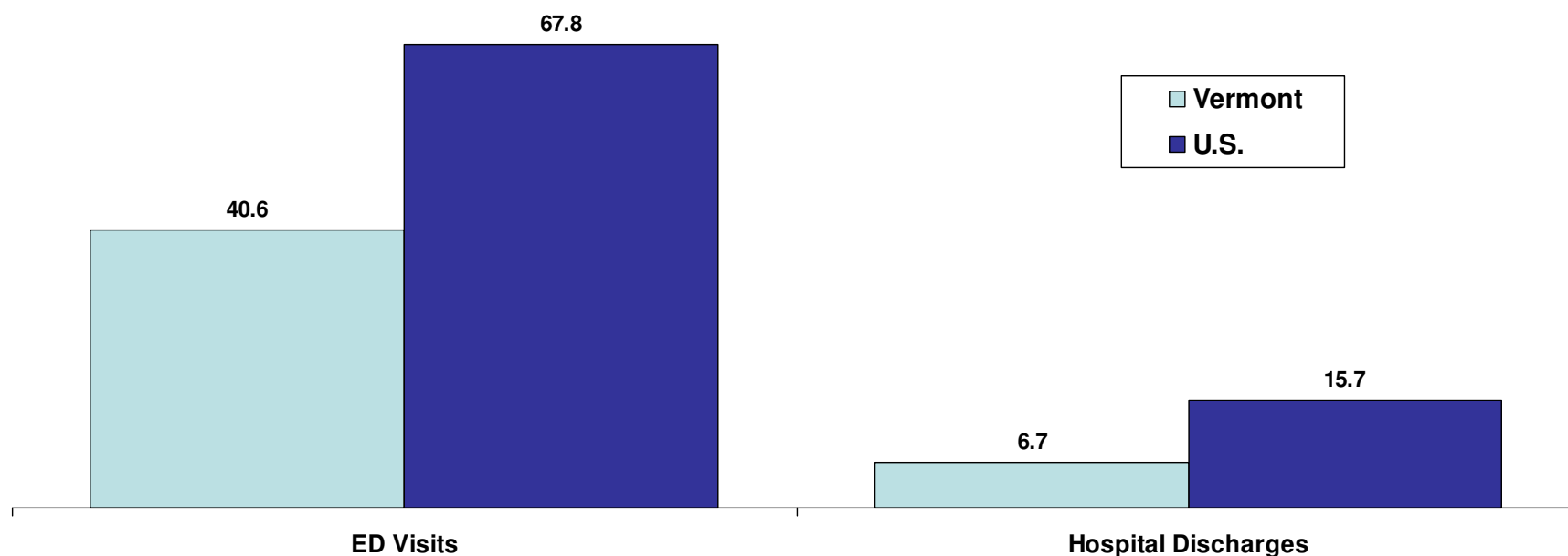
Vermonters with asthma were similar in medication usage to the U.S. states that do the Adult Asthma Callback Survey except for being less likely to use over the counter medications, pills or nebulizers.



Vermont and U.S. Comparisons – Emergency Department Visits and Hospital Discharges

Emergency Department Visits and Hospital Discharges for asthma as the primary diagnosis were much lower for Vermonters than the rest of the U.S.

ED Visits or Hospitalizations with a Primary Asthma Diagnosis (rate per 10,000)



Data Sources

Behavioral Risk Factor Surveillance System (BRFSS): Annual telephone survey conducted by individual state health departments with support from the CDC. All 50 states complete a set of core BRFSS questions and some states chose to include additional questions that focus on health topics relevant to the state. One of the optional modules completed in the State of Vermont provides data on asthma prevalence in children. BRFSS data is weighted so that it is representative of the Vermont population. All analyses completed with BRFSS data utilized weighted data.

Asthma Call Back Survey (ACBS): Annual survey conducted in 38 states for subjects that report having current asthma in BRFSS. In Vermont, this survey is conducted for both adults and children with current asthma. This survey allows for more detailed information on asthma risk factors, control, severity, and self-management. Information collected for the youth ACBS is reported by a parent or guardian.

Vermont Uniform Hospital Discharge Data Set (VUHDDS): Hospital and emergency department discharge data are collected from in-state hospitals and from hospitals in bordering states. The VUHDDS data set was narrowed to only include Vermont residents for this analysis. A primary asthma diagnosis refers to when asthma was listed as the first diagnosis code. Any asthma diagnosis refers to when asthma is listed as any of the twenty diagnosis codes. Patients admitted to the hospital from the emergency department are included in the hospital discharge data set and are not included in the emergency discharge data set.

Vermont Vital Statistics System: Monitors vital events, including deaths. Information on the cause of death is obtained from a physician and reported on the death certificate.

For additional information

<http://healthvermont.gov/prevent/asthma/index.aspx>

http://healthvermont.gov/research/asthma/asthma_surv.aspx

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