

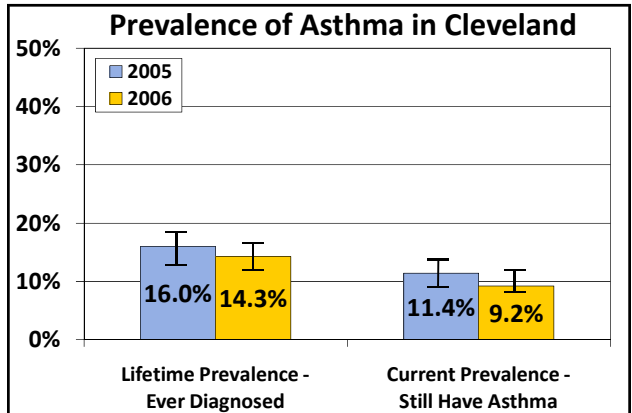
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The Cleveland Behavioral Risk Factor Surveillance Survey is funded by Steps to a Healthier Cleveland.

The Prevalence of Asthma in Cleveland

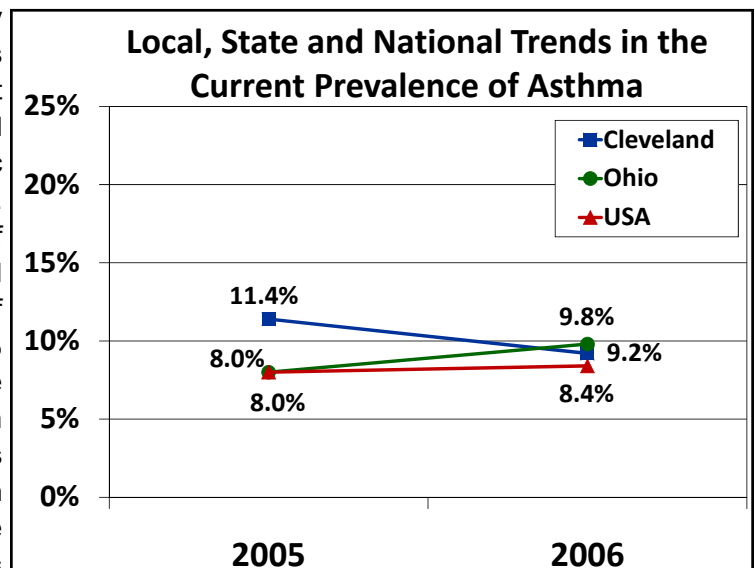
The lifetime prevalence of asthma (ever being told that they have asthma) among adults in Cleveland was 16.0% in 2005 and 14.3% in 2006. When asked if they still have asthma (i.e., current prevalence), 9.2% of Clevelanders in 2006 reported currently having asthma, compared to 11.4% in 2005. Of those that currently have asthma, 25% reported being diagnosed at age 10 or younger (data not shown).



Though the prevalence of asthma in Cleveland appears to have decreased since 2005, the confidence intervals around the estimates overlap and suggest that the prevalence may actually be fairly stable. Additional years of data, when available, will help to inform accurate conclusions about the local trend.

Local, State and National Trends in the Prevalence of Asthma

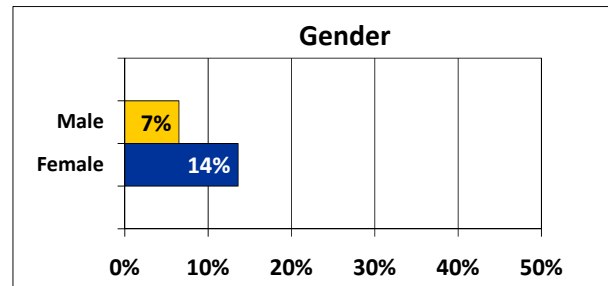
It has been largely recognized that asthma has been on the rise for the past several decades¹, and remains a common chronic condition of great concern. The 2006 prevalence of asthma in the U.S. and Ohio, reached to a high of 8.4% and 9.8% respectively. The prevalence of asthma in Cleveland in 2006 was estimated to fall between the national and state prevalence, at 9.2%. As



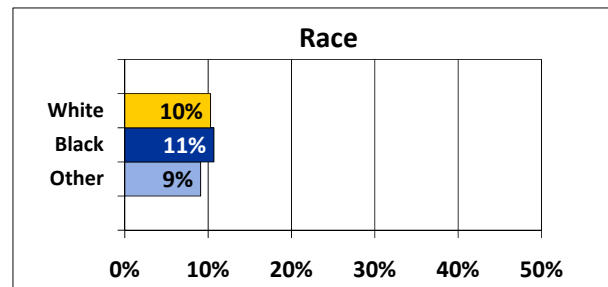
surveillance efforts in Cleveland are still young, additional years of data will help to inform accurate conclusions about the local trend in the prevalence of asthma.

Asthma by Demographic Characteristics, 2005-2006

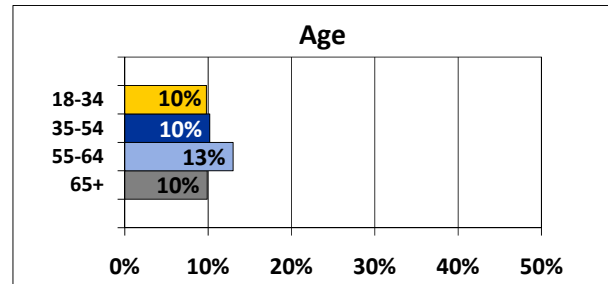
GENDER: State and national data (not shown) show that women are more likely to have asthma than men. Similarly, women in Cleveland reported not only a higher current asthma prevalence as compared to men, but a prevalence of two times that of men (14% vs. 7%).



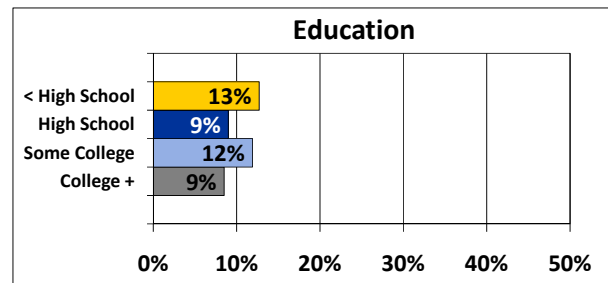
RACE: State and national data (not shown) also typically show that blacks are disproportionately affected by asthma. However, in Cleveland, white adults, black adults, and those of other racial/ethnic backgrounds reported a similar prevalence of asthma, at 10%, 11%, and 9% respectively.



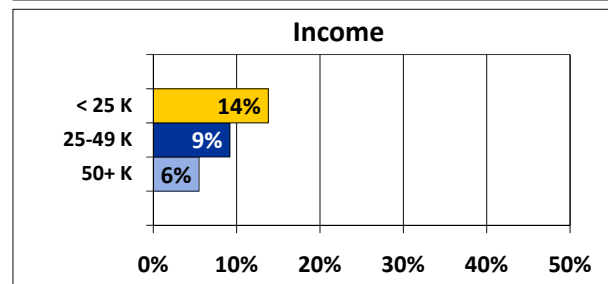
AGE: Although asthma disproportionately affects children as compared to adults¹, state and national data (not shown) regarding adults show that adults of all ages generally report a similar prevalence of asthma. Consistent with this, Cleveland adults in most age ranges (18-34, 35-54, and 65+) reported similarly on their prevalence of asthma at 10%. Adults aged 55-64, however, reported a slightly higher prevalence at 13%.



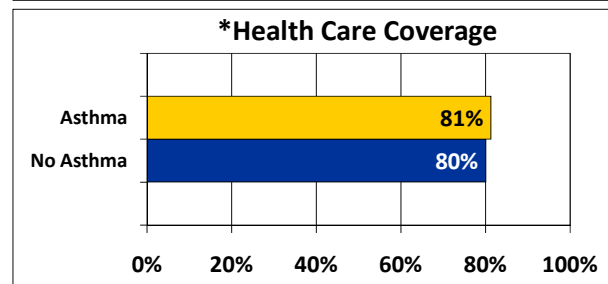
EDUCATION: Cleveland adults with less than a high school degree reported similarly on their prevalence of asthma as did adults with some college education (13% and 12% respectively). Those with a high school degree and those with at least an undergraduate college degree also reported a similar, and slightly lower prevalence of asthma, both at 9%.



INCOME: Like many other diseases, state and national data (not shown) show that asthma increases as income decreases. Likewise, Cleveland adults reporting the least amount of income (< \$25,000) reported the highest prevalence of asthma (14%), followed by those making \$25,000 to \$49,000, who reported a prevalence of asthma at 9%. Adults with an income of \$50,000 or more, however, reported only a 6% prevalence of asthma.



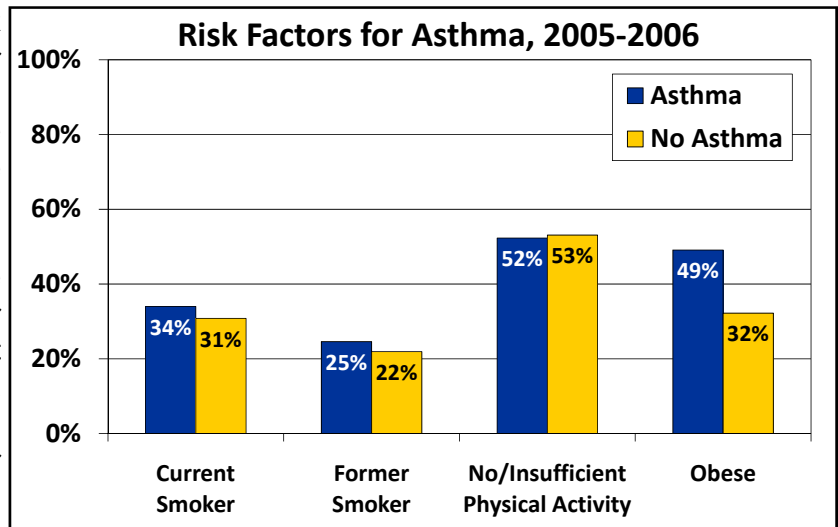
***HEALTH CARE COVERAGE:** Overall, 80% of Clevelanders reported having health care coverage (data not shown). Adults with and without Asthma reported similarly on having health care coverage (81% vs. 80%). Nevertheless, nearly one-fifth of Cleveland adults with asthma (19%) reported not having any current health care coverage.



**The Health Care Coverage graph should be interpreted as the percentage of adults with and without asthma who have health care coverage; all other graphs should be interpreted as the percentage of men, women, etc. who have asthma.*

Risk Factors for Asthma and Asthma Complications

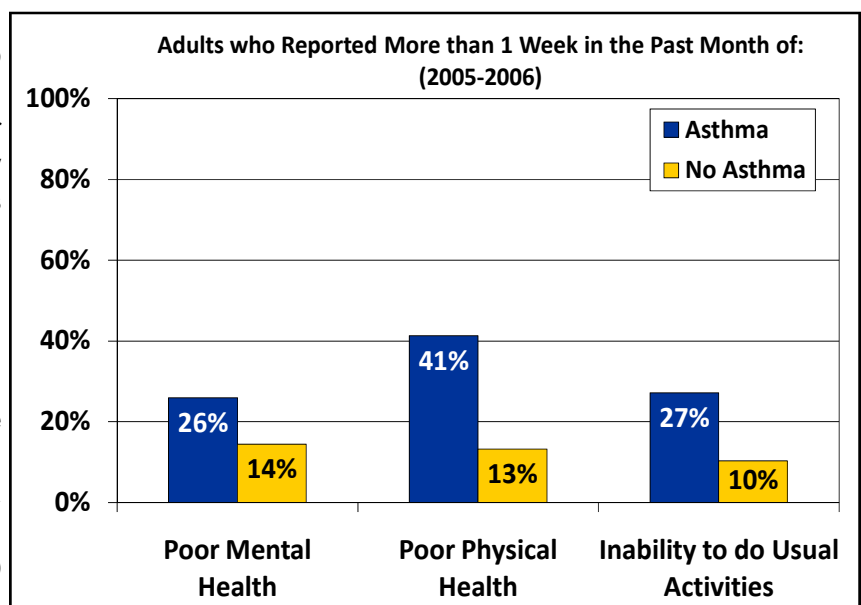
Various health behaviors can serve as either risk factors for asthma or sources of complications for those who already have asthma. For instance, active cigarette smoking and secondhand smoke exposure can both trigger asthma and aggravate symptoms². In Cleveland, 34% of adults with asthma reported currently smoking cigarettes as compared to 31% of adults without asthma. More adults with asthma also reported being former smokers (25%) as compared to adults without asthma (22%), though perhaps having asthma had encouraged them to quit. Taken together, nearly 60% of adults with asthma had ever smoked as compared to only 53% of adults without asthma.



Though strenuous physical activity can trigger episodes of asthma, regular asthma-friendly activities that allow for controlled breathing, such as walking or bicycling, can strengthen breathing muscles and lead to fewer asthma attacks⁴. However, more than half of Clevelanders with asthma reported that they do not get the recommended weekly physical activity or that they do not engage in any physical activity at all (52%); however they did not differ from those without asthma. Finally, while the links between asthma and obesity are unclear, there is evidence to suggest that weight loss and management can reduce the burden of asthma, particularly in women³. Unfortunately, in Cleveland, nearly half of adults with asthma reported being obese (49%), as compared to just under a third of adults without asthma (32%).

Impact of Asthma on Physical and Mental Health

Asthma, like other chronic conditions, can largely impact how sufferers respond to questions about their daily mental and physical health, and its impact on their ability to do their usual activities. When asked about their daily health, more than a quarter of Cleveland adults with asthma reported experiencing poor mental health (26%) and an inability to do their usual activities (27%) for more than one week during the past month. Even more Clevelanders with asthma reported experiencing poor physical health (41%) for more than one week during the past month. In comparison, a very small percentage of Clevelanders without asthma reported a similar experience of poor mental and physical health (14% and 13% respectively) and a resulting inability to do their usual activities (10%).



When asked to rate their general health within a range of excellent to poor, nearly half (46%) of Cleveland adults with asthma rated their health as either fair or poor, as opposed to good or excellent (data not shown). This was more than double the percentage of adults without asthma who similarly rated their general health as fair or poor (21%, data not shown). Clearly, the impact of asthma on the health and quality of life of Clevelanders is substantial.

Severity of Asthma

Although asthma cannot be cured, the extent to which asthma is controlled or managed can affect the severity of asthma symptoms as well as an individual's overall quality of life and ability to remain healthy and active. Regarding asthma management, the severity of asthma can be measured by experience of asthma attacks, the impact of asthma on daily work or activities and sleeping, and contact with the health care system.

Asthma Attacks

When asked about their experience with episodes of asthma or asthma attacks (see *Figure 1*), 55% of Clevelanders reported experiencing at least one asthma attack during the past 12 months. Slightly fewer asthmatic Ohioans (49%), however, also reported experiencing at least one episode of asthma or asthma attack during the past 12 months.

Impact of Asthma on Work or Usual Activities

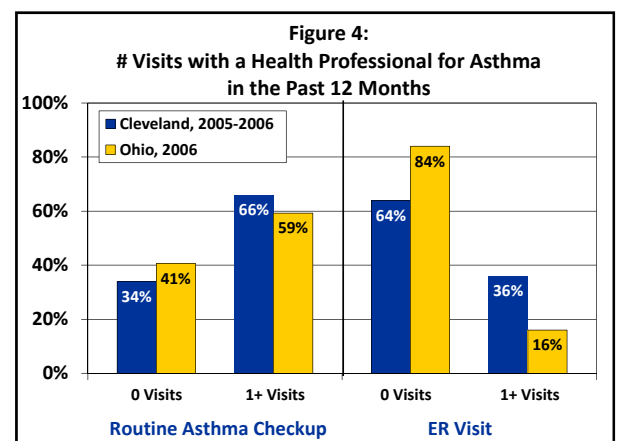
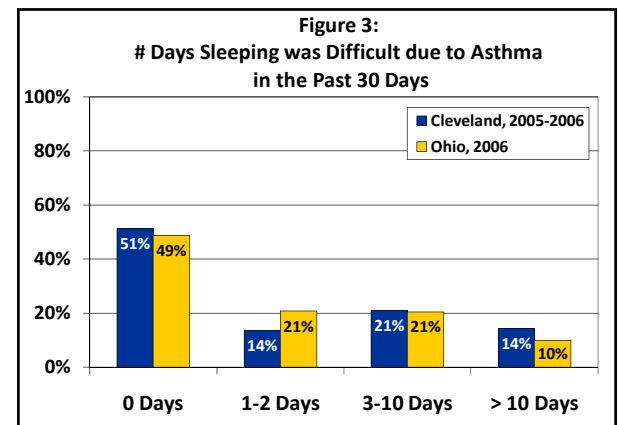
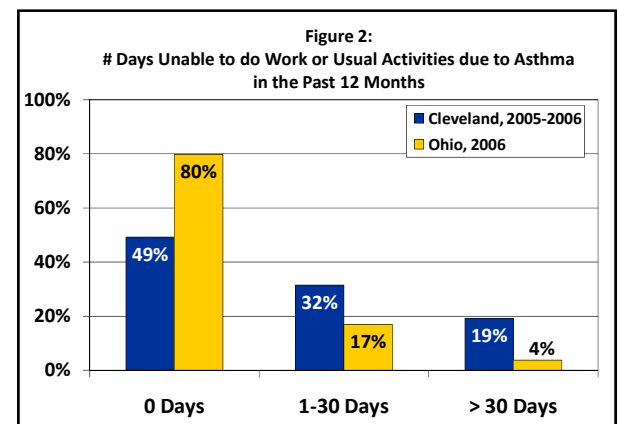
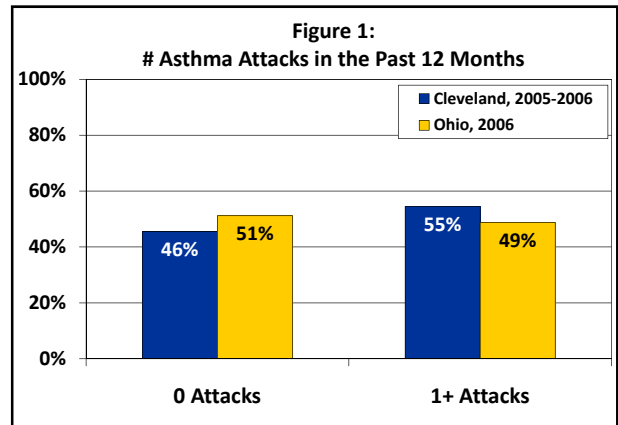
Respondents were also asked how often their asthma impacted their ability to do their work or usual activities (see *Figure 2*). Nearly half of Clevelanders with asthma (49%) reported that their asthma did not affect their ability to do their work or usual activities on any days during the past 12 months. In contrast, the vast majority of asthmatic Ohioans (80%) reported that their ability to do their work or usual activities was not impacted by their asthma.

Impact of Asthma on Sleeping

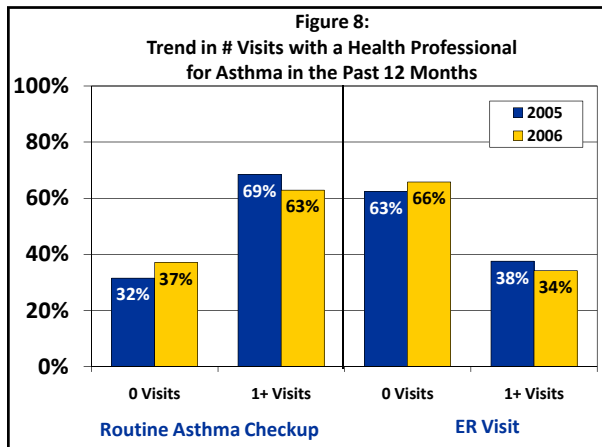
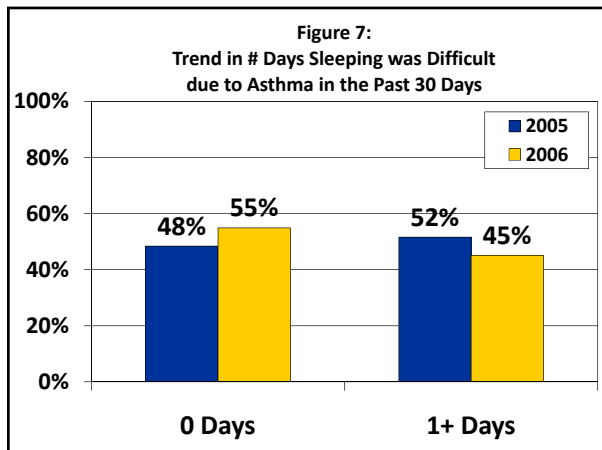
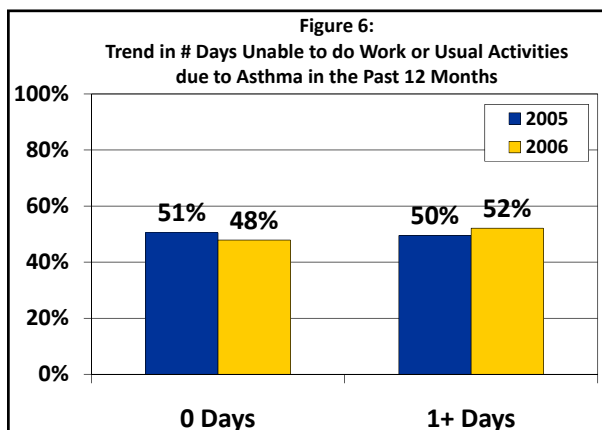
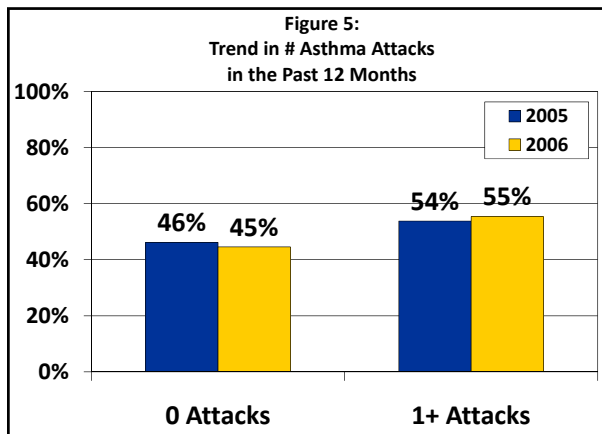
Aside from their ability to do their daily activities, respondents were asked how often their asthma resulted in sleeping difficulties (see *Figure 3*). Clevelanders and Ohioans reported similarly; 51% of Clevelanders and 49% of Ohioans reported that their asthma caused them no difficulties in sleeping during the past 30 days. Only 14% of Clevelanders and 10% of Ohioans reported sleeping difficulties on more than 10 of the past 30 days.

Contact with the Health Care System

Finally, respondents were asked about their visits with health professionals for routine asthma checkups and urgent care (see *Figure 4*). More asthmatic Clevelanders reported receiving at least one routine asthma checkup in the past 12 months when compared to Ohioans (66% vs. 59%). However, when asked about urgent treatment care, more Clevelanders also reported visiting an emergency room for treatment when compared to Ohioans. In fact, 20% more Clevelanders than Ohioans reported visiting an ER for their asthma at least once in the past year (36% vs. 16%).



Trends in the Severity of Asthma



As efforts against asthma in Cleveland continue to build, it is important to track various trends surrounding the issue. In addition to monitoring the prevalence of asthma over the long-term, examining changes in the burden of asthma over the short-term, with respect to symptom severity and the impact of asthma on daily living, can provide a more detailed assessment of our efforts as well as directions for future programming.

Asthma Attacks

The frequency of reported asthma attacks over the past two years remained steady (see Figure 5). In 2006, 45% of Clevelanders with asthma reported experiencing no episodes of asthma or asthma attacks in the past 12 months, compared to 46% in 2005.

Impact of Asthma on Work or Usual Activities

Though it appears to have fluctuated slightly, the reported impact of asthma on Clevelanders' ability to do their work or usual activities remained fairly steady over the past two years (see Figure 6). In 2006, 48% of Clevelanders with asthma reported zero days on which they were unable to do their work or usual activities due to their asthma, compared to 51% in 2005.

Impact of Asthma on Sleeping

The reported impact of asthma on Clevelanders' ability to sleep without difficulties showed the most promising change between 2005 and 2006 (see Figure 7). Cleveland adults with asthma reported fewer days of sleeping difficulties due to their asthma in 2006 than they did in 2005. Specifically, the percentage of asthmatic adults reporting zero days of sleeping interruptions increased from 48% in 2005 to 55% in 2006.

Contact with the Health Care System

The reported percentages of routine asthma checkups and emergency room visits for asthma treatment both changed similarly between 2005 and 2006 (see Figure 8). Clevelanders with asthma reported fewer routine asthma checkups and emergency room visits in 2006 than they did in 2005. Specifically, the percentage of asthmatic adults reporting at least one routine asthma checkup decreased from 69% in 2005 to 63% in 2006.

While Clevelanders with asthma reported less difficulty sleeping and slightly fewer ER visits for asthma treatment between 2005 and 2006, they also reported fewer routine asthma checkups.

Notes:

- All analyses include only individuals who reported currently having asthma, with the exception of lifetime asthma prevalence (page 1) which includes individuals who reported being diagnosed with asthma in the past but who no longer currently have asthma.
- All sample sizes are at least N=30.
- Confidence intervals are provided for overall asthma prevalence; for confidence intervals for all other estimates, please refer to the data tables on the Center for Health Promotion Research website (www.case.edu/affil/healthpromotion) available in May 2008.

References:

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4. The Canadian Lung Association. Exercise and asthma, September 2006. (online). Available at: http://www.lung.ca/diseases-maladies/asthma-asthme/exercise-exercice/index_e.php. Accessed December 10, 2007.

Local Data Source: Cleveland Steps Behavioral Risk Factor Surveillance Survey (Steps-BRFSS), 2005-2006.

State/National Data Sources: Centers for Disease Control and Prevention (CDC). *Behavioral Risk Factor Surveillance System Survey Data*. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2000-2006. (See website: <http://apps.nccd.cdc.gov/brfss/>)

Methodology: The Steps-BRFSS is a point-in-time survey modeled after the CDC's state-based system of health surveys administered annually by each state. The BRFSS is conducted via telephone interviews of randomly selected adults from randomly sampled, telephone-equipped households. A total of 2,657 adults in Cleveland were surveyed between 2005 and 2006. All participants' answers were aggregated and weighted, based on Census population figures, so that the sample represents all Cleveland adults. For more information on the methodology, including the sample description, as well as variable definitions used in this report, please refer to the Cleveland Steps Behavioral Risk Factor Surveillance Survey Methodology Brief, available on the Center for Health Promotion Research website at: www.case.edu/affil/healthpromotion.

Funding Source: The Steps-BRFSS is funded by *Steps to a Healthier Cleveland*. Under the direction of the Cleveland Department of Public Health, *Steps to a Healthier Cleveland* is a city-wide program designed to engage Clevelanders to live longer, better, and healthier lives. A part of the U.S. Department of Health and Human Service's *Steps to a HealthierUS* (5-year) Cooperative Agreement, the local program is one of 40 funded communities nationwide implementing chronic disease prevention and health promotion efforts. The aim of this initiative is to reduce the burden of diabetes, overweight/obesity, and asthma, and to address the three related risk factors of physical inactivity, poor nutrition, and tobacco use. In order to help inform the direction of programmatic efforts and to evaluate their effectiveness, the Center for Health Promotion Research at Case Western Reserve University is responsible for managing the collection of local data via the Steps-BRFSS. For more information on *Steps* and the Cleveland Department of Public Health, please visit: <http://www.clevelandhealth.org/steps>.

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