

## Asthma & Other High School Health Risks (2011)

One in seven high school students (14%) in Rhode Island (RI) has asthma.<sup>1</sup> This Brief examines if these students are in greater jeopardy from other health risks than their peers who do not have asthma (Chart 1), and whether those risks have improved or worsened over time (Chart 2). Twenty measures are evaluated, comprising seven areas of vulnerability (drugs and alcohol, injury, mental health, sex, tobacco, violence, and weight). The findings are intended to inform interested parties and stimulate further research.

In this analysis, the relationship between asthma and other risk factors is one of association, not causation (e.g., students with asthma are more likely to be victims of dating violence, but having asthma cannot be said to cause dating violence). In the text, only those differences in values (over time or between students with and without asthma) that are statistically 'significant' at the 95% confidence level are noted.<sup>2</sup> Lastly, with the exception of the 'lesbian, gay, or bisexual' measure, all others are unfavorable indicators, so lower/declining values are preferred.

**Drugs & Alcohol:** Students with asthma are no more likely to use marijuana, abuse legal (prescription and/or 'over-the-counter') drugs, or to drink alcohol than students without asthma.

**Injury:** Seat belt and bike helmet use and drinking and driving are not significantly different between students with and without asthma.

**Mental Health:** Acute depression is more common among students with asthma (30% vs. 23%). Emotional disability and attempted suicide rates are similar for the two groups.

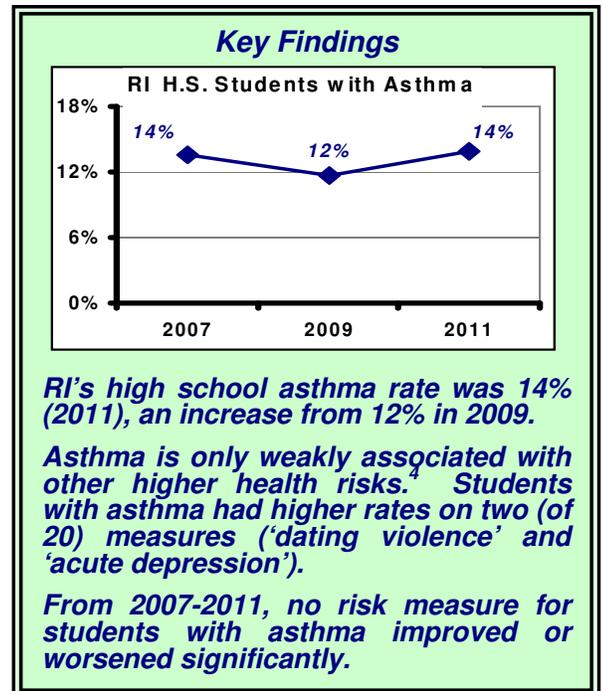
**Sex:** High schoolers with asthma are no more likely to identify as lesbian, gay, or bisexual, to be sexually active or have unprotected sex.

**Tobacco:** Smoking, heavy smoking and the use of any tobacco product are not significantly different for students with and without asthma. Any smoking, however, is problematic as it is a primary trigger for asthma.

**Violence:** Dating violence is significantly higher for students with asthma (11% vs. 7%), but physical fighting and rates of rape are not significantly different for the two groups.

**Weight:** Obesity, physical inactivity and poor nutrition are not significantly different for students with and without asthma.

One in seven RI high schoolers has asthma, which is only weakly correlated with the other overall health risks examined.<sup>3</sup> With few exceptions (i.e., 'acute depression' and 'dating violence'), students with asthma are generally at no greater threat from these other factors than their peers without asthma. Cigarette smoking, while not significantly higher among students with asthma, remains a concern. Asthma itself cannot be cured but it may be controlled to enable patients to lead active and healthy lives.



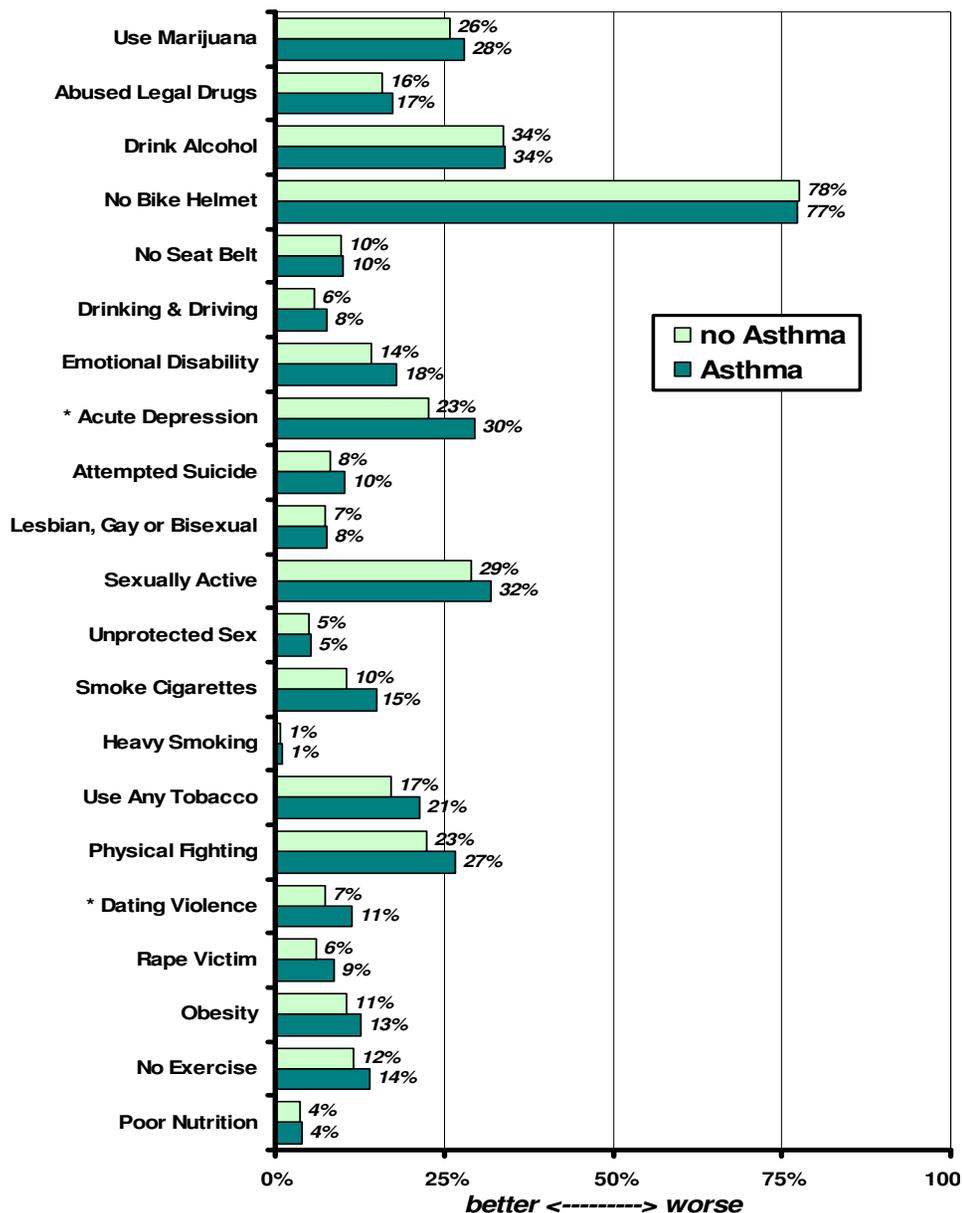
<sup>1</sup> All data are sourced from the Youth Risk Behavior Survey (the YRBS is a biennial survey of high school students nationwide on the major causes of disease and injury morbidity and mortality). Here, students self-reported if they had received a current diagnosis of asthma. For more information contact Bruce Cryan at 401-222-5111, or go to [www.health.ri.gov/data/youthriskbehaviorsurvey/](http://www.health.ri.gov/data/youthriskbehaviorsurvey/).

<sup>2</sup> As the YRBS is a sample survey, if the 95% Confidence Intervals of two values do not overlap, one may conclude (with 95% certainty) there was a 'real' difference between the two values (i.e., the difference was not likely due to sampling bias).

<sup>3</sup> The Phi Coefficient ( $r_\phi$ ) measuring the correlation of asthma and other higher health risks is 0.229 ('0' is no correlation & '1' is perfect correlation).

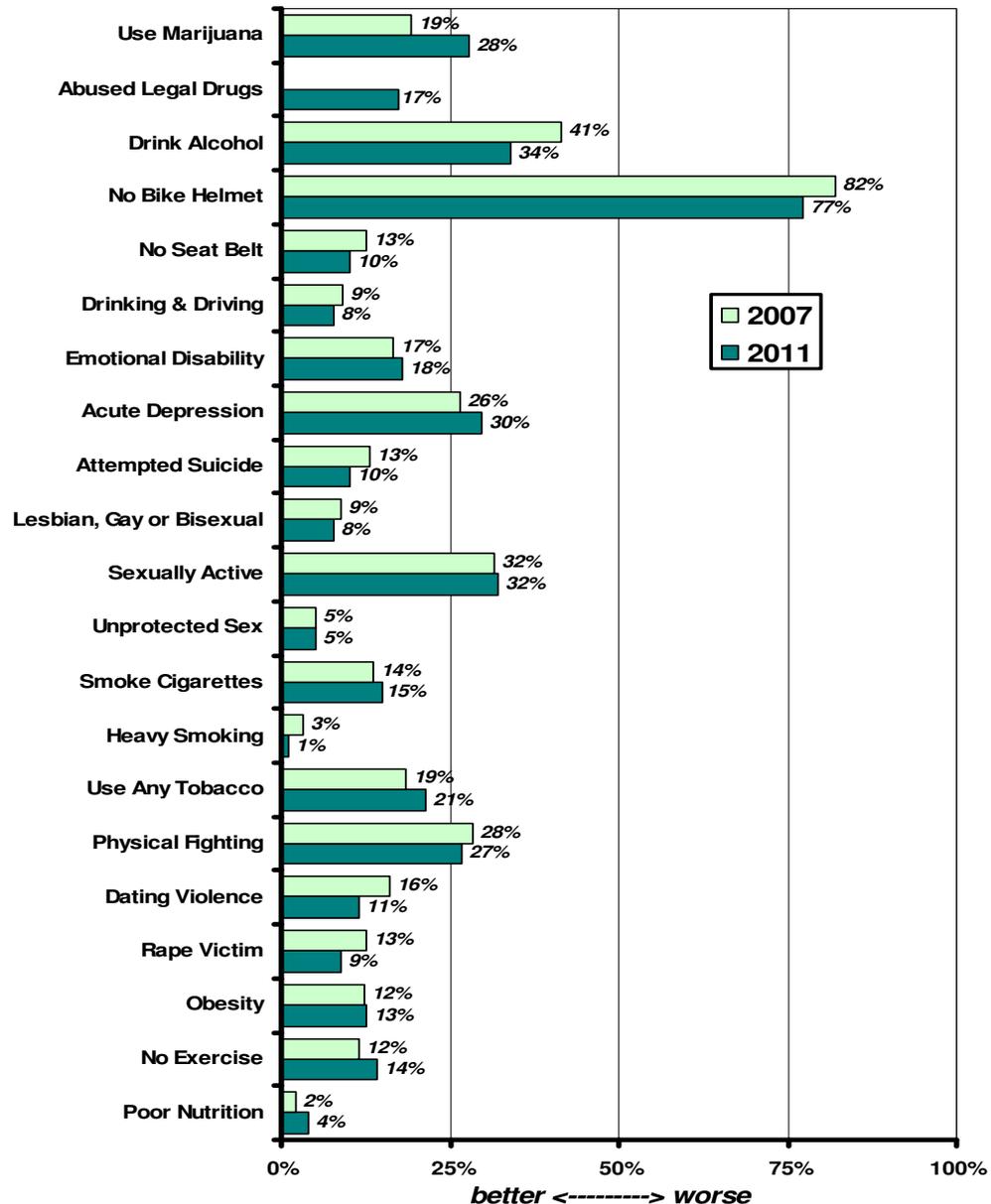
**Chart 1: RI 2011 H.S. Health Risks by Asthma Diagnosis**

(\* statistically significant differences)



**Chart 2: RI 2007 & 2011 Health Risks for Students with Asthma**

(\* statistically significant changes)



**DRUGS & ALCOHOL MEASURES:** Use Marijuana (1+ times, past mo.); Abused Legal Drugs (abused prescription and/or 'over-the-counter' drugs 1+ times, ever); Drink Alcohol (1+ days, past mo.); **INJURY MEASURES:** No Bike Helmet (never or rarely wore, past yr.); No Seat Belt (never or rarely wore, past yr.); Drinking & Driving (1+ times, past mo.); **MENTAL HEALTH MEASURES:** Emotional Disability (for 6+ mos.); Acute Depression (for 2+ weeks, past yr.); Attempted Suicide (1+ times, past yr.); **SEX MEASURES:** Lesbian, Gay or Bisexual (sexual self-identity); Sexually Active (1+ partner, past 3 mos.); Unprotected Sex (no protection, last encounter); **TOBACCO MEASURES:** Smoke Cigarettes (on 1+ days, past mo.); Heavy Smoking (over 10 cigarettes per day, past mo.); Use Any Tobacco (used chewing tobacco, snuff, dip, or smoked cigars or cigarettes on 1+ days, past mo.); **VIOLENCE MEASURES:** Physical Fighting (1+ times, past yr.); Dating Violence (physically abused by partner in the past yr.); Rape Victim (forced into sexual intercourse, ever); **WEIGHT MEASURES:** Obesity (over the 95<sup>th</sup> percentile for body mass index); No Exercise (60+ min. of exercise on 0 days, past wk.); Poor Nutrition (no fruit or vegetables, past wk.)