



Epidemiologic Notes & Reports

Smoking Prevalence in Kentucky

Tobacco use still highest in nation

Kate Jones, MA, Epidemiologist,
Tobacco Prevention and Cessation Program

Introduction

Cigarette use is a public health threat both in the U.S. and Kentucky. With nearly one-third of adults who smoke, Kentucky has the highest prevalence of smoking in the nation. An average of 7,691 Kentuckians died annually from 1997 to 2001 from smoking-related diseases, including cancer, heart disease, and respiratory disease. For 1998, smoking-attributable medical expenditures are estimated to have cost the state approximately \$1.2 billion.

Reducing the prevalence of adult and youth smoking are objectives of Healthy Kentuckians 2010, as well as the Tobacco Prevention and Cessation Program in the Kentucky Department for Public Health (KDPH). Tobacco prevention and control programs and activities that occur statewide are part of a comprehensive approach to reducing the smoking prevalence and overall toll of tobacco-related illness in the state.

Adult Prevalence

According to the Behavioral Risk Factor Surveillance System (BRFSS), a telephone survey conducted by KDPH each year, 28.7% of Kentucky adults were current smokers in 2005. Current smokers are defined as individuals who have smoked at least 100 cigarettes and currently are smoking some days or every day. The current adult smoking prevalence has remained fairly constant over the past 10 years (31.7% of adults were current smokers in 1996).

Based on BRFSS data from 2005, smoking prevalence varies significantly among categories within adult demographic groups (Table 1, page 2). Analyses of the data were conducted using SUDAAN

software. There is a statistically significant difference among adult smokers in the demographic categories within gender, race, age, education, and household income. Males are more likely to be current smokers than females (30.5% compared to 26.9%), and whites are more likely to smoke than blacks (29.0% compared to 18.9%). Current smoking is more common among adults age 18 to 24 years old than those who are older. Cigarette use is least likely among those age 65 and older (13.6%). Smoking prevalence is higher among those without a high school diploma (41.5%) than those with a high school diploma or further education (26.3%). Additionally, 36.7% of adults earning an annual income of less than \$35,000 are current smokers, compared to 23.1% of adults earning greater than \$35,000 a year.

Demographics

Current smoking prevalence among adults varies significantly in the categories within health behaviors and health conditions (Table 2, page 3). Twenty-seven percent of adults with a general health category of excellent, very good, or good are current cigarette smokers, compared to 34.2% of those with a fair or poor general health rating. Adults with less than 14 days of poor physical health in the past 30 days are less likely to be smokers than those with more than 14 days of poor physical health (27.8% compared to 33.7%). Similarly, smoking is less common among adults with less than 14 days of poor mental health in the past 30 days (26.1%), compared to those with more than 14 days of poor mental health (44.8%). Adults categorized as heavy drinkers (men who drink more

(Continued on Page 2)

October Notes & Reports.....

Smoking Prevalence in Kentucky.....	1
Kentucky Diabetes Trend Data Reveals Strong Progress, Yet Room for Improvement as Flu Season Approaches.....	5
Cases of Selected Reportable Diseases in Kentucky.....	8

than two drinks per day and women who drink more than one drink per day) are twice as likely to be current smokers than those who are not heavy drinkers (55.7 percent for heavy drinkers and 27.9% for not heavy drinkers). A lower percentage of adults who are obese (body mass index (BMI) of greater than or equal to 30) smoke than those who are not obese, and those who have been told by a doctor they have diabetes are less likely to smoke than those not told they have diabetes. Adults who get 30 or more minutes of physical activity five or more days per week are less likely to be current smokers than those who do not (24.6% compared to 30.4%). All health behavior and health condition groups have statistically significant differences among categories within each group.

Table 1. Smoking Prevalence by Demographic Groups—Kentucky BRFSS 2005

Demographic Groups	%	95% CI
Total Smoking Prevalence	28.7	(27.1 - 30.4)
Gender**		
Male	30.5	(27.8 - 33.4)
Female	26.9	(25.1 - 28.8)
Race*		
White/Non-Hispanic	29.0	(27.3 - 30.7)
African American/Non-Hispanic	18.9	(13.3 - 26)
Age		
18-24	34.8	(28.0 - 42.3)
25-34	33.1	(28.9 - 37.5)
35-44	33.3	(29.7 - 37.0)
45-54	30.9	(27.7 - 34.4)
55-64	26.0	(22.8 - 29.5)
65+	13.6	(11.7 - 15.8)
Education*		
Less than High School		(37.3 - 45.8)
High School or Greater		(24.5 - 28.1)
Household Income*		
Less than High School		(34.0 - 39.4)
High School or Greater		(20.7- 25.7)
*Difference is significant at p<.05, Chi-Square		
**Even though confidence intervals overlap, difference is significant at p<.05, Chi-Square, based on analysis using SUDAAN software		
Data source: Kentucky BRFSS 2005		

Youth Prevalence

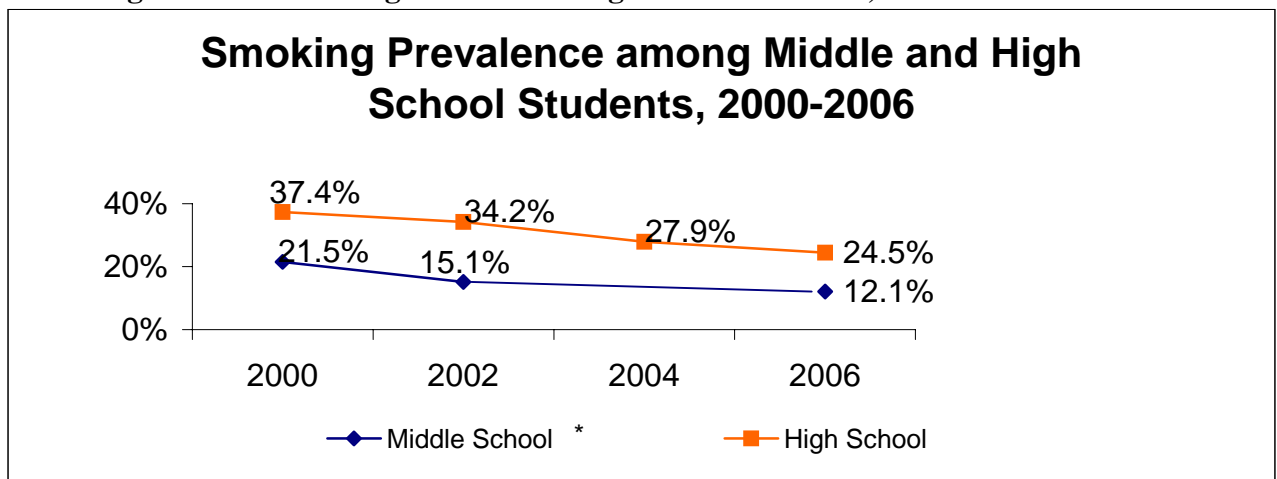
The Youth Tobacco Survey (YTS) is conducted statewide in Kentucky every two years in randomly selected public middle and high schools. Based on data from the 2006 YTS, 24.5% of high school students and 12.1% of middle school students are current smokers. Among high school students, females and males have nearly the same current smoking prevalence (24.9% for females and 24.2% for males); whites (25%) are more likely to smoke than blacks (18.6%); and 12th graders have a higher current smoking prevalence than other grades (32%). Among middle school students, males and females are about equally as likely to smoke (11.7% for females and 12.3% for males); whites (12.7%) are more likely to smoke than blacks (6.4%); and 8th graders have a higher current smoking prevalence than other grades (16.7%). Current smoking among youth is defined as having smoked at least one cigarette during one or more of

the past 30 days. Current smoking prevalence among public middle and high school students has decreased since 2000 (Figure 1).

Table 2. Smoking Prevalence by Risk Factor or Health Condition—Kentucky BRFSS 2005

Risk Factor or Health Condition	%	95% CI
Total Smoking Prevalence	28.7	(27.1 - 30.4)
General Health*		
Excellent, Very Good, Good	27.0	(25.1 - 29.0)
Fair or Poor	34.2	(31.2 - 37.3)
Number of Days of Poor Physical Health in Past 30 Days*		
Less than 14	27.8	(26.0—29.7)
More than 14	33.7	(29.7—37.9)
Number of Days of Poor Mental Health in Past 30 Days*		
Less than 14	26.1	(24.3 - 27.9)
More than 14	44.8	(40.3 - 49.5)
Drinking More than Two Drinks per Day for Men and One Drink per Day for Women*		
Heavy Drinker	55.7	(42.6 - 68.1)
Not Heavy Drinker	27.9	(26.3 - 29.6)
Obesity (BMI \geq 30 kg/m ²)		
Obese	22.9	(20.2 - 25.7)
Not Obese	31.3	(29.2 - 33.4)
Ever Been Told By a Doctor that Have Diabetes*		
Have Diabetes	22.7	(18.8 - 27.2)
Does Not Have Diabetes	29.3	(27.6 - 31.1)
30 or More Minutes of Physical Activity Five or More Days per Week*		
Yes	24.6	(21.8 - 27.5)
No	30.4	(28.3 - 32.7)
*Difference is significant at $p < .05$, Chi-Square Data source: Kentucky BRFSS 2005		

Figure 1. Smoking Prevalence among Middle and High School Students, 2000-2006



*Survey data is not weighted for middle schools in 2004. Source: YTS, 2000-2006

(Continued on Page 4)

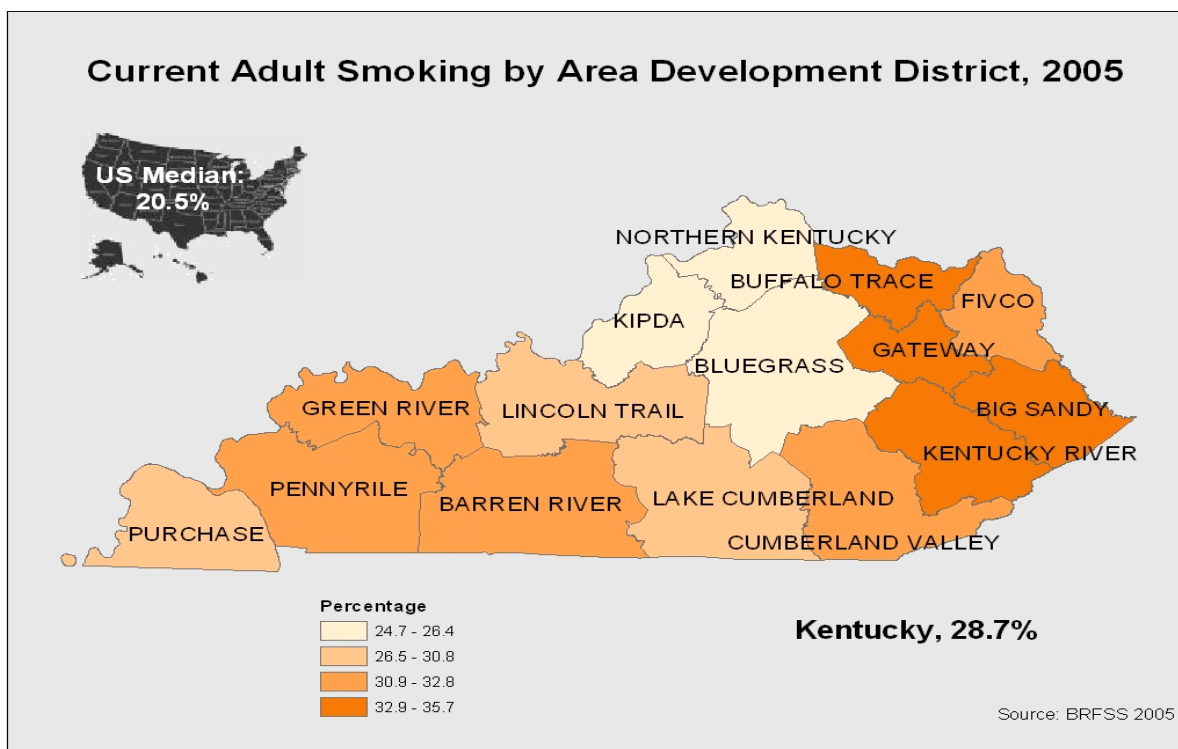
Smoking During Pregnancy

Women and teenage girls who smoke while pregnant present a health risk, not only to themselves, but also to their unborn child. Risks of smoking during pregnancy include low birth weight, intrauterine growth retardation, sudden infant death syndrome (SIDS), prematurity, respiratory disease, cleft/lip palate, preeclampsia, placenta complications, and premature rupture of the membranes. According to the Kentucky Center for Health Statistics, 23.9% of women and teen girls smoked during pregnancy in 2003. This percentage has remained fairly constant over past years. In 1994, 23.8% of women and teen girls smoked while pregnant. Nationally, 10.7% of women and teen girls smoked during pregnancy in 2003.

Geographic Distribution

The smoking prevalence of adults in Kentucky varies by region (Figure 2 below). The Area Development Districts (ADDs) that have the highest smoking prevalence are located in eastern Kentucky: Buffalo Trace (35.7%); Big Sandy (33.7%); Gateway (33.6%); and Kentucky River (33.5%). The ADDs with the lowest smoking prevalence are located in central and northern Kentucky: Bluegrass (24.7%); KIPDA (25.1%); and Northern Kentucky (26.4%). Adults are more likely to smoke in the FIVCO (32.8%), Pennyrile (32.6%), Barren River (32.3%), Green River (31.6%), and Cumberland Valley (31.8%) ADDs than in Purchase (30.6%), Lake Cumberland (30.8%), and Lincoln Trail (29.6%).

Figure 2. Map showing Geographic Distribution of Smoking Prevalence of Adults by Area Development District



Kentucky Tobacco Prevention and Cessation Program

The Kentucky Department for Public Health's Tobacco Prevention and Cessation Program, works to reduce the harmful consequences of tobacco use. Program initiatives are based on the four Centers for Disease Control and Prevention (CDC) goals to reduce the burden of tobacco: (1) prevent the initiation of tobacco use among young people; (2) promote cessation among young people and adults; (3) eliminate non-smokers' exposure to secondhand smoke; and (4) identify and eliminate the disparities related to tobacco and its effects on different population groups.

(Continued on Page 5)

The Tobacco Prevention and Cessation Program funds programs statewide to address these goals, using funding from both the tobacco Master Settlement Agreement (MSA) and the CDC.

Local health departments provide programs for adults and youth that are funded by the Tobacco Prevention and Cessation Program. The Cooper Clayton Method to Stop Smoking, a comprehensive behavioral cessation program, is offered to adults in all health departments or districts. Make Yours a Fresh Start Family (MYFSF) is offered to new and expecting families to educate them on the harmful effects of smoking and to assist them with stopping. Evidence-based youth programs are offered in schools to prevent youth from starting to smoke and also help them with quitting. Local health departments also assist businesses, schools, and court-houses to adopt smoke-free policies to protect non-smokers from exposure to secondhand smoke.

For help and information on quitting, call Kentucky's Tobacco Quit Line, 1-800-QUIT NOW (800-784-8669) or visit www.chfs.ky.gov/dph/ach/tobacco.htm. Kentucky's Tobacco Quit Line is a free telephone service that helps adults quit smoking and using tobacco products. Kentuckians who want to stop using tobacco or are concerned about a family member or friend's tobacco use can call between 9:00 a.m. and 9:00 p.m. Monday - Friday or leave a voice mail after hours to receive a return call.

For more information on tobacco prevention and control programs offered in your area, contact the Tobacco Prevention and Cessation Specialist at your local health department.

References

References are available upon request.

Kentucky Epidemiologic Notes & Reports is also available online at:

www.chfs.ky.gov/dph/epinotes.htm

Please contact the editor Barbara Fox at (502) 564-6786 Ext. 4411 or email (BarbaraJ.Fox@ky.gov) if

you wish to be placed on a LISTSERV distribution list to receive an electronic copy instead of the mailed copy.

Kentucky Diabetes Trend Update

Data reveals strong progress, yet still room for improvement as flu season approaches

Janice Haile RN, BSN, CDE

Teri Wood PhD, Kentucky Diabetes Prevention and Control Program

Kentuckians of all ages and backgrounds live with diabetes. An estimated 376,000 residents have diabetes, more than 109,000 of whom are undiagnosed. Kentucky ranks seventh (tied with two other states) in the nation for the highest percentage of the adult population diagnosed with diabetes. For those individuals living with diabetes, appropriate medical care and self management are crucial to maintaining a healthier life despite the disease.

Fall of 2006 brings a special opportunity to focus on two significant diabetes care areas, influenza and pneumococcal vaccines and dilated eye exams. November is observed as both American Diabetes Month by the American Diabetes Association and Diabetic Eye Disease Month by Prevent Blindness America. These important November health designations afford health professionals an opportunity to educate the public about diabetes and what those diagnosed with the disease can do to live healthier lives.

In the past decade, individuals with diabetes and their health care providers have made significant improvements toward meeting the American Diabetes Association's (ADA) clinical practice recommendations for annual influenza vaccination and dilated eye exams, as well as lifetime recommendations for pneumococcal vaccinations.

Since 1993, the age adjusted rate for Kentuckians with diabetes who receive an annual influenza vaccination has increased from only 30% to slightly over 50% -- an increase of 67% (Table 1, page 7). Vaccination rates have increased across all categories (male, female, age 18-64, and age 65 and older), with the age 65 and older category having the highest rate of vaccination at 74%.

(Continued on Page 6)

Unfortunately though, almost half of residents with diabetes still do not receive this needed vaccination. A new study in the August, 2006 edition of *Diabetes Care* reaffirmed that adults with diabetes benefit from having a flu vaccination every year, regardless of age. A Dutch research team reported that both first and repeat influenza vaccinations reduce all-cause mortality and hospitalizations for complications of respiratory infections. Investigators reported that influenza vaccination was associated with a 56% reduction in any complication, a 54% reduction in hospitalizations, and a 58% reduction in deaths. These data illustrate the value of annual influenza vaccination in adults with diabetes, as currently recommended by the American Diabetes Association's 2006 Clinical Practice Recommendations.

The rate of pneumococcal vaccination among Kentuckians with diabetes has also shown a dramatic increase since 1993, with the age adjusted rate increasing 95% between 1993 (21.1%) and 2004 (41.1%) (Table 2, page 7). Similar to the rates of flu vaccination, the increased rates of pneumococcal vaccination are positive. However, with almost 60% of residents with diabetes lacking the vaccination, there is clear room for improvement.

Since the fall and winter months will bring new cases of flu and pneumonia, now is an optimal time to plan special initiatives to reach Kentuckians who have diabetes. For example, health care providers could consider sending out letters to all their diabetes patients explaining how dangerous flu and pneumonia can be for people with diabetes and recommending that these individuals receive these important vaccinations. Providers may also consider instituting diabetes standing orders to make immunizations a routine part of the office health care regimen. A sample of "Diabetes Standing Orders", which includes immunizations, was recently updated by the Kentucky Diabetes Network (KDN) Health Plan Partners. This tool can be downloaded from the KDN Web site (www.kentuckydiabetes.net, click on *Diabetes Standing Orders*). For more information on seasonal influenza and pneumococcal vaccinations, visit www.chfs.ky.gov/dph/epi/Influenza.htm.

Other health professionals and diabetes educators may consider offering flu and/or pneumonia vaccines at diabetes events held in October and November. In addition, public education and media releases regarding diabetes and the importance of flu and pneumonia vaccination would be beneficial. Free posters and brochures may be ordered from the Centers for Disease Control and Prevention (CDC) at www.cdc.gov/flu/professionals/patiented.htm or by calling 1-800-232-2522 to request a CD with flu and pneumonia educational materials.

Another diabetes complication being highlighted in the month of November is diabetic eye disease. Diabetic retinopathy is the most common form of diabetic eye disease and the leading cause of blindness in adults. Diagnosing and treating retinopathy in its early stages is the best way to treat diabetic eye disease. This is best accomplished by regular dilated eye exams.

The rate of annual dilated eye exams from 1995 to 2004 among Kentuckians with diabetes (Table 3, page 7) shows significant progress over the years with an age adjusted rate of 55.6% in 1995 compared to 65.5% in 2004; however, with over one-third of Kentuckians with diabetes not receiving the recommended dilated eye exam, there is much room for improvement. It is very important for Kentucky practitioners and diabetes educators to take steps to ensure that persons with diabetes understand and receive this critical exam.

KDN Health Plan Partners recently developed a diabetes and eye disease brochure that includes a form to assist the medical provider in obtaining reports of dilated eye exams from the eye doctor. Free copies of this brochure may be obtained by contacting Lonna Fraine (Lonna.Fraine@ky.gov) at the Kentucky Diabetes Network through the Kentucky Diabetes Prevention and Control Program at (502) 564-7996 or download the brochure at www.kentuckydiabetes.net, click *Protect Your Vision*. Other useful phone numbers include the American Diabetes Association (1-800-DIABETES), the American Academy of Ophthalmology's Eye Care America (1-800-628-6733), and the American Ophthalmometric Association's Diabetes Referral Line

(1-800-262-3947). Continued improvements in the number of Kentuckians with diabetes who receive a flu and or pneumonia vaccine, as well as a dilated eye exam, will depend upon everyone working together collectively. Health practitioners are urged to increase efforts to improve Kentucky's outcomes in these critical areas during the months of October and November. A person's life or sight may be depending on it!

NOTE: Further Kentucky diabetes data may be found in *The Impact of Diabetes on the Commonwealth of Kentucky, 2005*. This publication is available on the Kentucky Diabetes Prevention and Control Program's Web site (www.chfs.ky.gov/dph/ach/diabetes) or by contacting Lonna Fraine (Lonna.Fraine@ky.gov) at 502-564-7996.

Table 1. Rates of an Influenza Vaccination in Kentucky in the Last Year per 100 Adults with Diabetes (U.S., 1993-2004)

Year	Male	Female	Age 18-64	Age 65+	Crude	Age Adjusted
1993	36.1	30.2	28.1	40.3	32.9	30.2
2004	61.8	50.2	45.6	74.4	56.1	50.5

Table 2. Rates of a Pneumococcal Vaccination in Kentucky per 100 Adults with Diabetes (U.S., 1993-2004)

Year	Male	Female	Age 18-64	Age 65+	Crude	Age Adjusted
1993	32.3	11.9	21.3	20.2	20.9	21.1
2004	46.5	49.4	35.0	70.6	47.9	41.1

Table 3. Rates of a Dilated Eye Examination in Kentucky in the Last Year per 100 Adults with Diabetes (U.S., 1995-2004)

Year	Male	Female	Age 18-64	Age 65+	Crude	Age Adjusted
1995	56.2	59.5	54.0	63.5	58.1	55.6
2004	68.0	67.9	63.2	76.5	68.0	65.5

KENTUCKY EPIDEMIOLOGIC NOTES & REPORTS

Printed With State Funds
by the
Commonwealth of Kentucky
Cabinet for Health and Family Services
Department for Public Health
275 East Main Street
Frankfort, Kentucky 40621



RETURN SERVICE REQUESTED

PRSR STD
U.S. Postage Paid
Lexington, KY
Permit No. 1

Kentucky Epidemiologic Notes and Reports, a monthly publication, is available without charge to subscribers. Although materials may be reproduced without permission, we appreciate acknowledgement. For more information call 502-564-3418.

Visit our Web site:

<http://www.chfs.ky.gov/dph/epinotes.htm>

William D. Hacker, MD, FAAP, CPE
Commissioner, Department for Public Health

Kraig E. Humbaugh, MD, MPH
State Epidemiologist and Director,
Division of Epidemiology and Health Planning

Barbara J. Fox, MS
Editor

Kentucky Epidemiologic Notes & Reports Advisory Board Members

Michael Auslander, DVM, MSPH
Robert Brawley, MD, MPH
Robin Cotten, MT (ASCP)
Kraig Humbaugh, MD, MPH
Tracey Jewell, MPH
Melissa Luffy, BA
Sara Robeson, MA, MSPH
Doug Thoroughman, PhD

**Cases of Selected Reportable Diseases in Kentucky
(YTD Through MMWR Week #26 for Each Year) Preliminary Totals**

Disease	2006*	2005*
AIDS	47	57
Chlamydia	4551	4952
Gonorrhea	1569	1572
Syphilis (All forms)	88	59
Group A Streptococcus	28	23
Meningococcal Infections	7	11
Hepatitis A	23	6
Hepatitis B	38	36
Hepatitis C	18	4
E. coli Shigatoxin Positive	12	11
Salmonella	175	141
Shigella	145	105
Tuberculosis	33	56
Animal Rabies	7	7

Vaccine Preventable	2006	2005 YTD
<i>Haemophilus influenzae</i> , invasive	2	6
Influenza Isolates	460	576
Measles	0	0
Mumps	1	0
Pertussis	22	63
Rubella	0	0
<i>Streptococcus pneumoniae</i>	27	21
Tetanus	0	0

*Lower numbers for 2006 may reflect a delay in reporting.

Vector-Borne	2006	2005 YTD
Rocky Mountain Spotted Fever	0	0
Lyme Disease	0	1
Ehrlichiosis	1	1
Tularemia	0	1
Arboviral Encephalitis	0	0
Malaria	1	3