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Kentucky Asthma Update

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Introduction

The prevalence of asthma has increased both globally and nationally for several decades, for reasons that remain unclear. What is clear is that asthma is a multifactorial disease with both genetic and environmental components, many of which are still unknown. An asthma attack can be triggered by multiple factors as well, including dust mites and pollen, cigarette smoke, cold air, or exercise.

Asthma is a contributor to missed school and work days, hospitalizations and emergency department visits, and, like many chronic diseases, may be linked to depression. Additionally, 3964 deaths in the U.S. and 50 in Kentucky were caused by asthma in 2003. Reducing this morbidity and mortality from asthma is among the Healthy People 2010 and Healthy Kentuckians 2010 objectives.

Adult Asthma Prevalence

The chief source of data on state-by-state prevalence and distribution of adult asthma (≥18 years of age) is the Behavioral Risk Factor Surveillance System (BRFSS), funded by the Centers for Disease Control and Prevention and state governments. The Department for Public Health conducts Kentucky's telephone survey, which contacts between six and seven thousand adult Kentuckians annually to ask questions about health and health behaviors. The survey has been conducted since the early 1980's, and asthma questions were added in 2000. Approximately 10% of Kentuckians report they have asthma. The estimated prevalence of adult asthma in Kentucky for 2003 was 9.8% compared to the national average of 7.6%. Kentucky was third among the 50 states, just behind Maine and Massachusetts (both with 9.9% in 2003). Kentucky's asthma prevalence has been slowly increasing, with 7.8% reported in 2000, 8.3% in 2001, and 9.5% in 2002. Adult asthma prevalence varies somewhat by demographic group and risk factor (Tables 1, 2).

There are marked differences in estimated asthma prevalence in Kentucky among most demographic groups (Table 1). Females are almost twice as likely as males to have asthma (12.7% compared to 6.6%), and it is more common among African-Americans than among whites (14.2% for African-Americans, 9.6% for whites). Kentucky adults of all age groups report currently having asthma, but those with less education and lower income tend to have a higher asthma prevalence. Of those with less than a high school education, 16.2% have asthma, while among those with a high school education or greater, 8.5% have asthma. Similarly, Kentuckians with a household income of less than $35,000 per year have an asthma prevalence of 13.2%, compared to 6.3% for those with an income of $35,000 or more per year.

Breaking down Kentucky's population for 2003 by health behaviors and health conditions, there are distinct differences in estimated asthma prevalence (Table 2). Current smokers have an asthma prevalence of 12.2%, while 8.7% of non-smokers have

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TABLE 1. Asthma Prevalence by Demographic Group

Asthma Prevalence by Demographic Group Kentucky 2003		
Demographic Groups	% that have asthma	95% CI
Total Asthma Prevalence in Kentucky	9.8	(8.8 - 10.8)
Gender*		
Male	6.6	(5.4 - 7.8)
Female	12.7	(11.2 - 14.2)
Race		
White/Non-Hispanic	9.6	(8.6 – 10.6)
African-American/ Non-Hispanic	14.2	(8.4 - 20.0)
Age		
18-24	10.8	(6.7 - 14.9)
25-34	8.3	(5.9 - 10.6)
35-44	9.6	(7.5 - 11.8)
45-54	9.1	(7.0 - 11.2)
55-64	11.0	(8.6 - 13.3)
65+	10.8	(8.9 - 12.7)
Education*		
Less than High School	16.2	(13.6 - 18.8)
High School or Greater	8.5	(7.4 - 9.6)
Household Income*		
Less than $35,000	13.2	(11.4-15.0)
$35,000 or Greater	6.3	(4.9-7.7)

*Difference is significant at p< .05, Chi-Square
Data Source: Kentucky BRFSS, 2003

asthma. This is mirrored in the question which asks survey respondents about rules regarding smoking in the home. Among those who live in a house where smoking is permitted, asthma prevalence is 11.7%, while for those who live where smoking is not permitted inside, asthma prevalence is 8.5%. In 2003, Kentucky had the highest percentage of current smokers in the nation, at 30.8%. Individuals with a Body Mass Index (BMI) of 30 or above also have a higher rate of asthma (13.1%, compared to 8.8% for people with a BMI below 30). Asthma prevalence is also higher among Kentuckians who feel they have poor physical and mental health and feel that health problems keep them from doing all they would like to do.

TABLE 2. Asthma Prevalence by Risk Factor or Health Condition

Asthma Prevalence by Risk Factor or Health Condition Kentucky 2003		
Demographic Groups	% that have asthma	95% CI
Total Asthma Prevalence in Kentucky	9.8	(8.8 - 10.8)
Smoking*		
Current Smoker	12.2	(10.2 – 14.2)
Not a Current Smoker	8.7	(7.6 - 9.8)
Smoking in House*		
Smoking in House Permitted	11.7	(10.1 – 13.3)
Smoking in House Not Permitted	8.5	(7.1 – 9.8)
Obesity (BMI≥30 kg/m^2)*		
Obese	13.1	(10.8 – 15.4)
Not Obese	8.8	(7.7 – 9.9)
General Health*		
Excellent, Very Good, Good	7.2	(6.2 – 8.3)
Fair or Poor	18.6	(16.1 – 21.0)
Number of Days of Poor Physical Health in Past 30 Days*		
Less than 14	8.0	(6.9 – 9.0)
14 or Greater	20.1	(16.9 – 23.4)
Number of Days of Poor Mental Health In Past 30 Days*		
Less than 14	8.3	(7.3 – 9.3)
14 or Greater	19.1	(15.8 – 22.3)
Activities Limited by Health Problem*		
Yes	19.2	(16.7 – 21.8)
No	6.7	(5.6 – 7.7)

*Difference is significant at p< .05, Chi-Square
Data Source: Kentucky BRFSS, 2003

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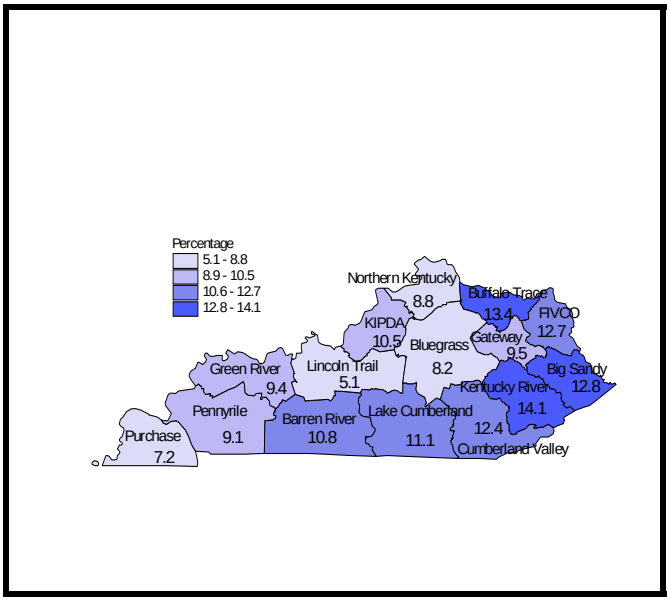
Childhood Asthma Prevalence

Childhood asthma data are limited; however, some data on asthma among Kentucky children (<18 years of age) may be obtained from the Kentucky Youth Tobacco Survey (KYTS), which surveys middle school and high school students; the Kentucky Youth Risk Behavior Survey (YRBS), which surveys students in grades 9-12; and through hospitalization data. Available data suggest that asthma prevalence among those under age 18 years equals or exceeds that of adult asthma. The 2003 KYTS shows an estimated asthma prevalence of 9.8% among middle and high school students. Asthma hospitalization rates for the 0-4 years age group far exceeded those for adults. In 2003, 36% of all asthma hospitalizations in Kentucky were for children (<18 years).

Geographic Distribution

The eastern regions of Kentucky had the highest rates of self-reported adult asthma (Map 1). Kentucky River Area Development District (ADD) had the highest asthma prevalence in 2003 at 14.1%, while Lincoln Trail ADD had the lowest at 5.1%. Kentuckiana Regional Planning and Development Agency (KIPDA) and Bluegrass ADDs together accounted for more than 37% of adult asthma in 2003.

MAP 1. Asthma Prevalence by ADD Kentucky 2003



Asthma Mortality and Hospitalization

The age-adjusted death rate in people with asthma in 2003 (Table 3) was more than twice as high for females (1.6/100,000) as it was for males (0.7/100,000). A more consistent pattern is the higher age adjusted death rate among African Americans (2.3/100,000) compared to whites (1.1/100,000). In 2003 there were 8,107 inpatient hospitalizations for asthma in Kentucky, with total charges of $59,857,424. This is a 66% spending increase since 2001. Medicaid paid for 36.7% of those stays, and Medicare paid for another 24.8%. Cost savings are possible if improved asthma management can help avoid hospitalization.

TABLE 3. Total Asthma Deaths Including the Crude and Age-Adjusted Mortality Rates Kentucky 2003

Total Asthma Deaths Including the Crude And Age-Adjusted Mortality Rates Kentucky 2003			
Demographic Group	Number of Deaths	Crude Rate Per 100,000	Age-Adjusted Rate per 100,000
Total	50	1.2	1.2
Gender			
Male	13	0.6	0.7
Female	37	1.8	1.6
Race			
White	43	1.2	1.1
African-American	6	1.9	2.3
Age Group		(Age-Specific Rate)	
0-19	0	0.0	
20-39	4	0.3	
40-59	17	1.5	
60-79	16	2.8	
80+	13	9.6	

Data Source: Kentucky Vital Statistics Death Files, Preliminary Data for 2003

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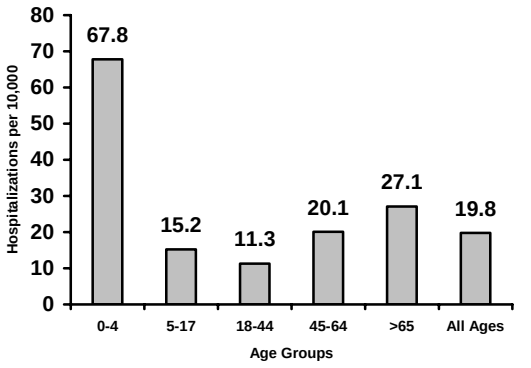
Figure 1 shows Kentucky asthma hospitalization rates per 10,000, by age. The highest rates are for infants and toddlers, at 67.8 per 10,000 population. The 65+ age group is second, but at the much lower rate of 27.1 per 10,000 population.



*Asthma is the principal diagnosis: ICD-9 Diagnosis Codes 493, 493.0, 493.00-493.02, 493.1, 493.10-493.12, 493.20-493.22,493.9, 493.90-493.92
Data Source: Kentucky Appalachian Inpatient Data, Healthcare Cost and Utilization Project, 2003

FIGURE 1. Kentucky Asthma* Hospitalization by Age Group, 2003

There are many avenues to reduce the burden of asthma and improve quality of life for asthma patients, from individual patient counseling to broader community-based interventions. Dissemination and use of asthma data are part of that effort, and in 2004 the BRFSS included an expanded section on asthma, with questions on childhood asthma as well as adult symptom frequency and use of asthma medications. These results will be reported when they become available and should provide a more detailed picture of asthma in our state. Increasing awareness of asthma and its toll on Kentuckians can lead to better options for controlling asthma and a better outcome for everyone.

References

References are available upon request.

HIV Testing During Prenatal Care

Tom Collins, BS, HIV Prevention Initiatives Coordinator, Kentucky Department for Public Health

The stigmatization of HIV/AIDS as a condition only affecting men who have sex with other men or injecting drug users has led to de-emphasizing the possibility of women becoming infected. Prevention interventions are primarily designed to reach men even though reported HIV infections have been increasing among women for several years.

One avenue to reach a substantial number of women is through HIV testing as a part of prenatal care. The U.S. Preventive Task Force currently recommends that all pregnant women be tested for HIV infection. Although it is obvious that a pregnant woman has been engaging in an activity conducive to the transmission of HIV, her actual risk for HIV infection is less clear. Married women and women in monogamous relationships may be viewed as not being at risk for HIV infection. Due to the amount of time a person can be infected with HIV without knowing it, current relationship status may have nothing to do with the woman's HIV status or risk of infection from her current partner.

When women begin to receive prenatal care, healthcare providers have a unique opportunity to discuss HIV testing as a means to determine the HIV status of the mother and prevent perinatal transmission to the child. Out of fear of offending the expecting mother, some healthcare providers may not offer HIV counseling and testing or simply obtain a signature authorizing an HIV test without informing her of the tests they are taking. In either case, healthcare providers are missing a great opportunity to provide their patients with valuable information. Additionally, there may be concerns regarding the amount of time to provide the service, the appropriate staff person to conduct the service, or how to bill for the service. Even though these are legitimate concerns, an HIV test and appropriate counseling are necessary to ensure the best prenatal care possible.

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Cases of Selected Reportable Diseases in Kentucky (YTD Through MMWR Week #42 for Each Year) Preliminary Totals

Disease	2005	2004	5-yr Median
AIDS	203	224	224
Chlamydia	7163	4728	7163
Gonorrhea	2473	2156	3049
Syphilis (Primary & Secondary)	41	40	40
Group A Streptococcus	27	54	35
Meningococcal Infections	14	9	14
Haemophilus influenzae, invasive	7	5	5
Hepatitis A	17	29	29
Hepatitis B	53	59	53
E.coli O157H7	37	24	33
Salmonella	374	294	330
Shigella	250	60	147
Tuberculosis	84	94	103
Animal Rabies	16	20	25
Motor Vehicle Injury Deaths	788	793	771

Vaccine Preventable	2005 YTD	Total in 2004
Diphtheria	0	0
Measles	0	0
Mumps	0	0
Pertussis	100	98
Polio	0	0
Rubella	0	0
Streptococcus pneumoniae	26	32
Tetanus	0	2

Vector-Borne	2005 YTD	Total in 2004
Rocky Mountain Spotted Fever	2	3
Lyme Disease	2	15
Ehrlichiosis	4	2
Tularemia	1	5
Arboviral Encephalitis	4	1
Malaria	8	5

INFLUENZA STATISTICS FOR CONFIRMED ISOLATES
Influenza Season = Oct-May

TYPE	2004-2005 TOTAL	2003-2004 TOTAL
A	502	563
B	119	1
Unknown	0	1
TOTAL	**621**	565

INFLUENZA STATISTICS FOR PROBABLE CASES
Influenza Season = Oct-May

TYPE	2004-2005 TOTAL	2003-2004 TOTAL
Rapid Antigen Tests	**3881**	**2904**

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Due to stigmas associated with HIV and societal views of marriage, women have been underserved in regard to HIV, especially with testing. Prenatal care presents an opportunity not only to provide testing, but to receive valuable information about HIV prevention. Although recommendations do exist to offer testing to all pregnant women, providers may not be following those recommendations or providing testing without taking advantage of the opportunity to provide valuable counseling.

New 2005 Public Health Data Resource Guide Now Available!

The Kentucky Department for Public Health is pleased to announce the release of the Public Health Data Resource Guide for 2005. The guide includes a variety of statewide health surveys, as well as other Kentucky specific surveillance systems and registries. The information provided on each data source includes the types of data collected as well as the strengths and limitations of each data source. Contact information is provided for every source and most contain web links for easy access to available data. The Public Health Data Resource Guide is a valuable resource for conducting public health research, monitoring public health goals or objectives, evaluating initiatives, or exploring Kentucky-related data sources. For a copy of this guide, contact Sara Robeson, Kentucky Department for Public Health Division of Epidemiology and Health Planning, at (502) 564-3418 Ext. 3567 or email Sara.Robeson@ky.gov. The guide may also be accessed on the Internet at http://chfs.ky.gov/dph/DataResourceGuide.htm.