



The ASTHMA EPIDEMIOLOGY *Update*

Spring 2007

What Makes Up North Carolina's Asthma Surveillance Data

Welcome to the first Asthma Epidemiology Update. As the North Carolina Asthma Program works with partners and stakeholders to implement the State Asthma Plan, it is our hope that the *Asthma Epi-Update* will provide a helpful and educational snapshot of asthma data and surveillance in North Carolina. The *Asthma Epi-Update* will be released twice a year, in the spring and in the fall. If you have any questions or comments about the *Asthma Epi-Update*, please send them to Jennifer Woody (jennifer.woody@ncmail.net), interim epidemiologist for the N.C. Asthma Program.

As a quick overview for those non-epi partners out there, epidemiology is the study of the distribution and determinants of a health-related state in a specific population and the application of this study to control health problems.¹ The objectives of epidemiology are to: 1) identify the etiology of the cause of the disease and the risk factors; 2) determine the extent of the

disease found in the community; 3) study the natural history and prognosis of the disease; 4) evaluate both existing and new preventive and therapeutic measures and modes of health care delivery; and 5) provide the foundation for developing public policy and regulatory decisions relating to environmental problems.¹ To do this, we examine measures of morbidity (illness or disease) and mortality (death).

With the recent release of the North Carolina Asthma Program's Burden of Asthma in North Carolina 2006 document, we thought it would be beneficial to have a discussion of asthma surveillance data. North Carolina's asthma surveillance consists of several different sources and tools. While none of these sources is dedicated solely to the surveillance of asthma in our state, the combination of all these sources provides us with a good picture of the burden of asthma statewide.

North Carolina Data Sources

Behavioral Risk Factor Surveillance System (BRFSS)

– The BRFSS is a random telephone survey of state residents age 18 and older in households with telephones. The BRFSS asks questions regarding a variety of health behaviors and leading health practices. Interviews are conducted throughout the year and the data is analyzed annually. Web site: www.schs.state.nc.us/SCHS/brfss/index.html.

Child Health Assessment and Monitoring Program (CHAMP)

– A random telephone survey of parents or primary caregivers of state residents age 17 and younger in households with telephones, chosen through the BRFSS random child selection module. The goal of CHAMP is to obtain statewide data on a wide variety of health-related topics. Like the BRFSS, interviews are conducted throughout the year and the data is analyzed annually. Web site: www.schs.state.nc.us/SCHS/champ.

Youth Risk Behavior Survey (YRBS)

– A survey of middle and high school students that monitors six categories of priority health risk behaviors. Included in this survey are lifetime and current asthma prevalence questions. This survey is

conducted in odd years, and data is released in the middle of the following year. Web site: www.nchealthyschools.org/data/yrbs.

Hospitalization Database

– Hospitalization data is based on a patient level billing database. We are able to obtain data on how many admissions there are for a primary diagnosis of asthma, and from there determine hospitalization rates for asthma. While this data is imperative for determining the success of asthma management programs, there are several limitations with this database that are documented in the Burden of Asthma in North Carolina 2006 report. This data is released approximately 18 months following the end of the calendar year that the data covers. Web site: www.schs.state.nc.us/SCHS/data/data-book/.

Detailed Mortality Statistics

– Mortality statistics are provided by the State Center for Health Statistics and provide information on persons who die due to a primary cause of asthma (ICD-10 codes J45 and J46). Mortality statistics are available approximately six to eight months following the end of the previous

calendar year. Web site: www.schs.state.nc.us/SCHS/data/county.cfm.

School Health Services Report for Public Schools

– This report includes data submitted by school nurses, based on their knowledge of health services provided by school nurses and other health professionals in North Carolina public schools. The purpose of this survey is to get an overall view of school health services, to identify conditions and situations affecting students, to gain a profile of the student-to-nurse ratio across the state, and to identify health policies in schools. The report is release annually. Web site: www.nchealthyschools.org/data.

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Data Sources

We use a variety of data sources for our asthma surveillance and are always on the lookout for new data sources that will provide us a more complete view of the burden of asthma, as well as asthma management practices here in North Carolina.

School Health Profiles –

This survey is conducted by state and local education and health agencies among middle and high school principals. The profiles monitor the current status of many things, including: school health education requirements and content, physical education requirements, food service, competitive foods practices and policies, family and community involvement in school health programs, tobacco-use prevention, and asthma management activities. This survey is conducted every other year,

with previous surveys occurring in 2002 and 2004. Web site: www.nchealthyschools.org/data/profiles.

Medicaid Data, HEDIS –

The Health Plan Employer Data and Information Set (HEDIS), is a set of standardized performance measures designed to ensure that purchasers and consumers have the information they need to reliably compare the performance of managed care plans. HEDIS annually asks a specific asthma question regarding “appropriate medications

for persons with persistent asthma” in specific age groups. This information for North Carolina looks at persons in several different Medicaid-related health plans and determines the number of recipients who 1) have persistent asthma according to the HEDIS definition, and 2) received the appropriate medication for their asthma. These reports are released annually and are available through the Division of Medical Assistance website. Web site: www.dhhs.state.nc.us/dma/ca/qm.htm.

National Data Sources

Several surveys conducted on the national level also provide the N.C. Asthma Program with some state-specific data and with some national data so that we may see how our state compares with others across the country.

The National Survey of Children’s Health, sponsored by the Maternal and Child Health Bureau of the U.S. Department of Health and Human Services, was conducted in 2003. It was a state-based telephone survey of households with children under 18 years old (the respondent was a parent or caregiver who knew the most about the child’s health). The purpose of this survey was to estimate national and state level prevalence for a variety of physical, emotional, and behavioral health indicators in

combination with information on the child’s family context and neighborhood environment. This survey has not been repeated. Information regarding the survey can be found on the web site: <http://nschdata.org/Content/Default.aspx>.

The National Health Interview Survey is also a valuable data source, and is the principle source of information on the health of the civilian non-institutionalized population of the U.S., as well as being one of the major data collection programs of the National Center for Health Statistics. National Health Interview data can be found on the National Center for Health Statistics web site at: www.cdc.gov/nchs/.

Looking to the future

The North Carolina Asthma Program is constantly looking for new sources of data that will enhance our asthma surveillance efforts across the state. We are currently working with the NC DETECT program (Disease Event Tracking and Epidemiologic Collection Tool) to obtain data on asthma-related emergency department visits. This data will be available at a hospital level, and the N.C. Asthma Program is very excited about having this regional specific data that will be an excellent tool for measuring asthma management.

References

1. Gordis, L. (2000) Epidemiology. 2nd ed. Philadelphia, Pennsylvania: W.B. Saunders Company.



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