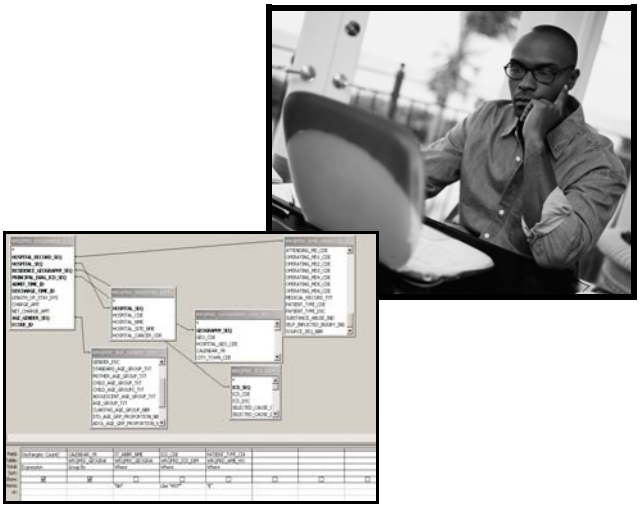
Asthma Burden Report
New Hampshire
2010

Appendix A: Description of Data Sources



New Hampshire Department of Health and Human Services
Division of Public Health Services, Asthma Control Program
February 2010

Preface

In order to get these data to you in a timely manner, the New Hampshire Asthma Control Program has decided to publish chapters of the *Asthma Burden Report – New Hampshire 2010* as they are completed. When new chapters are published, the appendices will be updated if needed. The primary purpose of this report is to disseminate data to the Asthma Control Program's partners, health care providers, insurers and public health professionals so this information can be used to develop, plan, implement and evaluate asthma-related activities.

Acknowledgements

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Appendix A:
Description of Data Sources

Behavioral Risk Factor Surveillance System (BRFSS)

Years Available: 1998-2008 (note: asthma questions were not added to New Hampshire's BRFSS until 2000)

Purpose: To monitor the prevalence of chronic diseases and health behaviors associated with morbidity. A core set of questions, including two asthma prevalence questions, are asked on an annual basis. The Centers for Disease Control and Prevention (CDC) also provides a list of optional modules that can be added to the core questions to obtain additional information on specific health and behavioral risk factors. States can develop their own questions to add to the survey as well.

Asthma Content: Prevalence of current and lifetime asthma as well as asthma risk factors (e.g., smoking, weight status).

Two optional modules, the Random Child Selection Module and Child Asthma Prevalence Module, can be added to the BRFSS to obtain child asthma prevalence estimates. New Hampshire added these modules to the 2005-2008 BRFSS. The Random Child Selection Module randomly selects one child in the household to be the subject of the interview. The Child Asthma Prevalence Module asks two asthma prevalence questions: "Has a doctor, nurse or other health professional EVER said that the child has asthma?" and "Does the child still have asthma?" These two modules combined allow us to calculate an asthma prevalence rate for children.

Sampling Frame: It is a population-based, random, digit-dialed telephone survey of civilian, non-institutionalized adults, aged 18 years and older.

Response Rate/Coverage: The Counsel of American Survey Research Organizations (CASRO) response rate for the 2008 New Hampshire BRFSS was 46.2%. The national median CASRO rate was 53.3%. The New Hampshire BRFSS coordinator is taking steps to improve New Hampshire's CASRO rate. These steps include mailing out a letter notifying potential respondents that they will receive a call and telling them about the survey, leaving a number with respondents so they can complete the interview at their convenience, and expanding coverage to cell phones. Starting with the 2009 survey, New Hampshire plans on including approximately 250 cell phones numbers in the sample.

Limitations:

- For New Hampshire, the sample size for minority populations is too small to do analyses by race/ethnicity.
- Data are self-reported: inaccurate recall by respondents or proxy, used when a child is the subject of an interview, can lead to recall bias and response bias resulting in an under- or over- estimation of specific behaviors or conditions.
- The survey sampling frame does not cover all individuals in the state (e.g., prisoners).
- The Random Child Selection and Child Asthma Prevalence Modules are not asked by all states so national child asthma prevalence estimates can not be obtained from the BRFSS.

For More Information: Visit the New Hampshire Department of Health and Human Services, Division of Public Health Services, Office of Health Statistics and Data Management website at www.dhhs.nh.gov/dphs/hsdm/brfss/index.htm. Information on BRFSS survey methods is also available on the Centers for Disease Control and Prevention website at www.cdc.gov/brfss.

BRFSS Adult & Child Asthma Call-back Survey (BRFSS Adult & Child ACS)

Years Available: 2006-2008

Purpose: To examine the health, socioeconomic, behavioral and environmental predictors that relate to better control of asthma. It also helps characterize the content of care and health care experiences of adults and children with asthma.

Asthma Content: This survey includes only those who have asthma and covers the following topics:

- History of asthma symptoms
- Health care utilization
- Asthma education
- Modifications to the environment
- Medications
- Access to Care
- School, daycare and workplace
- Co-morbid conditions
- Complimentary and alternative therapy

Sampling Frame: The sampling frame is based on the BRFSS core sample. Anyone who responded "yes" on the BRFSS to "Has a doctor, nurse or other health professional EVER said that you/[Randomly Selected Child] have/has asthma?" is eligible to participate in the Asthma Call-back Survey. Those who said "yes" to this question are asked if they would participate in another 20 minute survey about their asthma or selected child's asthma in two weeks. If both the responding adult and randomly selected child have asthma, then 50% of the time the child will be the subject of the Call-back Survey and 50% of the time the adult will be the subject. This was done so that these households did not receive two interviews for the Call-back survey.

Response Rate/Coverage: The methods to determine response rates specific to the Asthma Call-back Survey are still being developed.

Limitations:

- Due to the small sample sizes at least two years of data need to be combined to produce reliable estimates for adults and at least three years for children.
- Because the Call-back Surveys are based on the BRFSS sample, all the limitations found in the BRFSS are also present for these surveys.
- In addition to the recall and response bias limitation of the BRFSS, there is the potential for selection bias. Which may result in differences in population characteristics between those that respond to the BRFSS only and those who respond to both the BRFSS and Call-back Survey. Table A.1 compares characteristics of adults with asthma who responded to the BRFSS only to adults who responded to both the BRFSS and Call-back Survey. As

indicated in the table, those responding to both had statistically significantly more education, were less likely to smoke, and were older than those who responded only to the BRFSS. A similar analysis was done for children but due to the sample size, reliable comparisons could not be calculated.

Table A.1
Demographics, socioeconomic status and other characteristics of New Hampshire's population and comparison of the asthma population who responded to the BRFSS only and those that responded to both the BRFSS and the BRFSS Asthma Call-back Survey - New Hampshire, 2006-2008

	NH Population		Asthma Population responding to the BRFSS Only		Asthma Population responding to both the BRFSS and BRFSS Asthma Call-back Survey	
	Percent	95% CI	**Percent**	95% CI	**Percent**	95% CI
Lifetime Asthma	**15.1**	14.4 - 15.8	**100.0**	100.0 - 100.0	**100.0**	100.0 - 100.0
Current Asthma	**10.1**	9.6 - 10.7	**68.4**	65.2 - 71.5	**71.3**	67.7 - 75.0
SEX						
Male	**48.7**	47.8 - 49.7	**38.4**	34.9 - 41.8	**37.8**	34.0 - 41.7
Female	**51.3**	50.3 - 52.2	**61.6**	58.2 - 65.1	**62.2**	58.3 - 66.0
Age						
18-24	**9.6**	8.8 - 10.5	**15.0**	11.6 - 18.4	**8.4**	5.4 - 11.3
25-34	**17.3**	16.4 - 18.1	**23.3**	20.2 - 26.3	**18.6**	15.2 - 22.0
35-44	**20.3**	19.5 - 21.0	**20.9**	18.5 - 23.4	**20.9**	17.8 - 23.9
45-54	**20.9**	20.2 - 21.6	**17.9**	15.7 - 20.1	**20.3**	17.6 - 23.1
55-64	**15.4**	14.8 - 15.9	**11.2**	9.6 - 12.8	**18.9**	16.3 - 21.4
65+	**16.5**	16.0 - 17.1	**11.8**	10.3 - 13.2	**13.0**	11.1 - 14.8
Household Income						
Less than $15,000	**5.6**	5.2 - 6.0	**8.6**	6.8 - 10.4	**8.1**	6.1 - 10.2
$15,000-$24,999	**10.6**	10.0 - 11.2	**16.0**	13.5 - 18.6	**10.3**	7.9 - 12.6
$25,000-$49,999	**23.9**	23.1 - 24.7	**21.7**	19.0 - 24.5	**23.6**	20.4 - 26.9
$50,000-$74,999	**20.1**	19.3 - 20.9	**18.8**	16.0 - 21.6	**20.1**	17.0 - 23.2
$75,000 and higher	**39.8**	38.9 - 40.8	**34.8**	31.3 - 38.3	**37.9**	34.0 - 41.7
Education						
Less than high school	**6.3**	5.8 - 6.7	**10.8**	8.6 - 12.9	**5.4**	3.5 - 7.3
High school graduate/GED	**26.9**	26.0 - 27.7	**27.7**	24.8 - 30.6	**21.3**	18.2 - 24.5
Some College	**26.1**	25.2 - 26.9	**26.9**	23.7 - 30.0	**28.3**	24.9 - 31.7
College graduate	**40.8**	39.9 - 41.7	**34.6**	31.6 - 37.7	**45.0**	41.3 - 48.7
Employment						
A homemaker	**55.8**	54.9 - 56.7	**7.2**	5.6 - 8.7	**6.7**	4.8 - 8.5
A student	**10.4**	9.8 - 10.9	**5.8**	3.5 - 8.1	**2.6**	1.0 - 4.2
Employed for wages	**1.5**	1.2 - 1.7	**54.6**	51.3 - 57.9	**54.6**	50.9 - 58.3
Out of work for < 1 year	**2.7**	2.3 - 3.1	**3.0**	1.5 - 4.5	**3.3**	1.6 - 5.1
Out of work for ? 1 year	**6.2**	5.8 - 6.6	**2.1**	0.9 - 3.3	**1.5**	0.6 - 2.5
Retired	**3.7**	3.2 - 4.3	**10.5**	9.1 - 12.0	**13.4**	11.5 - 15.4
Self-employed	**15.6**	15.1 - 16.2	**7.8**	6.2 - 9.4	**8.8**	6.7 - 10.9
Unable to work	**4.1**	3.8 - 4.4	**9.0**	7.4 - 10.6	**9.0**	7.0 - 10.9
Insurance						
Has insurance	**88.9**	88.3 - 89.6	**85.7**	83.0 - 88.4	**87.6**	84.5 - 90.7
No insurance	**11.1**	10.4 - 11.7	**14.3**	11.6 - 17.0	**12.4**	9.3 - 15.5
General Health						
Good to excellent health	**62.1**	61.2 - 63.0	**48.5**	45.2 - 51.8	**49.6**	45.9 - 53.4
Fair or poor health	**37.9**	37.0 - 38.8	**51.5**	48.2 - 54.8	**50.4**	46.6 - 54.1
Smoking						
No	**81.6**	80.9 - 82.4	**76.1**	73.1 - 79.1	**84.8**	81.8 - 87.8
Yes	**18.4**	17.6 - 19.1	**23.9**	20.9 - 26.9	**15.2**	12.2 - 18.2

Grey shading indicates there is a statistically significant difference between those with asthma who responded to the BRFSS only and those who responded to both the BRFSS and Asthma Call-back Survey.

Data Source: 2006-2008 NH BRFSS and 2006-2008 NH BRFSS Adult Asthma Call-back Survey

For More Information: Visit the Centers for Disease Control and Prevention website www.cdc.gov/asthma/survey/brfss.html#callback.

National Survey of Children's Health (NSCH)

Years Available: 2003 & 2007

Purpose: To estimate national and state level prevalence of a variety of physical, emotional and behavioral health indicators in combination with information on the child's family context and neighborhood environment.

Asthma Content: Prevalence of asthma and some asthma management questions are on the survey. Since this data set includes individuals without asthma, comparisons between those with and without asthma can be made for certain health behaviors (e.g., amount of activity limitations).

Sampling Frame: It is a population-based, random, digit-dialed telephone survey. Approximately 2,000 surveys are collected for each state, and survey results are weighted to represent the population of non-institutionalized children ages 0-17 nationally and in each state.

Response Rate/Coverage: The CASRO response rate for New Hampshire was 47.0% in 2007. The national CASRO response rate was 46.7%.

Limitations:

- Data are reported by a proxy: inaccurate recall by the proxy can lead to recall bias and response bias resulting in an under- or over- estimation of specific behaviors or conditions.
- The survey-sampling frame does not cover all individuals in the state (e.g., children in institutions or cell phone only households).

For More Information: Visit the National Survey of Children's Health Data Center at www.nschdata.org. This site provides a query tool people can use to explore the data themselves. For a complete questionnaire and to download the public use data files, visit the Centers for Disease Control and Prevention's National Center for Health Statistics website at www.cdc.gov/nchs/slaits/nsch.htm.

New Hampshire Youth Tobacco Survey (YTS)

Years Available: 2004 and 2007 Middle and High School YTS, and 2009 High School YTS

Purpose: To assess tobacco-related knowledge, attitudes and behaviors among students in grades 6-12.

Asthma Content: The 2004 and 2007 data provide current and lifetime asthma prevalence rates for school children in grades 6-12; the 2009 data provide estimates for school children in grades 9-12. This survey also provides estimates of smoking-related issues by asthma status.

Sampling Frame: The YTS survey sample design is a two-stage cluster design. In the first stage, schools are selected randomly within the grade range specified with a probability proportional to enrollment size. At the second stage, classes are randomly selected from within the selected schools and all the students within a selected class are surveyed.

Response Rate/Coverage: The overall response rate was 63% for the middle school sample and 73% for the high school sample in 2007. The 2009 high school sample response rate was 67%.

Limitations:

- The YTS does not represent youth who are not enrolled in public schools. This includes private school students, those who are home-schooled and those who have dropped out of school.
- Data are self-reported by students and reveal the same limitations as self-reported BRFSS data.
- Only two questions regarding asthma are asked.
- National asthma prevalence estimates can not be obtained from this data source as not all states ask asthma questions on their Youth Tobacco Survey.

For More Information: Contact the New Hampshire Tobacco and Prevention Program at 1-800-852-3324 ext 5885 or 603-271-5885. TDD Access: 1-800-735-2964.

New Hampshire Inpatient Hospital Discharge Data (IHDD)

Years Available: 1996-2006

Purpose: To help monitor changes in healthcare demands within our healthcare system. More specifically it is used to monitor the number and rate of primary and secondary diagnoses of illnesses/injury, identify characteristics of those who are hospitalized (e.g., age, gender), examine any seasonality related to certain illnesses/injuries, and assess charges and expected payer information related to particular illnesses/injuries.

Asthma Content: Number and rate of hospitalizations with asthma as the primary or secondary diagnosis, characteristics of those hospitalized with a primary or secondary diagnosis of asthma, seasonality of asthma hospitalizations, and charges and expected payer information for asthma hospitalizations.

Sampling Frame: Not Applicable. Data on all New Hampshire hospitalizations are abstracted from medical records upon patient discharge and reported to the Department of Health and Human Services. Hospitalization data are coded under the Ninth Revision of the International Classification of Diseases-Clinical Modification (ICD-9-CM).

Response Rate/Coverage: Discharge records on admissions for stays of 24 hours or more at all 26 acute-care, non-federal inpatient facilities in the state as well as hospitalizations for New Hampshire residents that occur in Maine, Massachusetts and Vermont. Although the state collects hospitalization discharges from specialty hospitals (e.g., mental health hospitals), these data are kept in a separate data file. Analysis from the specialty hospital data file found that in a five-year period there was only one discharge with asthma as a primary diagnosis. As there are no Veterans Administration (VA) hospitals or other federal hospitals in New Hampshire and hospitalization for asthma is rare in the specialty hospitals in the State, this data set covers essentially 100% of asthma hospitalizations among New Hampshire residents that occur in New Hampshire and neighboring states.

Limitations:

- This database contains single episodes of treatment within a particular hospital. For instance, if a person is treated at the emergency department of Hospital A, and then is admitted as an

inpatient to Hospital A, the patient's data would only be reported by Hospital A to the state's Inpatient Hospital Discharge Database, not to the state's Outpatient Hospital Discharge Database. However, the data for a patient transferred from the emergency department of Hospital A to the emergency department of Hospital B will be reported by both Hospital A and Hospital B to the state's Outpatient Hospital Discharge Database. Since patients are rarely transferred from one hospital to another for asthma, this is unlike to be an issue. It is however, a significant problem for conditions like myocardial infarction (also know as a heart attack).

- The counts and rates reported represent events of acute care hospital utilization and not the counts and rates of individual asthma episodes. The same person may be treated at the hospital multiple times for the same asthma episode or multiple asthma episodes.
- Data on race and ethnicity are limited by data quality issues and thus not utilized in any analyses in this report.
- The financial charges for services are based on the billing information as reported by the hospital to the source of payment, such as Medicaid. The charges do not necessarily represent the actual cost of care or the exact amount reimbursed to the hospital by the payer. Some of the charges may be for diagnostic conditions unrelated to asthma. The total direct charges do not include costs associated with other effects of the asthma episode, such as lost time away from work or school or reduced quality of life.
- The data set is not available until approximately 22 months after the close of the calendar year. This is due in part to not considering the data set complete until hospitalizations from states bordering New Hampshire (Maine, Massachusetts and Vermont) are included. Data from these states account for approximately 10% of hospitalizations that occur among New Hampshire residents. This varies dramatically by geographic region and has a significant impact on sub-state analyses.
- Data prior to 2000 do not include hospitalizations for New Hampshire residents that occurred in Maine, Massachusetts and Vermont. As a result, hospitalizations prior to 2000 cannot be compared to those after 2000 unless out-of-state hospitalizations are excluded.

For More Information: Visit the New Hampshire Department of Health and Human Services, Division of Public Health Services, Office of Health Statistics and Data Management website at www.dhhs.nh.gov/dphs/hsdm/hospital/index.htm.

National Hospital Discharge Survey (NHDS)

Years Available: 1970-2006

Purpose: To provide national estimates of inpatient hospital utilization.

Asthma Content: Provides a national estimate of hospital discharge rates with asthma as the primary diagnosis. This information is used to compare New Hampshire hospital discharge rates for asthma to national rates.

Sampling Frame: The NHDS is based on a national probability sample of discharges from non-institutional hospitals located in the 50 States and the District of Columbia exclusive of Federal, military and Veterans Administration (VA) hospitals. Only short-stay hospitals (hospitals with an average length of stay for all patients of less than 30 days) or those whose specialty is general (medical or surgical) or children's general regardless of length of stay are included in the survey. The NHDS uses a modified three-stage probability design. The stages

are: 1) primary sampling units (PSU's); 2) hospitals within PSU's; and 3) discharges within hospitals. Approximately 270,000 inpatient records are selected yearly from a national sample of approximately 500 hospitals.

Response Rate/Coverage: The response rate is approximately 90%.

Limitations:

- Since NHDS looks at a sample of records, the estimates obtained could be different than if all hospitalization records were used.
- The NHDS is used to compare New Hampshire hospital discharge rates for asthma to national rates. This is problematic since different methods are used to collect the data; nevertheless it is the best data available for the comparison. Since minorities represent 4% of New Hampshire's population, whereas minorities represent 25% of the population nationally, analysis using the NHDS was limited to white non-Hispanics. This was done so that the population used in the national estimate would be more similar to the population of New Hampshire.

For More Information: Visit the Centers for Disease Control and Prevention's National Center of Health Statistics website at www.cdc.gov/nchs/nhds.htm.

New Hampshire Outpatient Hospital Discharge Data (OHDD)

Years Available: 1996-2006

Purpose: To help monitor changes in healthcare demands within our healthcare system. More specifically it is used to monitor the number and rate of primary and secondary diagnoses of illnesses/injury, identify characteristics of those who have hospital outpatient visits (e.g., age, gender), examine any seasonality related to certain illnesses/injury, and assess charges and expected payer information related to particular illnesses/injuries.

Asthma Content: Number and rate of hospital outpatient visits (e.g., emergency room visits, observation stays) with asthma as the primary or secondary diagnosis, characteristics of those who have hospital outpatient visits, seasonality of asthma visits, and charges and expected payer information for visits.

Sampling Frame: Not Applicable. Data on all New Hampshire hospital outpatient visits are abstracted form medical records upon patient discharge and reported to the Department of Health and Human Services. Hospital outpatient data are coded under the Ninth Revision of the International Classification of Diseases-Clinical Modification (ICD-9-CM).

Response Rate/Coverage: Discharge records on hospital outpatient visits at all 26 acute care, non-federal inpatient facilities in the state as well as hospital outpatient visits for New Hampshire residents that occur in Maine, Massachusetts and Vermont. Although the state collects hospitalization discharges from specialty hospitals (e.g., mental health hospitals), these data are kept in a separate data file. Analysis from the specialty hospital data file found that in a five-year period there was only one discharge with asthma as a primary diagnosis. As there are no Veterans Administration (VA) hospitals or other federal hospitals in New Hampshire and hospitalization for asthma is rare in the specialty hospitals in the State, this data set covers essentially 100% of asthma hospital outpatient visits among New Hampshire residents that occur

in New Hampshire and neighboring states.

Limitations:

- This database contains single episodes of treatment within a particular hospital. For instance, if a person is treated at the emergency department of Hospital A, and then is admitted as an inpatient to Hospital A, the patient's data would only be reported by Hospital A to the state's Inpatient Hospital Discharge Database, not to the state's Outpatient Hospital Discharge Database. However, the data for a patient transferred from the emergency department of Hospital A to the emergency department of Hospital B will be reported by both Hospital A and Hospital B to the state's Outpatient Hospital Discharge Database. Since patients are rarely transferred from one hospital to another for asthma, this is unlike to be an issue. It is however, a significant problem for conditions like myocardial infarction (also know as a heart attack).
- The counts and rates reported represent events of acute care visits and not the counts and rates of individual asthma episodes. The same person may be treated at the hospital multiple times for the same asthma episode or multiple asthma episodes.
- Data on race and ethnicity are limited by data quality issues and thus not utilized in any analyses in this report.
- The financial charges for services are based on the billing information as reported by the hospital to the source of payment, such as Medicaid. The charges do not necessarily represent the actual cost of care or the exact amount reimbursed to the hospital by the payer. Some of the charges may be for diagnostic conditions unrelated to asthma. The total direct charges do not include costs associated with other effects of the asthma episode, such as lost time away from work or school or reduced quality of life.
- The data set is not available until approximately 25 months after the close of the calendar year. This is due in part to not considering the data set complete until outpatient hospital discharges from states bordering New Hampshire (Maine, Massachusetts, and Vermont) are included. Data from these states account for approximately 7% of emergency department visits that occur among New Hampshire residents. This varies dramatically by geographic region and has a significant impact on sub-state analyses.
- Data prior to 2000 do not include outpatient discharges on New Hampshire residents that occurred in Maine, Massachusetts and Vermont. As a result, data prior to 2000 cannot be compared with data after 2000 unless out-of-state visits are excluded.
- Also in 2000, a new variable "patient type" was added to the data set. This was done because some hospitals were reporting observation stays and ambulatory surgeries in addition to emergency room visits. This change has resulted in more hospitals reporting on observation stays and ambulatory surgeries. Since different hospitals treat emergency department visits and observation stays differently, this report has presented data on these types of patients separately as well as provided estimates for all hospital services (inpatient, emergency department and observation stays). Also, because of the addition of "patient type" to the data set, estimates prior to 2000 can not be compared to those after 2000.

For More Information: Visit the New Hampshire Department of Health and Human Services, Division of Public Health Services, Office of Health Statistics and Data Management website at www.dhhs.nh.gov/dphs/hsdm/hospital/index.htm.

National Hospital Ambulatory Medical Care Survey (NHAMCS)

Years Available: 1992-2006

Purpose: To provide national estimates on the utilization and provision of ambulatory care services in hospital emergency and outpatient departments. The National Hospital Ambulatory Medical Care Survey (NHAMCS) is designed to collect data on the utilization and provision of ambulatory care services in hospital emergency and outpatient departments.

Asthma Content: Provides a national estimate of emergency department discharge rates with asthma as the primary diagnosis. This information is used to compare New Hampshire asthma emergency department discharge rates for asthma to national rates.

Sampling Frame: Findings are based on a national sample of visits to emergency departments and outpatient departments of non-institutional, general and short-stay hospitals located in the 50 States and the District of Columbia exclusive of Federal, military and Veterans Administration (VA) hospitals. The survey uses a four-stage probability design with samples of geographically defined areas, hospitals within these areas, clinics within the outpatient departments and emergency service areas within the emergency departments of these hospitals, and patients visits to these clinics and emergency service areas. This survey is based on a national sample of approximately 36,500 visits to emergency departments and 31,000 outpatient department visits from a national sample of approximately 500 hospitals that have an emergency department and/or outpatient department.

Response Rate/Coverage: The response rate is approximately 87%.

Limitations:

- Since NHAMCS looks at a sample of records, the estimates obtained could be different than if all emergency department records were used.
- The NHAMCS is used to compare New Hampshire emergency department discharge rates for asthma to national rates. This is problematic since different methods are used to collect the data; nevertheless it is the best data available for the comparison. Since minorities represent 4% of New Hampshire's population, whereas minorities represent 25% of the population nationally, analysis using the NHAMCS were limited to white non-Hispanics. This was done so that the population used in the national estimate would be more similar to the population of New Hampshire.

For More Information: Visit the Centers for Disease Control and Prevention's National Center of Health Statistics website at www.cdc.gov/nchs/ahcd.htm.

Mortality data

Years Available: 1990-2006

Purpose: To monitor the number and rate of underlying cause of death and contributing causes of deaths and identify characteristics of those who died (e.g., age, gender, occupation, education, location of death).

Asthma Content: Number and rate of asthma as an underlying or contributing cause of death.

Sampling Frame: Not Applicable. Death certificates for deaths occurring in New Hampshire are collected by the Department of State, Division of Vital Records Administration. Deaths of New Hampshire residents that occur in other states and countries are recorded by those governments and submitted to the Division of Vital Records Administration.

Response Rate/Coverage: Includes death records of all New Hampshire residents including those that occur out-of-state and death records of non-state residents that occur in New Hampshire. All analyses are based on records for New Hampshire residents only.

Limitations:

- A wide array of individuals with different levels of experience and educational backgrounds, from coroners to funeral directors, can complete death certificates.
- A change from ICD-9 to ICD-10 codes for identifying cause of death and contributing causes occurred in 1999, making it difficult to compare deaths prior to 1999 to those that occurred after 1999. However, a comparability ratio for asthma was developed by the National Center for Health Statistics, National Vital Statistics System to account for the change in coding, thus making it possible to compare asthma deaths prior to and after 1999.

For More Information: Visit the Department of State, Division of Vital Records Administration website at www.sos.nh.gov/vitalrecords or the Department of Health and Human Services, Division of Public Health Services at www.dhhs.nh.gov/dphs/hsdm/death/index.htm.

School Health Profiles Surveys

Years Available: Even-numbered years since 1996.

***Purpose*:** To assess school health policies and programs in states and large urban school districts. The School Health Profiles Survey is a system of surveys administered to both school principals and the lead health education teacher in public middle and high schools.

***Asthma Content*:** This data set contains information on asthma management activities in schools. Some of the asthma-related information that can be obtained from this data source includes whether or not schools:

- Identify and track all student with asthma
- Obtain and use an Asthma Action Plan for all students with asthma
- Assure immediate access to medications as prescribed by a physician and approved by parents
- Educate school staff about asthma

- Educate students about asthma management
- Encourage full participation in physical education and physical activity when students with asthma are doing well

***Sampling Frame*:** A systematic, equal-probability sampling strategy is used to produce a representative sample of schools. A questionnaire is self-administered by both the school principal and the lead health education teacher during the spring semester every other year. Completion of the survey is confidential and voluntary. Follow-up telephone calls and written reminders are used to encourage participation.

***Response Rate/Coverage*:** New Hampshire's response rate was approximately 85% in 2008.

Limitations:

- Data are self-reported: inaccurate recall by respondents can lead to recall bias and response bias resulting in an under- or over- estimation of responses.
- Questions have not remained consistent on the survey so there is limited ability to look at trends.
- Prior to 2008, there were few questions that addressed asthma and asthma-related issues.

For More Information: Visit the New Hampshire Department of Education, Division of Instruction, Office of School Health website at: www.education.nh.gov/instruction/school_health/hiv_data.htm or the Centers for Disease Control and Prevention website at www.cdc.gov/healthyYouth/profiles.

Comprehensive Healthcare Information System (CHIS)

Years Available: 2005-2008

Purpose: To make healthcare data available as a resource for insurers, employers, providers, purchasers of health care, and state agencies to continuously review healthcare utilization, expenditures and performance in New Hampshire, and to enhance the ability of New Hampshire consumers and employers to make informed and cost-effective healthcare choices. CHIS contains information from claims submitted by all NH-based insurance companies and Medicaid. Claims data include information on the use and cost of services in and outside the hospital setting. For example, use and cost of procedures, therapies and preventive services as well as prescriptions.

Asthma Content: Claims related to primary care visits, emergency department visits, hospitalizations, and other care for asthma as well as filled asthma.

Sampling Frame: Not Applicable. Claim are submitted by all NH-based insurance companies and Medicaid to the New Hampshire Department of Health and Human Services and the New Hampshire Insurance Department as required by state statute RSA 420-G:11-a. See the CHIS website for a complete description of the reporting requirements, www.nhchis.org.

Response Rate/Coverage: Only people with New Hampshire-based insurance providers are included; New Hampshire residents whose insurance company is based in another state are not

included. For a complete description of reporting requirements, visit the CHIS website at www.nhchis.org. This system covers approximately 70% of children less than 18 years old and 60% of adults 18-64 years old in New Hampshire.

Limitations:

- CHIS does not capture anything not billed or covered by insurance. It does not reflect denied claims, premium information, test results or prescriptions written by physicians but not filled.
- Currently, two separate programs are used to analyze data from the system. Medicaid data are analyzed using Medstat Decision Analyst and private payer data are analyzed using SAS. Since the development of this system, there have been discussions on formatting Medicaid data into the same format as the private payer data, but due to lack of funds this has not yet occurred. As a result, different programs have to be developed in each of these software packages, which can lead to differences in how the data are processed. This may result in slight differences in the final results than if the same software package were used.
- Results from analyses are not representative of the population at large, and conclusions drawn from the data are only applicable to those who have private health insurance or Medicaid.
- People over 65 years of age are not well represented in this database and are usually excluded from analyses.

For More Information: Visit the New Hampshire Comprehensive Health Information System website at www.nhchis.org. For reports using these data, produced by the Department of Health and Human Services, Office of the Commissioner, Office of Medicaid and Business Policy, visit their website at www.dhhs.nh.gov/ombp/publications.htm. The New Hampshire Insurance Department has also created a website www.nhhealthcost.org that presents these data to provide consumers and employers information on the price of medical care in New Hampshire by insurance plan and procedure. The site also provides the estimated price of medical care for the uninsured.

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