



Addressing the Challenges of Reporting on Childhood Asthma in a Changing Health Care System:

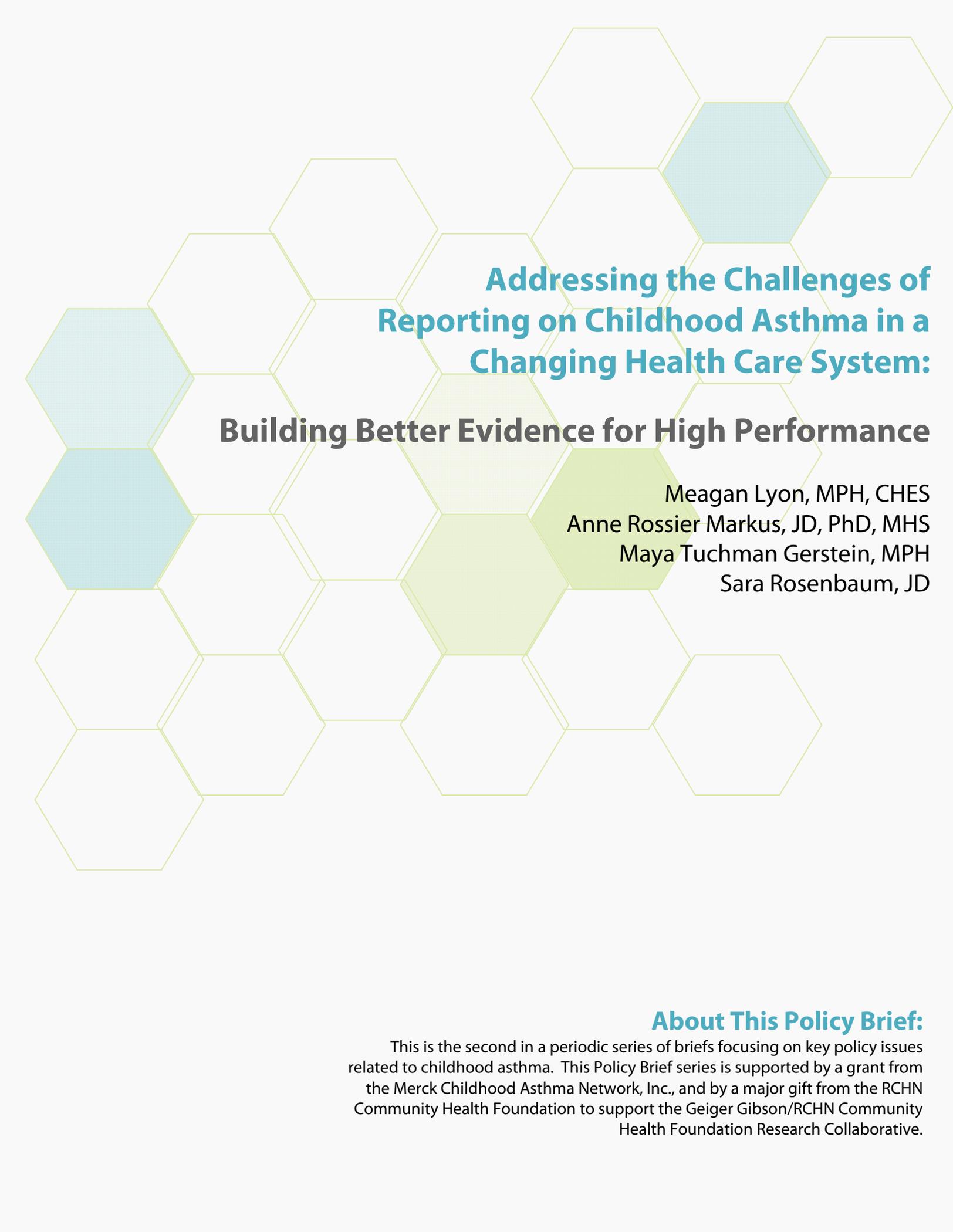
Building Better Evidence for High Performance



THE GEORGE WASHINGTON UNIVERSITY
SCHOOL OF PUBLIC HEALTH
AND HEALTH SERVICES

THE DEPARTMENT OF HEALTH POLICY





Addressing the Challenges of Reporting on Childhood Asthma in a Changing Health Care System:

Building Better Evidence for High Performance

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About This Policy Brief:

This is the second in a periodic series of briefs focusing on key policy issues related to childhood asthma. This Policy Brief series is supported by a grant from the Merck Childhood Asthma Network, Inc., and by a major gift from the RCHN Community Health Foundation to support the Geiger Gibson/RCHN Community Health Foundation Research Collaborative.

Executive Summary

Childhood asthma is a serious and costly chronic disease that burdens children and families as well as the health care systems that serve them. A key element to improving asthma outcomes is access to timely and useful data that can improve the quality of care and inform programs and policies to best serve those communities most burdened by asthma. This Policy Brief examines the nation's data collection framework for childhood asthma and considers steps that might be taken to strengthen it, including the development, collection and refinement of community-level data to inform local health care systems. Through a review of the public health surveillance system related to childhood asthma, including a specific look at existing asthma data, this brief lays out the challenges to the current system and identifies opportunities to develop responsive and timely data collection, monitoring and surveillance systems, harnessing health information technology (HIT) applications to address the many challenges of childhood asthma. This brief includes recommendations for improvements in public health reporting systems including standardization of measures and a focus on the development of real-time local surveillance and mapping technologies to best inform communities working to lessen their childhood asthma burden.

Introduction

This Policy Brief examines the challenges and opportunities that lie ahead in developing a community-level information system that is essential to meeting the health and health care challenges of childhood asthma. Complete, integrated information - about the community-level presence of asthma, its community impact, and the performance of local health care systems in alleviating the burden of illness – is essential in order to transform the health, social, and economic outcomes associated with serious and chronic illness.

No chronic condition better illustrates the importance of health information than childhood asthma. A widespread condition – and one that strikes certain communities particularly hard – asthma can be identified, treated, and well managed under evidence-informed guidelines and with strong parental involvement, even as broader public health efforts are undertaken to prevent it. Where asthma is poorly managed, its adverse impact is felt community-wide, in increased health costs, lost school days and work time, and most importantly, needless childhood illness and at times, death. In 2007 alone, asthma cost the United States an estimated \$56 billion (2009 dollars) in direct expenditures, with productivity losses due to mortality and morbidity costs accounting for nearly \$4.5 billion.¹ Among all conditions for which children are hospitalized, asthma is considered the most avoidable. In 2008 alone, the Medicaid program experienced an estimated \$582 million in costs related to hospital discharges for children with asthma.² The Centers for Medicare and Medicaid Services (CMS) recently identified more comprehensive asthma management as a major opportunity for reducing Medicaid program costs³.

Experts consistently point to information about community incidence, patient access, and health care quality and outcomes as fundamental to any meaningful effort to improve the quality of care, promote population health, and control the growth of health care costs. ⁴ In its 2011 Report to Congress on a National Strategy for Quality

¹ Barnett, SBL, Nurmagambetov TA. Costs of Asthma in the United States: 2002-2007. *J Allergy Clin Immunol.* 2011; 127:145-52.

² GW analysis of 2008 HCUP data

³ Letter from HHS Secretary Sebelius to State Governors. February 3, 2011.

<http://www.hhs.gov/news/press/2011pres/01/20110203c.html>. Accessed April 20, 2011

⁴ 76 Fed. Reg. 19528 (April 7, 2011). These three aims were most recently discussed in the Administration's proposed rules governing accountable care organizations. ; Kenney GM, Ruhter J, Selden TM. Containing Costs and Improving Care for Children in Medicaid and CHI. *Health Affairs.* 2009; 1025-36.; Wagner, EH, Glasgow RE, Davis C, et al. Quality Improvement in Chronic Illness Care: A Collaborative Approach. *Journal of Quality Improvement.* 2001; 27(2): 63-80; Mangione-Smith R, DeCristofaro AH, Setodji CM et al. The Quality of Ambulatory Care Delivered to Children in the United States. *N Eng J Med.* 2007; 357(15):1515-23 ; Hoppin P. et al. Investing in Best Practices for Asthma: A Business Case. August 2010 Update. Asthma Regional Council, 2010; Kattan M, Stears SC, Crain EF, et al. Cost-Effectiveness of a Home-Based Environmental Intervention for Inner-City Children with Asthma. *J Asthma and Clin Immunol.* 2005; 116:1058-63; Krieger, J, Takaro TK, Song L, Beaudet N, Edwards K. A Randomized Controlled Trial of Asthma Self-Management Support Comparing Clinic-Based Nurses and

Improvement in Health Care,⁵ the Administration highlighted this link between evidence on the one hand and health care and population health improvement on the other, emphasizing that a central aim of the Strategy was to “improve the health of the U.S. population by supporting proven interventions to address behavioral, social, and environmental determinants of health in addition to delivering higher-quality care.”⁶

This Policy Brief examines the nation’s data collection framework for childhood asthma and considers steps that might be taken to strengthen it, with the objective of improving health care outcomes and providing a model for the effective community based and data-informed management of asthma and other chronic conditions.

Asthma: A Key Test of the Power and Capabilities of Health Information

There is no stronger example than childhood asthma of a costly and disabling health condition that strikes individual children and disproportionately burdens certain populations, especially children at elevated risk for disparities in health and health care. While asthma is not an infectious disease like measles, in some ways it might as well be. Childhood asthma is more than a patient-specific health problem; as underscored by local area studies, asthma can impact entire rural and urban communities in which elevated poverty, economic and social stressors, and housing and environmental risks make life less safe for children⁷. National estimates and specialized studies indicate that asthma strikes nearly one in every 10 children and one in 7 low income children⁸. Children who are members of certain racial and ethnic minority groups experience the greatest impact. Asthma affects approximately one in

In-Home Community Health Workers. *Arch Pediatr Adolesc Med.* 2009; 163(2): 141-149; Krieger JW, Takaro TK, Song L, Weaver M. The Seattle-King County Healthy Homes project: A Randomized, Controlled Trial of a Community Health Worker Intervention to Decrease Exposure to Indoor Asthma Triggers. *Am J Public Health.* 2005; 95(4): 652-659.

⁵ <http://www.healthcare.gov/center/reports/quality03212011a.html>

⁶ National Strategy to for Quality Improvement in Health Care, <http://www.healthcare.gov/center/reports/quality03212011a.html#na> (Accessed April 20, 2011)

⁷ Sandel M, Wright RJ. When home is where the stress is: expanding the dimensions of housing that influence asthma morbidity. *Arch Dis Child.* 2006; 91:942-948; Williams DR, Sternthal M, Wright R. Social Determinants: Taking the Social Context of Asthma Seriously. *Pediatrics.* 2009;123: S174-S184; Rauh VA, Chew GR. Deteriorated housing contributes to high cockroach allergen levels in inner-city households. *Environ Health Perspect.* 2002; 110 (suppl 2):323-7; Wright RJ, Mitchell H, Visness CM et al. Community violence and asthma morbidity: the Inner-City Asthma Study. *Am J Public Health.* 2004; 94:625-32; Lapnear BP, Aligne CA, Auinger P, Weitzman M, Byrd RS. Residential Exposures Associated with Asthma in US Children. *Pediatrics.* 2001; 107: 505-511;

⁸ Vital Signs: Asthma Prevalence, Disease Characteristics, and Self-Management Education- United States, 2001-2009/. CDC MMWR Early Release May 3, 2011.; Akinbami LJ, Moorman JE, Liu X. Asthma Prevalence, Health Care Use, and Mortality” United States, 2005-2009. National Health Statistics Reports. No. 32. January 2011.; Bloom B, Cohen RA, Freeman G. Summary health statistics for U.S. children: National Health Interview Survey, 2009. National Center for Health Statistics. Vital Health Stat 10(247). 2010.

6 non-Hispanic black children and one in 5 children of Puerto Rican heritage.⁹ Community-based health care safety net providers such as community health centers report childhood asthma prevalence at double the national norm.

In short, asthma is both an individual condition and a broader indicator of community health. Real-time information about how asthma affects both patients and populations is thus extremely valuable. All pediatric health care providers should be knowledgeable about and supported to undertake high quality childhood asthma management, but certain providers need to be particularly well equipped and integrated into broader public health efforts that aim to attack asthma's root causes. It is essential to understand in which communities or neighborhoods – both urban and rural – asthma levels are particularly elevated. Payers and public health authorities need ongoing information to measure the quality of health system performance and identify communities in which efforts either are succeeding or need to be modified or intensified. Producing and using information about childhood asthma thus becomes a bellwether for the nation's health information system more broadly.

This challenge – to produce integrated, real-time, community-level information about community and patient health and health care - requires linking disease incidence and prevalence measures from numerous sources with clinical information. Together this information allows public health experts and payers to map the condition's impact, support health care providers, report on clinical and programmatic outcomes and target resources. It is this ability to analyze and use patient- and community-level information in real time that will stand as the real breakthrough in the nation's health system.

One important element of health information is the nation's public health surveillance system. Public health experts define surveillance as the systematic collection, analysis, and evaluation of data. These data, in turn, are used to inform public health programs and policies aimed at reducing morbidity and mortality.¹⁰ Good surveillance depends on the collection of certain types of information. One type is information about specific demographic characteristics of individuals affected by a health condition. Another is information about which patients are receiving treatment, the types of treatment they are receiving in relation to evidence-informed standards of care, and the health outcomes of effective treatment as measured by indicators of health such as reductions in the need for hospital care and in lost school and work days. Compiling such information about childhood asthma requires the ability to collect and analyze evidence from many sources such as schools, hospitals, pharmacies, clinics and private physician practices, and parent surveys. Some information, such as health care utilization data, might be collected continuously. Other information, such as

⁹ Vital Signs: Asthma Prevalence, Disease Characteristics, and Self-Management Education- United States, 2001-2009/. CDC MMWR Early Release May 3, 2011.;Akinbami L, Moorman JE, Garbe PL, et al. Status of Childhood Asthma in the United States, 1980-2007. *Pediatrics*. 2009; Vol 123, Supplement 3, S131.

¹⁰ CDC.Updated Guidelines for Evaluating Public Health Surveillance Systems. MMWR. 2001, 50(1-35).

surveys of parents, might be collected periodically. All data need to be collected over time so that researchers can measure trends, target policies, programs and services as conditions change, evaluate the longer-term effectiveness of health and health care interventions, and formulate broader public health policies aimed at reducing the incidence and prevalence of illness.

The Current State of Childhood Asthma Information and Surveillance

Valid population-specific data about the diseases that affect children and families helps stakeholders to understand the needs of a community and how to appropriately direct resources and interventions to address those needs.¹¹ Under the Centers for Disease Control and Prevention (CDC) guidelines, states have broad latitude to define which conditions they monitor and the evidence that monitoring systems rely on. Furthermore, federal funding to help support surveillance activities is limited. In 2010, only twelve states treated asthma of any type, including occupational asthma, as a reportable condition.¹² Because of the limits of Congressional funding, CDC funding for states is insufficient to finance asthma monitoring in all states. Currently, CDC grant conditions establish only minimal standards for childhood asthma information collection and reporting at the community level, focused on the characteristics of the communities and populations affected, the rate of health care utilization services that are indicative of uncontrolled asthma (such as hospitalization and emergency department use), the impact of asthma on communities of different population size, and the proportion of children receiving evidence-based asthma management known to be effective. While other sources support data collection – in particular the federal investment in electronic health records (EHRs) – most of these applications have not yet been fully implemented, and policies related to the exchange of health information among public health systems, social service and education agencies, hospitals, physicians, and pharmacies, are just beginning to be formulated.

Several discrete data collection efforts provide valuable information about childhood asthma at the national level. Through its National Center for Health Statistics, CDC conducts a variety of national surveys (see Appendix I) that function as surveillance tools for monitoring health, including questions related to asthma. The Health Resources and Services Administration (HRSA), which oversees the community health centers program, has since 1996 required health centers to report asthma outcomes among their patients, with additional asthma measures that include pediatric patients as part of the HRSA Disparities Collaborative in 2005-2006.¹³ These data are available

¹¹ Brown CM, Anderson HA, Etzel RA. Asthma: The states' challenge. *Public Health Reports*. 1997; 112(3):198-205. ; Levy BS. Toward a holistic approach to public health surveillance. *American Journal of Public Health*. 1996; 86:624-625.; Boss PL, Kreutzer RA, Luttinger D et al. The Public Health Surveillance of Asthma. *Journal of Asthma*. 2001; 38(1):83-89.

¹² Council of State and Territorial Epidemiologists. State Reportable Conditions Query. <http://www.cste.org/izenda/ReportViewer.aspx?rn=Condition+All&p1value=2010&p2value=Asthma>

¹³ Personal communication with HRSA. November 16, 2010. ; There is a proposed asthma measure, for adults and children about pharmacologic therapy for CY 2011 UDS reporting. Proposed measure:

from all federally funded health centers and offer one of the best ongoing sources of information about community-level asthma through the lens of more than 1,200 health centers operating in over 8,000 sites.

Medicaid and the Children's Health Insurance Program (CHIP), two Federal programs which together provide coverage for one in three U.S. children, could be a rich source of data on pediatric asthma. However, while the CMS oversees the performance of both programs, utilization and claims data are not centrally maintained or analyzed. State Medicaid programs are not expected to compile and report such information for states and communities. The Title V Maternal and Child Health Block Grant program, which is administered by HRSA, similarly provides no ongoing information about community and state-level prevalence of childhood asthma or the proportion of children receiving treatment. Under HRSA requirements, Title V programs must report certain state-level child health indicators (see Appendix I), but asthma is not included.

In addition to the federally supported data collection and reporting systems described above are the data systems developed- in part through federal investments- for public and private payers. Childhood asthma has become a focus of quality measurement and improvement in the payer community; along the way, much information has been collected that, in turn, could be harnessed for broader clinical and systems improvement. For example, twenty-seven state Medicaid and CHIP programs use asthma measures to monitor the quality of managed care plans.¹⁴ CHIPRA also has a core measure set that includes one asthma health care utilization measure,¹⁵ although it is voluntary for state Medicaid and CHIP programs.¹⁶ CMS has begun compiling reports of state data from External Quality Review Organization (EQRO) efforts that include asthma as part of their quality improvement work. Among private payers, performance on childhood asthma measures is also a common focus of quality clinical monitoring.

In the U.S. public health system, it is generally the responsibility of states, working under broad federal guidelines, to collect and analyze public health information, including disease surveillance data, as key components of population health monitoring and promotion. Certain conditions, particularly infectious diseases such as sexually transmitted diseases, HIV, and influenza, are considered reportable conditions by virtually all states and their reporting is incentivized by financial and technical support from the CDC. By contrast, federal and state data collection and reporting

Asthma – Pharmacological therapy: Percentage of patients age 5 to 40 years with a diagnosis of persistent asthma (either mild, moderate, or severe) who were prescribed either the preferred long term control medication (inhaled corticosteroid) or an acceptable alternative pharmacological therapy (leukotrene modifiers, cromolyn sodium, nedocromil sodium, or sustained released methylxanthines) during the current year.

¹⁴ Medicaid Managed Care Quality Benchmarking Project. National Committee for Quality Assurance. Prepared for Centers for Medicare and Medicaid Services. August 23, 2010.

<https://www.cms.gov/MedicaidCHIPQualPrac/Downloads/NCQAMBench.pdf>

¹⁵ CHIPRA measure: Annual number of asthma patients (≥1 year old) with ≥1 asthma related ER visit (S/AL Medicaid Program)

¹⁶ AHRQ. CHIPRA Health Care Quality Measurement and Improvement Activities. <http://www.ahrq.gov/chipra/>

policies are less active and uniform for other conditions such as childhood asthma, despite their high prevalence and costs to health and health care. Consequently, though conforming to current federal guidance, state-level surveillance and reporting is not standardized for asthma.

As part of the public health information system, the CDC has identified six basic elements of an effective disease surveillance system for any health condition (Figure 1).

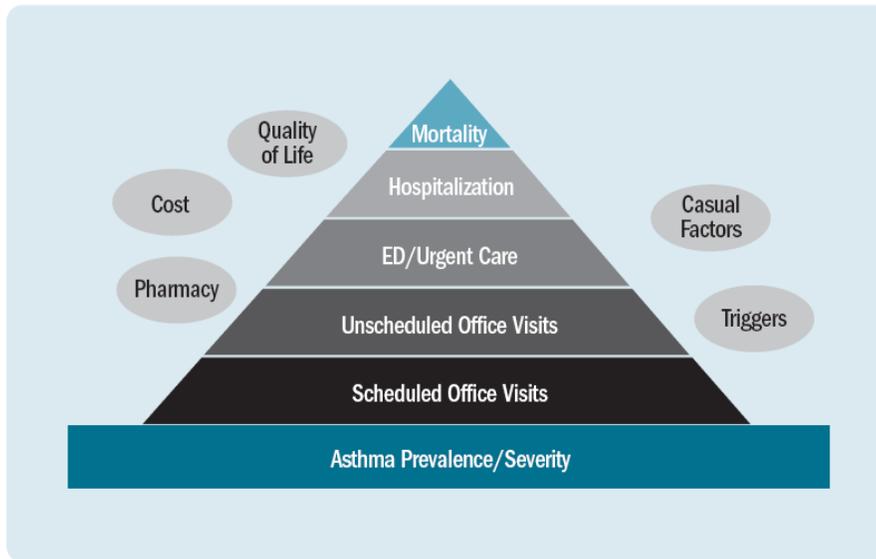
FIGURE 1. CDC's Six Basic Elements of an Effective Disease Surveillance System

- 1) Prevalence
- 2) Use of scheduled office visits to treat the condition*
- 3) Use of unscheduled office visits to treat the condition *
- 4) Emergency department (ED) visits*
- 5) Hospital admissions*
- 6) Deaths*

* These elements are also used as indirect indicators of quality of care furnished to children with asthma, with high ED use and inpatient admissions suggestive of care that is of poorer quality and does not effectively manage the condition in a lower cost and less burdened ambulatory care setting.

Through its National Asthma Control Program (described below), the CDC has also identified 6 key elements in high quality asthma surveillance, displayed in Figure 2.

FIGURE 2. The Asthma Surveillance Pyramid



Source: Centers for Disease Control and Prevention. "A Public Health Reponse to Asthma," PHTN Satellite Broadcast, Course Materials 2001.

Despite the recognized policy importance of a robust, disease-specific surveillance system, an evaluation of current practice reveals fragmentation that has real implications for the nation's health.

What Childhood Asthma Monitoring Might Look Like

Obtaining more robust and useful information about childhood asthma involves updating traditional ideas about surveillance to include focused, strategic efforts to locate, target, and assist the most significantly burdened communities. Certain emerging health information technologies hold major promise to supplement the availability of data currently available through public health surveillance and information culled from provider activities and claims. Asthmapolis, an asthma inhaler tracking program, is a prime example of innovative surveillance technology- put to work for the public health system (Figure 3). Applications like these can be employed to gather, analyze, and present information about childhood asthma, and are central to a modern health care system. Innovative surveillance tools, including geomapping using real-time data, can be used to collect a range of data including hospital and ED utilization data, the number and location of children under treatment, and measures of treatment in relation to evidence-informed standards published by the National Institutes of Health (NIH).¹⁷ These data can help identify the presence of asthma, the effectiveness of appropriate treatment, and the highest-risk and costliest patients who

¹⁷ National Heart, Lung, and Blood Institute. *National Asthma Education and Prevention Program Expert Panel Report 3: Guideline for the Diagnosis and Management of Asthma*. Bethesda, MD: National Institutes of Health; 2007

need the most intensive intervention to help them manage and control their asthma.¹⁸

FIGURE 3. Asthmapolis

Asthmapolis is an asthma tracking system that aims to improve the management of asthma through the use of GPS enabled inhalers. Medication sensors determine the time and location when an inhaler is used and send that information to a server where anonymous and voluntarily shared data is aggregated for scientists and public health workers.

Asthmapolis is also available in a mobile application program that allows individuals to map and track their asthma symptoms, triggers and medication use, monitor their trends over time, and identify locations that exacerbate their asthma symptoms.

More information is available at: <http://asthmapolis.com/>

Tools applied to assess the presence of other health conditions and the effectiveness of treatment hold promise for childhood asthma. One example is focused geo-mapping such as the "ResistanceMap,"¹⁹ an application that tracks the presence of antibiotic-resistant superbugs over time. "ResistanceMap," which includes community-level tracking capabilities, allows users to pinpoint states and locales where specific superbugs are most prevalent and identify changes over time. By providing geographic information system (GIS) functionality, "ResistanceMap" can help communities plan and carry out quality improvement efforts, public education and awareness campaigns, while enabling public health officials to work with targeted health care providers to strengthen treatment and management regimens.

"ResistanceMap" is designed to track infectious diseases, but there are examples of similar GIS tools being used to address serious public health conditions such as obesity. For example, the United States Department of Agriculture (USDA) maintains a Food Environment Atlas that creates state-level maps highlighting key indicators of obesity, including, among other measures, food access in restaurants and grocery stores, food assistance and food taxes, and physical activity levels.²⁰ This information allows families to understand their risks of exposure to a public health threat while

¹⁸ Ibid.

¹⁹ ResistanceMap. <http://www.cddep.org/resistancemap>. *Extending the Cure*, project of the RWJF's Pioneer Portfolio.

²⁰ USDA Food Environment Atlas. <http://www.ers.usda.gov/foodatlas/>

empowering better practice and policymaking decisions at community levels. The software also allows users to identify threats at a county level, thereby providing a more precise lens through which to view the risks associated with obesity. Given what is known and documented about the seasonality of asthma attacks and hospitalizations, tracking seasonality and environmental pollutants or measures could be done in real time and mapped to local jurisdictions to identify risks in those communities. A comprehensive asthma mapping tool could literally provide a picture of what environmental risks look like in different communities during peak asthma periods, and help focus abatement efforts.

What Current State-Level Data Produced Through CDC's National Asthma Control Program Tell Us About Childhood Asthma

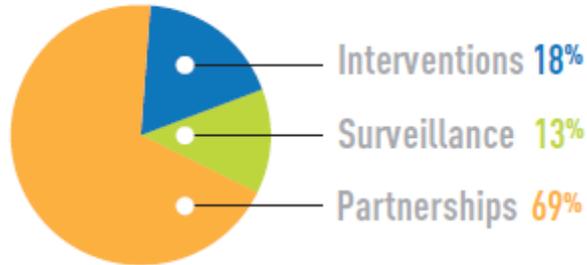
In 1999, the CDC launched the National Asthma Control Program as a means of responding to a significant increase in asthma prevalence at the national level during the 1980s and 1990s. The purpose of the program is to systematically understand the asthma burden and to allow public health officials and policymakers to get answers to key questions, including the total number of people with asthma, the number of cases that occur over time, the distribution of the disease burden among subgroups of the population, the level of case control, and the cost of asthma.²¹

The National Asthma Control Program funds states, cities, and school programs. CDC funding is used to assist in local control efforts and improve state and local surveillance activities. Surveillance expenditures account for 13% of funded activities, while 18% goes for health interventions, and 69%, to CDC "partnership" collaborations among the CDC, state health departments, the Environmental Protection Agency (EPA), and private organizations focusing on asthma prevention and control (Figure 4, below).²²

²¹ CDC, *Breathing Easier*, 2009

²² CDC, *Breathing Easier*, 2009

FIGURE 4. CDC's National Asthma Control Program Components and Share of the Budget

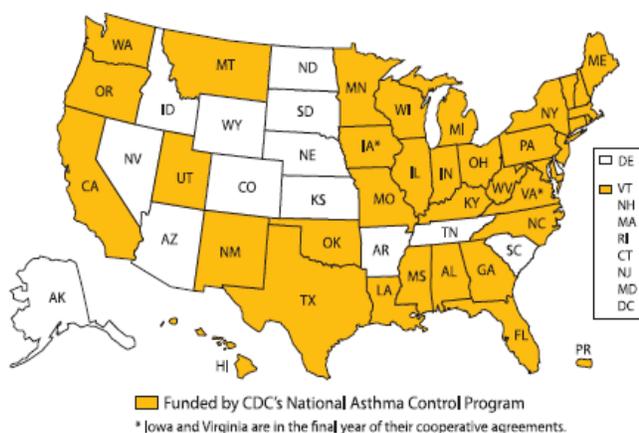


Source: CDC, Breathing Easier, 2009.

The National Asthma Control Program has grown from a total expenditure of \$800,000 in 1999 to \$13.3 million in 2007. That year, awards were made to 34 states, the District of Columbia and Puerto Rico, meaning that not all states receive support for asthma-related information development activities.²³ As of 2010, CDC funds were sufficient to support grants to only 36 jurisdictions. (See Figure 5 for jurisdictions receiving funding as of 2010)

²³ CDC, Breathing Easier, 2009

FIGURE 5. Thirty-Four States, Washington, DC and Puerto Rico Have CDC-Funded Asthma Control Programs.



Source: CDC, Breathing Easier, 2010

The Program's aim is to track the burden of asthma as well as efforts to target and reduce that burden.²⁴ As part of this program, jurisdictions receiving funding are expected to periodically release an asthma burden report detailing the impact of asthma in their area. CDC guidelines allow considerable variation in the reportable measures and data collection approach that informs these burden reports, including the survey instruments used to conduct measurement, the specificity of information reported, the techniques used to gather and assess the information, and the time periods over which measurement occurs.

In order to build a more complete picture of what is known about childhood asthma, the research team at George Washington University's Department of Health Policy undertook an effort to analyze all state asthma burden reports available as of November 2010 on each state's website. A total of 36 state reports were available as of that date. The research team examined the content of the burden reports, the types of measures reported and the comparability of the information across the states. To better understand both the variation in reported information as well as the commonly reported elements, we reviewed the reports using CDC's six-dimensional approach to surveillance: (1) prevalence and severity; (2) scheduled office visits; (3) unscheduled office visits; (4) emergency room visits; (5) hospital admissions; and (6) deaths. To streamline the results, we categorized these elements into five domains: (1) prevalence; (2) health care utilization; (3) morbidity, (4) disease management, and (5) cost and coverage. (See Appendix II – List of variables collected at the state level)

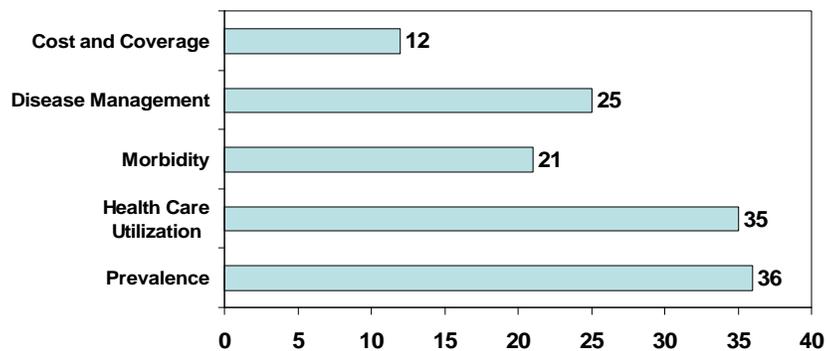
²⁴ CDC National Asthma Control Program. *Guide for State Agencies in the Development of Asthma Programs*. December 2003. <http://www.cdc.gov/asthma/nacp.htm>

Findings

Overall status of state asthma surveillance

All 36 states reported asthma prevalence measures. However, only one-third reported on asthma costs or the extent of health insurance coverage among children with asthma, and only slightly more than half reported on measures of morbidity such as activity limitation and missed school (Figure 6).

FIGURE 6. Number of States/Jurisdictions Reporting Data on Asthma, by Measure Sub-Category, 2010

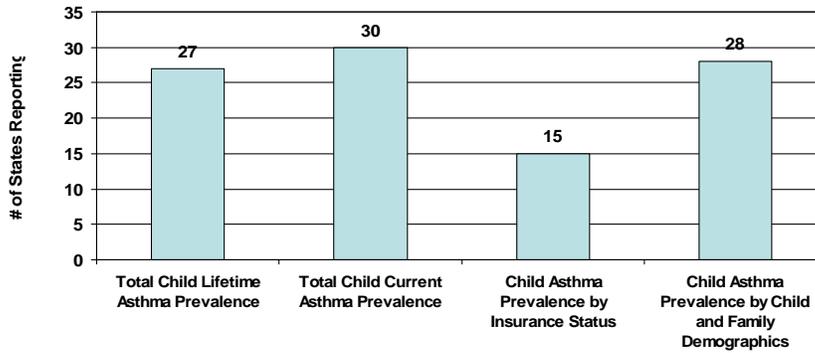


Source: GW SPHHS Analysis of 36 State Asthma Burden Reports Available as of November 2010

Prevalence (n=36; 100%)

Accurate measures of the prevalence of asthma, both lifetime and current, are the cornerstone of understanding disease burden as well as trends in the population. All 36 states reported on prevalence, using a total of 23 different measures. Thirty states reported on measures of current asthma prevalence in children, 28 states reported on measures of prevalence by family or child demographics, and 27 states reported on measures of lifetime asthma prevalence in children. Fifteen states reported on prevalence measures by insurance status; of those, eight reported this for Medicaid and CHIP covered children by age group (Figure 7).

FIGURE 7. Specific Prevalence Measures Among 36 State Asthma Burden Reports, 2010

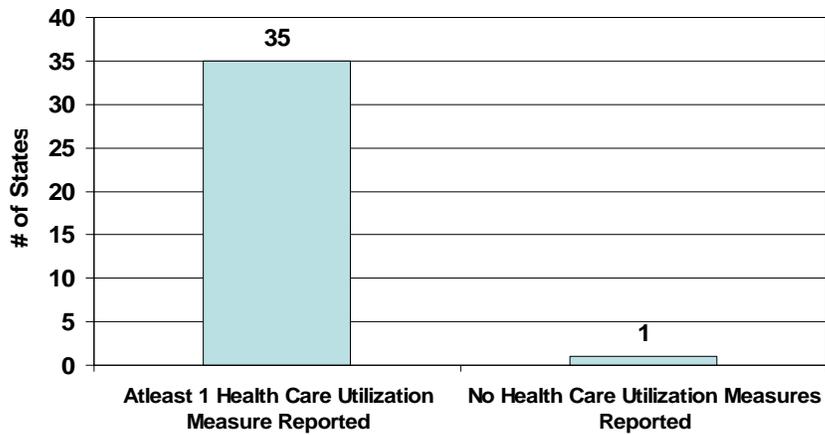


Source: GW SPHHS Analysis of 36 State Asthma Burden Reports Available as of November 2010

Health Care Utilization (n=35)

Health care utilization measures, which are available through hospital discharge records and national surveys, are key indicators of disease severity, management, and control as well as access to different types of service in a community (e.g., ambulatory care, ED care). Thirty-five states reported on at least one health care utilization measure and a total of 21 different measures of health care utilization were reported. Notably, the measurement system included only one measure on routine office/outpatient visits (Figure 8).

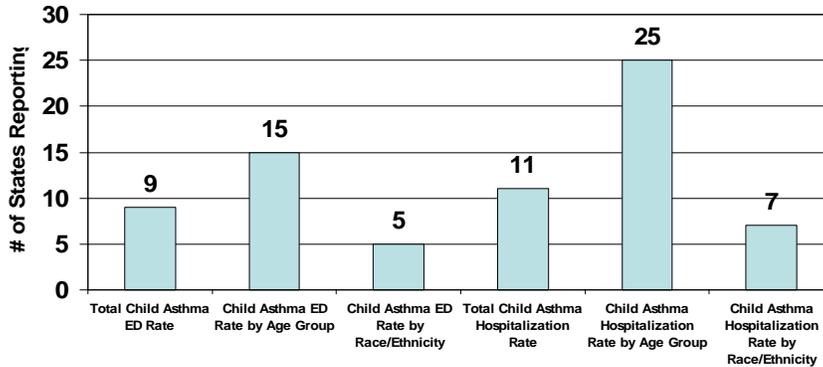
FIGURE 8. Health Care Utilization Reporting Among 36 State Asthma Burden Reports, 2010



Source: GW SPHHS Analysis of 36 State Asthma Burden Reports Available as of November 2010

Typical utilization measures include hospitalization and ED encounter rates. These rates can indicate a number of trends, such as poorly controlled asthma as well as inadequate access to primary and ambulatory care, reflecting a dearth of providers or lack of access to those providers by community members. Nine states reported on total ED utilization rates among children with asthma, while 11 states reported on total hospitalization rates among children with asthma. Fifteen states reported on ED measures by age group among children with asthma, while 25 states reported on hospitalization measures stratified by age group of children with asthma (Figure 9).

FIGURE 9. Specific Health Care Utilization Measures Among 35 State Asthma Burden Reports, 2010



Source: GW SPHHS Analysis of 36 State Asthma Burden Reports Available as of November 2010

Morbidity (n=21)

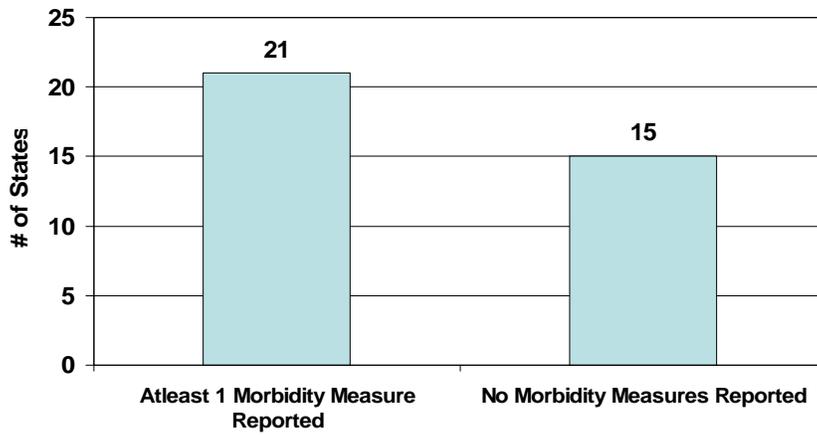
Morbidity measures, including asthma symptoms, activity limitations, missed school, and the presence of asthma attacks represent important measures of symptom severity and control. These indicators can also provide insight into the asthma burden experienced by children, families, and schools²⁵ and help inform more effective patient-focused education efforts, which have been shown to help reduce asthma morbidity.²⁶

Twenty-one states reported on at least one morbidity measure, while a total of 29 different morbidity measures were reported across all states. These included 13 measures related to symptoms, seven related to activity limitations, and five related to attacks (Figure 10).

²⁵ Diette GB, Markson LM, Skinner EA, Nguyen TTH, Algatt-Bergstrom P, Wu AW. Nocturnal Asthma in Children Affects School Attendance, School Performance, and Parents' Work Attendance. *Archives of Pediatric and Adolescent Medicine*. 2000;154:923-928.; Glazebrook C, McPherson AC, Macdonald IA, Swift JA, Ramsay C, Newbould R, Smyth A. Asthma as a Barrier to Children's Physical Activity: Implications for Body Mass Index and Mental Health. *Pediatrics*. 2006;118(6); Goodwin RD, Pine DS, Hoven CW. Asthma and Panic Attacks Among Youth in the Community. *Journal of Asthma*. 2003;40(2):139-145.

²⁶ Coffman JM, Cabana MD, Halpin HA, Yelin EH. Effects of Asthma Education on Children's Use of Acute Care Services: A Meta-Analysis. *Pediatrics*. 2008; 121:575-596. ; Guevara JP, Wolf FM, Grum CM, Clark NM. Effects of Educational Interventions for Self-Management of Asthma in Children and Adolescents: Systematic Review and Meta-Analysis. *BMJ*. 2003; 326:1308-1309.; Martinez FD. Managing Childhood Asthma: Challenge of Preventing Exacerbations. *Pediatrics*. 2009;123: S146-S150.

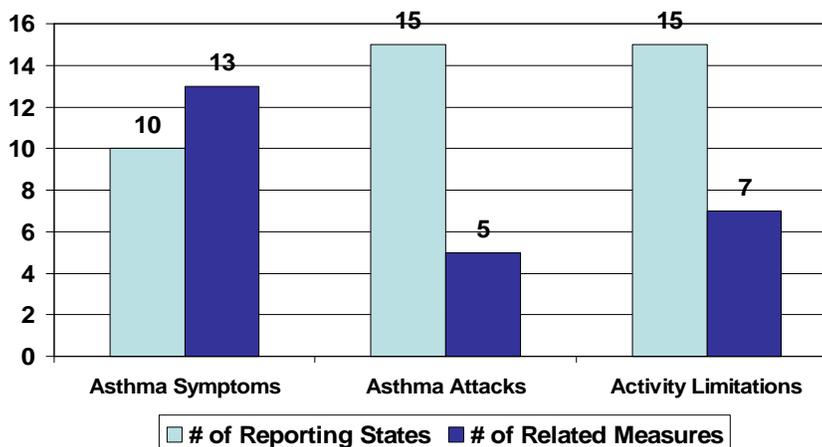
FIGURE 10. Morbidity Measures Reporting Among 36 State Asthma Burden Reports, 2010



Source: GW SPHHS Analysis of 36 State Asthma Burden Reports Available as of November 2010

Morbidity reporting showed great variation, with 13 different measures in use. Asthma attacks showed the least variability, perhaps because they represent the most severe measure. Fifteen states reported on seven different activity limitation measures, with the most frequently reported measure about children with current asthma being school days missed within the past 12 months (Figure 11).

FIGURE 11. Specific Morbidity Measures Among 21 State Asthma Burden Reports, 2010.



Source: GW SPHHS Analysis of 36 State Asthma Burden Reports Available as of November 2010

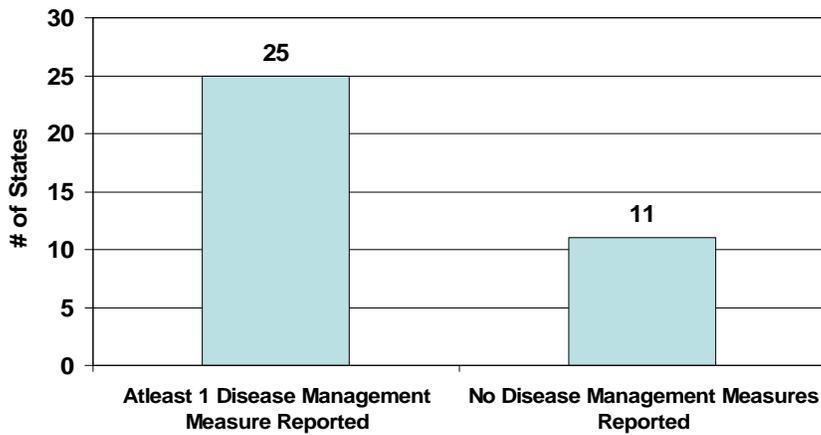
Disease Management (n=25)

For children with asthma, comprehensive disease management consists of several core elements as identified in evidence-informed guidelines; each involves family and other support systems, and each is critical to the success of an effective treatment and control regimen. For example, medication use, self-management education, and environmental exposure remediation are all central to disease management.

Twenty-five states reported disease management measures that incorporated the above- referenced aspects of disease management, including patient-level and environmental measures (Figure 12). Of these twenty-five states, thirteen have reported on at least one of 39 separate measures that together provide a picture of how well asthma is being managed at the patient level. (See Appendix II for list of disease management measures). The burden reports also captured information on environmental exposures and trigger remediation, which evidence shows are correlated with asthma symptoms and attacks.²⁷ Twelve of these states reported on environmental exposures using eight related measures, focusing on both first and second-hand smoke exposure to tobacco among children with asthma. This type of exposure has a known causal link to increased asthma prevalence, frequency of symptoms, and disease severity.

²⁷ Lapnear BP, Aligne CA, Auinger P, Weitzman M, Byrd RS. Residential Exposures Associated with Asthma in US Children. *Pediatrics*. 2001; 107: 505-511; Wu F, Takaro TK. Childhood Asthma and Environmental Interventions. *Environ Health Perspect*. 2007;115:971–975.; Rosenstreich DL, Eggleston P, Kattan M, et al. The role of cockroach allergy and exposure to cockroach allergen in causing morbidity among inner-city children with asthma. *New England Journal of Medicine*. 1997;336:1356-63; Gent JF, Belanger K, Triche EW, Bracken MB, Beckett WS, Leaderer. Association of pediatric asthma severity with exposure to common household dust allergens. *Environmental Research*. 2009.

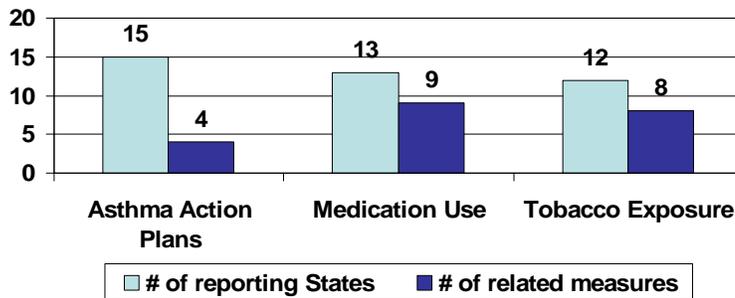
FIGURE 12. Disease Management Reporting Among 36 State Asthma Burden Reports, 2010



Source: GW SPHHS Analysis of 36 State Asthma Burden Reports Available as of November 2010

Of the 39 patient-level disease management measures, four relate directly to the provision of asthma action plans. Fifteen states reported on one of these four measures, the most common of which was the percent of children with asthma who had received an asthma action plan from their clinical provider (Figure 13).

FIGURE 13. Specific Disease Management Measures Among 25 State Asthma Burden Reports, 2010.

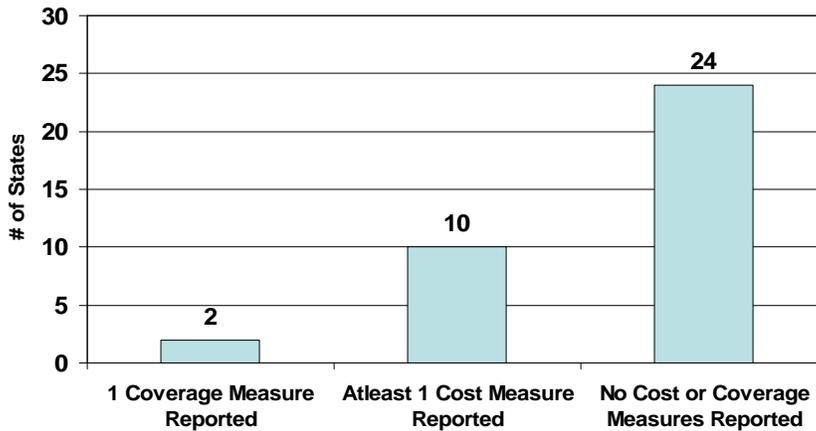


Source: GW SPHHS Analysis of 36 State Asthma Burden Reports Available as of November 2010

Cost and Coverage (n=12)

Ten states reported on the cost of childhood asthma services, using nine measures. The most frequently used measure, average charges per asthma hospitalization by age, was used by six states. Despite the importance of insurance in assuring access to high quality asthma care, only two states reported on the proportion of children diagnosed with asthma who had health insurance coverage (Figure 14).

FIGURE 14. Cost and Coverage Reporting Among 36 State Asthma Burden Reports, 2010.



Source: GW SPHHS Analysis of 36 State Asthma Burden Reports Available as of November 2010

Overall reporting

Beyond differences in the frequency of reporting on any particular measure, there is significant variability in how and what states report. While the available data provide valuable information on asthma trends within individual states, data are not reported for a common year, limiting comparability across states. Some categories of data were more widely collected and reported, such as prevalence and health care utilization, whereas data about cost and coverage and certain aspects of disease management, such as environmental assessments or remediation, were less frequently collected and reported.

Even where common measures were reported, there was no uniform set of variables collected across the funded states. For example, many states collected data about asthma action plans but collected slightly different information about the plans or asked about them with sufficient variation that they were, in fact, asking different questions. Additionally, the states used different measurement ranges, including different age ranges and categories for race and ethnicity, as well as years of school among middle or high school children and the definition of students in school level data. Many states reported school data but some states only reported on certain

grades (e.g., sixth, eighth, and tenth grades), thus only representing a small portion of all children in that state. Sources of school data were also only for public schools and omitted a portion of the child population who are not enrolled or attending a public school or are not currently in school.

Several states report data variables that are particularly useful when considering asthma from a holistic perspective, such as asthma prevalence by body mass index (BMI) (one state) and asthma management (i.e. asking about training on different inhalers, medications, and management strategies) (seven states).

Finally, the state asthma reports contain very little sub-state level data, despite the known utility of community- and neighborhood-specific data in measuring community variation and targeting resources.

Conclusions and Recommendations

This analysis underscores the importance of comprehensive and consistent information in effective management of childhood asthma, one of the most widespread and costly health conditions faced by children and their families. Health information allows communities, states, and the nation to understand the impact of a condition, the populations and communities most affected, and progress in treatment, management, and health outcomes. Our analysis of CDC-supported state asthma reporting systems reveals both the absence of comprehensive reporting in all jurisdictions as well as a lack of uniformity regarding what measures are reported, how key terms are defined for collection and reporting systems, the time period over which information is collected, and how information is presented.

There are important reasons to bring particular focus to asthma, as well as reason to do so at this particular time. First, basic reporting is in place through important periodic national surveys, grants to states for asthma control programs, information available through the community health centers program, and the identification of childhood asthma management as a reportable measure for many payers under the National Committee for Quality Assurance (NCQA) and other quality measurement systems. This provides a baseline for expanded data collection on the one hand, and condition-specific focus on the other. Further, this is an opportune time to address collection of public health information. A commitment to prevention and public health is embodied in the Affordable Care Act, and the tools for technology-enabled collection of data at the practice level are in place as a result of the national investment in HIT under the American Reinvestment and Recovery Act (ARRA). These investments position the nation, over time, to enhance its ability to monitor population health and measure the effectiveness of health care.

Extending existing data collection capabilities requires a targeted national asthma information initiative, as part of a national focus on effective collection and analysis of

health information that takes into account what is known today, the direction in which knowledge must move, and what steps are needed to get there. This effort might encompass multiple federal health agencies, state and local public health agencies, health care providers now in the HIT adoption stage, and consumers and families.

As part of a targeted national effort, certain types of health information might be collected less frequently than today (e.g., every 2-3 years) but with more focus on state- and community-level information that can help identify health patterns to inform and health care interventions. While measuring year-to-year changes is ideal, the cost of this approach in relation to the expectation of changes over time might argue for somewhat less frequent but more robust information. Rather than annual, limited, and highly variable reports from a portion of states, more valuable might be bi-annual information from all states that captures information at the county level, using harmonized collection and reporting periods, common and clearly defined reporting measures, and common measurement and reporting methods that track the CDC surveillance framework. Following the establishment of a baseline reporting system that contains sufficient information and harmonization to provide a comprehensive picture, reporting might be updated periodically.

To create better health information about childhood asthma, the definition of what elements are essential to improved outcomes should be reconsidered. Many existing clinical performance measurement systems focus narrowly on prescriptions and hospitalizations, thereby missing the opportunity to capture data on asthma management, including asthma education, case management, and environmental remediation efforts or comorbid conditions, such as obesity and depression. In a national effort to upgrade information on child health asthma management, it is important to consider whether measures of quality need to conform better to evidence-informed quality guidelines so that progress toward meeting such standards actually can be measured. A more comprehensive set of measures that are more clearly articulated and defined could be endorsed by CMS, and as quality of care data become available, this information could be added to the state information base maintained through the CDC investment. While Medicaid and CHIP represent a national starting point, the National Quality Strategy's emphasis on all-payer information means that over time, public health agencies could receive information on key measures from all payers. Potential expanded measures include:

- The percentage of patients evaluated during at least one office visit for frequency of daytime and night-time asthma symptoms. (Quality measure from National Quality Forum or NQF);
- The percentage of pediatric patients with persistent (mild, moderate, or severe), not well controlled, or very poorly controlled asthma who were prescribed either the preferred long-term control medication (inhaled

corticosteroid) or an acceptable alternative treatment. (Quality measure from National Quality Forum or NQF);

- The percentage of children with asthma who have been appropriately evaluated for exposure to significant environmental triggers, such as environmental tobacco smoke, dust mites, cats, dogs, molds/fungi, or cockroaches, either by history of exposure and/or by allergy testing. (Quality measure from the HRSA Disparities Collaborative).

As HIT adoption moves forward, it will be increasingly important for states to provide more robust information to public health agencies. Information on childhood asthma represents a valuable place to begin such an undertaking, since the basic CDC framework for collecting and analyzing such information through the asthma control program is in place. The Health Insurance Portability and Accountability Act (HIPAA) Privacy Rule contains an express public health exception that allows public health agencies to acquire, aggregate, and de-identify such data in order to create information that can inform localities about the proportion of children with asthma who receive effective treatment. Health care utilization data on hospital admissions and emergency department also would provide insight into utilization patterns of and changes over time. Of particular importance is the enhancement of state to capture and report local-area data. Specifications for local reporting and mapping at the zip code, neighborhood, or community level would greatly enrich the utility of the reported information.

Potential sources of data include the federal investment in state asthma control systems with data collection and reporting capabilities, claims data from federal health care programs, comparable data collected by private payers that elect to do so, and data from other federal initiatives such as the community health centers program and grants to states to support maternal and child health activities. These data can be supplemented by periodic national surveys, revised and updated to consider new information.

Essential to strengthening the public health information system is the use of new tools to better capture asthma data that can, in turn, be used by local communities to identify and decrease their asthma burden. Existing gaps between clinical systems and public health systems need to be bridged; a comprehensive public health information network could serve as the connector between clinical and environmental and public health data. Applications such as geomapping can be used to track the burden of asthma and guide appropriate and timely resource deployment. Existing initiatives like the federal Public Health Information Network could be expanded beyond communicable disease surveillance to incorporate the exchange of data on asthma and other chronic and debilitating conditions. Interoperable solutions are essential and merit support – as are further interagency collaborations.

Curtailling health care costs while improving the quality of care and the health of populations are a “triple aim” for the nation. Because health care costs and health status are driven by myriad conditions, a health information infrastructure is needed that can serve the needs of the entire population.

At the same time, all journeys begin with the first step. With resources already invested in child asthma reporting, a sensible step is to marshal the resources that are available, in order to develop a framework that can serve as a model and platform for other diseases and conditions that merit comparable attention because of the potential impact of health information to respond to and address the "triple aim" of the nation – to cut costs, improve quality of care and health outcomes.

APPENDICES (available online at www.mcanonline.org and www.rchnfoundation.org)

APPENDIX I- SURVEILLANCE BACKGROUND AND CONTEXT

APPENDIX II – LIST OF VARIABLES COLLECTED AT THE STATE LEVEL

APPENDIX III – TABLE OF STATES

APPENDIX I Surveillance Background and Context

National data collection tools that are a key element of public health surveillance are show below.

National Survey Data Sources			
Survey Instruments	Description	Asthma Questions	Information available via Survey
Behavioral Risk Factor Surveillance System (BRFSS)	National, state-based, telephone health & health behavior survey for adults, data collected monthly (state level analysis)	2008 Questionnaire-optional state module about Childhood Asthma Prevalence (37 states & PR participated)	Data on emerging health problems, track health objectives, trends and prevalence, behaviors that lead to premature morbidity and mortality
Behavioral Risk Factor Surveillance System (BRFSS)-Asthma Call-Back Survey (ACBS)	In-depth asthma survey for adults and children conducted for BRFSS respondents who report an asthma diagnosis. Piloted in three states in 2005 and completed in states that request funding.	Range of questions about asthma symptoms, management and education, asthma's interference with daily living, health care utilization and prescription use	Data about asthma morbidity, economic burden, management, prescription and health care use
National Asthma Study (NAS)	One time survey for adults and children about asthma, national and four state data collected from 2003-2004 (limited state analysis)	Range of prevalence, health and health care experience questions for those with asthma	Data about prevalence, health and health care experiences of children with asthma
Healthcare Cost and Utilization Project (H-CUP)	Longitudinal health care and utilization databases, state to Federal level data, along with private data sources; ongoing data collection (state, patient-level analysis possible)	KIDS Inpatient Database about pediatric inpatient discharge, asthma associated hospital data (national analysis)	Patient level data about health care utilization, coverage, costs, access to care, outcomes in treatment
Medical Expenditure Panel Survey (MEPS)	Large scale database of surveys (individual and family data collection), nationally representative sub-sample (use NHIS sampling) for health care cost and use, accessibility, and health insurance coverage; ongoing data collection (local level analysis for insurance possible)	Asthma treatment and management (including medication) and related health care utilization questions	Health services used (frequency, how paid for), scope and breadth of health insurance coverage (including employer-based health insurance coverage)
National Children's Study	Nationally representative sample using interviews, exams and samples to assess the effects of environmental influences on the health and development of	Monitors potential causes of asthma (e.g. maternal health, environment, samples, interviews)	Data on environmental effects on health, including air, water, diet, sound,

	children from 0-21, starting in 2010		family dynamics, community and cultural influences, and genetics on the growth, development, and health of children
National Health Interview Study (NHIS)	National cross-sectional household survey on the broad health of civilian US residents, ongoing every year (national level analysis)	Range of asthma questions including prevalence, severity, and health care utilization	Broad range of health topics, health status, insurance status, health care access, range of national health goals
National Health and Nutrition Examination Survey (NHANES)	Nationally representative sample, on health and diet (interviews & physical exams), continuous interviews on emerging health needs; data collected every year (national level analysis)	Questions about asthma prevalence as a health condition	Data collected on chronic conditions and risk factors lifestyle, constitution, heredity, or environment that may increase the chances of developing a certain disease or condition, smoking, alcohol consumption, sexual practices, drug use, physical fitness and activity, weight, and dietary intake and data on reproductive health, such as use of oral contraceptives and breastfeeding practices collected.
National Longitudinal Surveys (NLS)	NLSY79 Children and Young Adults Survey (biological children of women from NLS79 followed, asked health and life events questions, followed since 1986); data collected every 2 years (cohort specific analysis, not representative)	Health questions include asthma prevalence	Risk behaviors, sexual activity, onset of puberty, relationships with family and peers, employment, life events questions overall health issues
National Survey for Children's Health (NSCH)	National representative telephone survey examining physical and emotional health of children (0-17); occurred in 2003-	Range of asthma questions including prevalence, severity, and health care utilization	Data on physical and emotional health of children, emphasis on

	2004 and repeated 2007-2008 (state level analysis possible)		factors related to well-being of children, including medical homes, family interactions, parental health, school and after-school experiences, safe neighborhoods
National Vital Statistics System (NVSS)	Ongoing data connections between NCHS and individual jurisdictions reporting vital statistics	N/A	Births, deaths (including fetal deaths), marriages, divorces Range of health conditions, health insurance coverage, access to care, perceived health status, utilization of services, and measurement of child well-being
National Survey of Children with Special Health Care Needs (SLAITS)	Nationally representative telephone survey assessing the prevalence and impact of special health care needs among children (0-17) and evaluating changes since 2001; occurred in 2005-2006	Monitors asthma prevalence and its effects on social activities	Data on priority health risk behaviors (including substance and tobacco use) among children and adolescents, obesity and asthma prevalence data
Youth Behavioral Risk Surveillance System (YRBSS)	Nationally representative sample, school based health & health behavior survey for youth, conducted at national, state, territorial, tribal, local levels; data collected every 2 years (local level analysis possible)	Monitors asthma prevalence among youth	

Surveillance and Childhood Asthma

The CDC has identified six basic elements of an effective disease surveillance system for any health condition: (1) the information collected must be able to show prevalence (i.e., the extent to which a particular population has a condition) the frequency with which the condition) and severity; (2) information about the use of scheduled office visits to treat the condition; (3) information about the use of unscheduled office visits to treat the condition (i.e., urgent care visits) ; (4) emergency department visits; (5) hospital admissions; and (6) deaths. The last five components are also used as indirect indicators of quality of care furnished to children with asthma, with high ED use and inpatient admissions suggestive of care that is of poorer quality in its failure to effectively manage a condition in a lower cost and less burdened ambulatory care setting.

The first element, which undergirds the remaining five elements, is the calculation of asthma prevalence and the severity of the disease for individuals who have been diagnosed with the disease. In the case of children, prevalence is calculated as the number of children (under a certain age or within an age range) with the condition at the beginning of the period of time studied plus the total number of newly diagnosed cases during the period of time studied divided by the total child population (under the same age or within the same age range) during the period of time studied.

Level of prevalence of a given disease in a given community is a predisposing factor for utilization of services needed by individuals affected by the condition. Thus, scheduled office visits and unscheduled office visits are the second and third elements of asthma surveillance. Because childhood asthma is one of the most prevalent child health conditions, one can expect that encounters would reflect this by higher numbers of encounters for this diagnosis. One would also expect to see more frequent use of regularly scheduled office visits than unscheduled office visits. In the case of asthma, high rates of unscheduled office visits can be interpreted as an indication of poor control of the disease.

The fourth and fifth elements of asthma surveillance are also certain types of encounters with the health system, namely emergency room visits and inpatient hospital admissions. Like unscheduled office visits, high rates of emergency room visits can reflect inappropriate use of this service due to poor control of the disease. Hospitalizations or hospital admission rates are in most cases considered unnecessary when asthma is properly controlled and managed and thus are an indicator of poor quality of care.

Finally, mortality rates are the ultimate measure used in asthma surveillance. Disparities by race and ethnicity and income level are particularly informative in terms of equitable access to the services just mentioned, i.e. office-based and hospital-based services.

In addition to these six basic elements of asthma surveillance and monitoring, measures of factors and costs associated with prevalence and severity, variation in the types of encounters, and deaths are also important components of surveillance and monitoring as translating evidence about prevalence and impact into an informational base for community-wide interventions aimed at reducing exposure to risks is an additional critical role for an effective and engaged public health system.

APPENDIX II – LIST OF VARIABLES COLLECTED AT THE STATE LEVEL

Prevalence Questions

- 1) Child lifetime asthma prevalence (%)
- 2) Child current asthma prevalence (%)
- 3) Child lifetime asthma prevalence by age group (%)
- 4) Child current asthma prevalence by age (%)
- 5) Child current asthma prevalence by race (%)
- 6) Child lifetime asthma prevalence by race (%)
- 7) Prevalence of current asthma among children by annual household income or FPL (%)
- 8) Prevalence of lifetime asthma among children by annual household income or FPL (%)
- 9) Lifetime asthma prevalence among students by race/ethnicity (%)
- 10) Current asthma prevalence among students by race/ethnicity (%)
- 11) Prevalence of asthma among children enrolled in CHIP/Medicaid (%)
- 12) Prevalence of asthma by age group among children enrolled in CHIP/Medicaid (%)
- 13) Prevalence of asthma by race/ethnicity among children enrolled in CHIP/Medicaid (%)
- 14) Lifetime asthma prevalence among Hispanic students, by Hispanic subgroup (%)
- 15) Lifetime asthma prevalence among Asian/Pacific Islander (A/PI) students, by A/PI subgroup (%)
- 16) Current asthma prevalence among students by grade (%)
- 17) Child lifetime asthma prevalence by weight status (%)
- 18) Lifetime asthma prevalence among students by grade (%)
- 19) Child current asthma prevalence by insurance status (%)
- 20) Child lifetime asthma prevalence by insurance status (%)
- 21) No health care coverage (%)
- 22) Child lifetime asthma prevalence by parents' educational level (%)
- 23) Child current asthma prevalence by parents' educational level (%)

Health Care Utilization Questions

- 24) Child asthma related ED-visits rate (per 10,000)
- 25) Child asthma ED Visits by age group (per 10,000)
- 26) Child asthma ED Visits by race/ethnicity (per 10,000)
- 27) Child asthma ED visits- Medicaid (per 10,000)
- 28) Percent of children with current asthma visiting an ED or urgent care clinic in past year (%)
- 29) Received urgent treatment for asthma during the past 12 months, children with current asthma (%)

- 30) Percent of children with current asthma enrolled in CHIP visiting an ED or urgent care clinic in past year (%)
- 31) Percentage of children who ever had asthma who were hospitalized for asthma in the past 12 months (%)
- 32) Percentage of children with current asthma enrolled in CHIP who were hospitalized for asthma in the past 12 months (%)
- 33) Child asthma related hospitalization rate (per 10,000)
- 34) Child asthma related hospitalization rate by race/ethnicity (per 10,000)
- 35) Average length of stay (ALOS) of child asthma hospitalizations (days)
- 36) Average length of stay (ALOS) for asthma hospitalizations by age (days)
- 37) Average length of stay (ALOS) for child asthma hospitalizations by race/ethnicity (days)
- 38) Child asthma hospitalizations by source of payment (%)
- 39) Child asthma ED visits by source of payment (%)
- 40) Percent of Medicaid recipients with asthma ambulatory visits (%)
- 41) Rate of asthma ED visits among child CHIP recipients (per 10,000)
- 42) Rate of asthma hospitalizations among child CHIP/Medicaid recipients (per 10,000)
- 43) Child asthma related hospitalization rate by age group (per 10,000)
- 44) Number of hospitalizations, children

Morbidity Questions

- 45) Children with current asthma reporting asthma symptoms in the past 30 days
- 46) Percentage of children reporting asthma symptoms in the past 30 days by frequency (%)
- 47) Percent of children with current asthma who had asthma symptoms on ≥ 9 days during past month (%)
- 48) Distribution of asthma symptom frequency in past month among youth with asthma
- 49) Frequency of asthma symptoms in the past year among children with current asthma (%)
- 50) Distribution of asthma severity among youth with current asthma (%)
- 51) Activity limitations due to asthma during the past 12 months, children (%)
- 52) Children with current asthma reporting an asthma attack in the past 12 months (%)
- 53) Percent of students with asthma that had an asthma attack during past 12 months by race/ethnicity (%)
- 54) Percentage of children with asthma who experienced an asthma attack in the past year by age group (%)
- 55) Students whose activities were limited one or more times per week due to asthma symptoms, students with current asthma (%)
- 56) Averaged school days missed per year due to asthma

- 57) Children with current asthma reporting school days missed due to asthma in past 12 months (%)
- 58) School days missed due to asthma among children with asthma (%)
- 59) Number of days of school missed in the past 30 days by asthma status, public middle and high school students
- 60) Children with current asthma reporting an asthma attack in the past 12 months by race/ethnicity (%)
- 61) Children with current asthma reporting activity limitation due to asthma in the past 12 months (%)
- 62) Frequency of physical activity limitations due to asthma among children with asthma (%)
- 63) Visiting the doctor or hospital for wheezing or trouble breathing in the past 12 months (%)
- 64) Wheezing, chest tightness, or trouble breathing when not exercising during the past 12 months (%)
- 65) Wheezing, chest tightness, or trouble breathing when exercising during the past 12 months (%)
- 66) Percent of students with asthma that had an asthma attack during past 12 months (%)
- 67) Percentage of children with asthma having trouble sleeping in the past 30 days, by number of days
- 68) Most recent asthma symptoms, children with current asthma (%)
- 69) Percentage of children with current asthma experiencing 14 asthma symptom-free days during the past 2 weeks (%)
- 70) Percentage of children with current asthma who had asthma symptoms every day of the last 2 weeks (%)
- 71) Fair or poor health by asthma status
- 72) Perceived health difficulties among children with current asthma (%)
- 73) Dry cough at night without a cold or flu during the past 12 months (%)

Disease Management Questions

- 74) Percent of children receiving an asthma management/action plan from a provider (%)
- 75) Percent of children receiving an asthma management/action plan from a provider, by insurance provider (%)
- 76) Asthma action plan on file at school (%)
- 77) Prevalence of ever having a written asthma action plan (%)
- 78) Child allowed to carry asthma medicine at school, current asthma (%)
- 79) Percent of children with asthma using prescription medications (%)
- 80) Use of appropriate medication for people with asthma enrolled in Medicaid (%)
- 81) Children with current asthma using a long term control medication (%)
- 82) Children with current asthma using rescue medication (%)

- 83) Prevalence of daily preventive asthma medication use during past year among youth with asthma (%)
- 84) Length of time since last asthma medication was taken, current asthma (%)
- 85) Use of asthma prescription medicines among children with asthma, by medication type (%)
- 86) Percent of children with asthma receiving routine check ups for asthma (%)
- 87) Percent of children with asthma receiving training on how to manage asthma (%)
- 88) Percent of children with asthma receiving training on how to recognize signs and symptoms of an attack (%)
- 89) Percent of children with asthma receiving training about things that can trigger asthma attacks (%)
- 90) Percent of children with asthma receiving training on use of peak flow meter (%)
- 91) Percent of children with asthma receiving training on use of inhaler (among those with inhaler) (%)
- 92) Percent of children with asthma receiving training on use of a spacer (among those with inhaler) (%)
- 93) Prevalence of obesity among middle and high school students by asthma status (%)
- 94) Percent of students who had an asthma attack in the past 12 months by smoking status (%)
- 95) Current asthma prevalence for school children by overweight status (%)
- 96) Lifetime asthma prevalence for school children by overweight status (%)
- 97) Persons with asthma who receive assistance with assessing and reducing exposure to environmental risk factors in their home, school, and work environment (%)
- 98) Environmental triggers in the home of children with asthma (%)
- 99) Environmental modifications in the home of children (%)
- 100) Level of asthma control among children with current asthma (%)

Cost and Coverage Questions

- 101) Total cost of child asthma related hospitalizations (per year)
- 102) Total cost of child asthma related ED-visits (per year)
- 103) Total cost of pediatric asthma
- 104) Total CHIP reimbursements for asthma services
- 105) Average charges per asthma hospitalization, by age
- 106) Mean charges for child asthma ED visits
- 107) Mean charges for asthma ED visits, by age group
- 108) Mean charges for child asthma ED visits, by race/ethnicity
- 109) Average cost of asthma related care for children with probable asthma continuously enrolled in Medicaid

- 110) Percent of children ever diagnosed with asthma that have health insurance coverage (%)
- 111) Percent of children with current asthma who has experienced a cost barrier to care during past 12 months (%)
- 112) Total hospitalization charges for asthma, children

Additional Questions

- 113) Child asthma death rate (per 1,000,000)
- 114) Number of asthma deaths, children
- 115) Notes

	Alabama	California	Connecticut	District of Columbia
PublicationYear	2009	2007	2008	2009
Child lifetime asthma prevalence (%)	11.4% (2002)	13.3% (2005)	14.9% (2005)	15.4% (2005)
Child current asthma prevalence (%)	7.6% (2002)	8.6% (2005)	10.5% (2005)	11.4% (2005)
Child lifetime asthma prevalence by age group (%)		0-4 - 7.5% 5-11 - 15.4% 12-17 - 16.2% (2005)	0-4 - 9.6% 5-12 - 17.6% 13-17- 13.9% (2005)	0-8 - 10.2% 9-17 - 23.2% (2005)
Child current asthma prevalence by age (%)		0-4 - 4.2% 5-11 - 10.7% 12-17 - 10.1% (2005)	0-4- 7.8% 5-12 - 11.6% 13-17- 9.1% (2005)	0-8- 8.4% 9-17 - 15.9% (2005)
Child current asthma prevalence by race (%)			Hispanics- 17.4% Others- 15.2% Blacks- 11.2% Whites- 9.1% (2005)	Black- 13.1% White- 9.3% (2005)
Child lifetime asthma prevalence by race (%)			White- 13.9% Black- 14.1% Hispanic- 21.8% Other- 16.9% (2005)	Black- 17.4% White- 12.5% (2005)

	Alabama	California	Connecticut	District of Columbia
Prevalence of current asthma among children by annual household income or FPL (%)			<\$15,000 - 9.7% \$15,000-\$24,999 - 24.1% \$25,000- \$34,999- 15.3% \$35,000- \$49,999- 12.7% \$50,000 - \$74,999- 7.4% \$75,000+ - 9.6% (2005)	<\$15,000 - 19.3% \$15,000-\$24,999 - 15.9% \$25,000- \$34,999- 8.2% \$35,000- \$49,999- 12.5% \$50,000 - \$74,999- 12.5% \$75,000+ - 8.7% (2005)
Prevalence of lifetime asthma among children by annual household income or FPL (%)				<\$15,000 - 25.8% \$15,000-\$24,999 - 16.7% \$25,000- \$34,999- 8.2% \$35,000- \$49,999- 14.3% \$50,000 - \$74,999- 22.1% \$75,000+ - 12.3% (2005)
Lifetime asthma prevalence among students by race/ethnicity (%)		Hispanic- 13.3% Asial/Pacific Islander- 16.8% American Indian/Alaska Native- 19.5% White- 20.2% Black- 25.9% (2003-2005)		

	Alabama	California	Connecticut	District of Columbia
Current asthma prevalence among students by race/ethnicity (%)			White- 9.2% Black- 11.5% Hispanic- 13.4% Other- 10.0% (2005-2006)	
Prevalence of asthma among children enrolled in CHIP/Medicaid (%)			CHIP 19.6% (2005)	
Prevalence of asthma by age group among children enrolled in CHIP/Medicaid (%)	<6 -7.3% 6-14- 5.8% 15-18 - 3.0% (2007)		0-4- 23.0% 5-9- 20.8% 10-14- 18.3% 15-18- 16.0% (2005)	
Prevalence of asthma by race/ethnicity among children enrolled in CHIP/Medicaid (%)			White- 18.4% Black- 18.7% Hispanic- 21.8% Other- 15.5% (2005)	
Lifetime asthma prevalence among Hispanic students, by Hispanic subgroup (%)		Mexican- 12.8% Central American- 13.6% South American- 15.1% Cuban- 20.6% Puerto Rican- 22.5% (2003-2005)		

	Alabama	California	Connecticut	District of Columbia
Lifetime asthma prevalence among Asian/Pacific Islander (A/PI) students, by A/PI subgroup (%)		Korean- 10.2% Cambodian- 11.7% Laotian- 12.2% Chinese- 15.2% Vietnamese- 16.1% Indian- 16.3% Japanese- 20.5% Pacific Islander- 22.5% Filipino- 23.6% (2003-2005)		
Current asthma prevalence among students by grade (%)			Pre-K/Kindergarden- 11.1% 6th/7th- 11.1% 10th/11th- 9.1% (2005-2006)	
Child lifetime asthma prevalence by weight status (%)		Among Adolescents (7th-11th graders) Underweight- 14.3% Healthy Weight- 18.3% At risk of Overweight- 20.3% Overweight- 21.9% (2003-2005)		

	Alabama	California	Connecticut	District of Columbia
Lifetime asthma prevalence among students by grade (%)		All- 17.7% 5th- 17.7% 7th- 15.9% 9th- 18.5% 11th- 19.4% (2003-2005)		
Child current asthma prevalence by insurance status (%)				
Child lifetime asthma prevalence by insurance status (%)				
Child lifetime asthma prevalence by parents' educational level (%)				

	Alabama	California	Connecticut	District of Columbia
Child current asthma prevalence by parents' educational level (%)				
Child asthma related ED-visits rate (per 10,000)		63 (unknown year)	85.6 (2000-2004)	395 (2006)
Child asthma ED Visits by age group (per 10,000)		0-4 - 92.6 5-14-58.2 (2005)	0-4- 126.5 5-9- 82.0 10-14-66.3 15-17-63.9 (2000-2004)	
Child asthma ED Visits by race/ethnicity (per 10,000)			White- 35.4 Black- 149.0 Hispanic- 171.4 Other- 107.6 (2000-2004)	

	Alabama	California	Connecticut	District of Columbia
Child asthma ED visits-Medicaid (per 10,000)				
Percent of children with current asthma visiting an ED or urgent care clinic in past year (%)		22.2% (2003)		
Received urgent treatment for asthma during the past 12 months, children with current asthma (%)				
current asthma enrolled in CHIP visiting an ED or urgent care clinic in past year (%)			9.8% (2005)	
who ever had asthma who were hospitalized for asthma in the past 12 months (%)				
Percentage of children with current asthma enrolled in CHIP who were hospitalized for asthma in the past 12 months (%)			1.5% (2005)	
Child asthma related hospitalization rate (per 10,000)			17.8 (2001-2005)	

	Alabama	California	Connecticut	District of Columbia
Child asthma related hospitalization rate by race/ethnicity (per 10,000)			White- 10.4 Black- 40.8 Hispanic- 32.1 Other- 23.6 (2001-2005)	
Average length of stay (ALOS) of child asthma hospitalizations (days)			2.2 (2001-2005)	
Average length of stay (ALOS) for asthma hospitalizations by age (days)		0-13 - 2.2 (2005)	0-4- 2.0 5-9- 2.2 10-14 - 2.5 15-17- 2.8 (2001-2005)	

	Alabama	California	Connecticut	District of Columbia
Average length of stay (ALOS) for child asthma hospitalizations by race/ethnicity (days)			White - 2.1 Black- 2.2 Hispanic- 2.4 Other- 2.1 (2001-2005)	
Child asthma hospitalizations by source of payment (%)			Public- 54.6% Private- 43.6% Self/Uninsured- 1.5% Other- 0.2% (2001-2005)	
Child asthma ED visits by source of payment (%)			Public- 55.3% Private- 38.8% Self/Uninsured- 5.7% Other- 0.3% (2001-2004)	
Percent of Medicaid recipients with asthma ambulatory visits (%)				
Rate of asthma ED visits among child CHIP recipients (per 10,000)				
Rate of asthma hospitalizations among child CHIP/Medicaid recipients (per 10,000)				

	Alabama	California	Connecticut	District of Columbia
Child asthma related hospitalization rate by age group (per 10,000)		<5 - 24.8 (2005)	0-4 - 35.1 5-9- 16.9 10-14- 10.0 15-17- 6.7 (2001-2005)	0-4- 31.6 5-9- 26.7 10-14- 17.2 15-17- 12.1 (2005)
Number of hospitalizations, children asthma reporting asthma symptoms in the past 30 days				
Percentage of children reporting asthma symptoms in the past 30 days by frequency (%)				
current asthma who had asthma symptoms on ≥ 9 days during past month (%)				

	Alabama	California	Connecticut	District of Columbia
Distribution of asthma symptom frequency in past month among youth with asthma				
Frequency of asthma symptoms in the past year among children with current asthma (%)		Not at all - 7.7% Less than Monthly - 58.6% Monthly- 21.9% Weekly - 9.4% Everyday- 2.5% (2003)		
Distribution of asthma severity among youth with current asthma (%)				
Activity limitations due to asthma during the past 12 months, children (%)				
asthma reporting an asthma attack in the past 12 months (%)		36.1% (2003)		

	Alabama	California	Connecticut	District of Columbia
Percent of students with asthma that had an asthma attack during past 12 months by race/ethnicity (%)				
with asthma who experienced an asthma attack in the past year by age group (%)				
Students whose activities were limited one or more times per week due to asthma symptoms, students with current asthma (%)				
missed per year due to asthma		2.6 (2002-2003)		
Children with current asthma reporting school days missed due to asthma in past 12 months (%)				

	Alabama	California	Connecticut	District of Columbia
School days missed due to asthma among children with asthma (%)		Children age 0-11 with Current asthma 0- 50.5% 1-2 - 17.3% 3-4 - 9.2% 5-10- 15.8% 11+ - 7.1% (2003)		
Number of days of school missed in the past 30 days by asthma status, public middle and high school students				
asthma reporting an asthma attack in the past 12 months by race/ethnicity (%)				
Children with current asthma reporting activity limitation due to asthma in the past 12 months (%)				
Frequency of physical activity limitations due to asthma among children with asthma (%)		Children age 0-11 with lifetime asthma Never- 39.5% Rarely- 35.9% Sometimes- 18.7% Most of the time- 3.7% Always- 2.2% (2001)		

	Alabama	California	Connecticut	District of Columbia
Visiting the doctor or hospital for wheezing or trouble breathing in the past 12 months (%)		Among students with lifetime asthma 29.4% (2003-2005)		
Wheezing, chest tightness, or trouble breathing when not exercising during the past 12 months (%)		Among students with lifetime asthma 40.6% (2003-2005)		
Wheezing, chest tightness, or trouble breathing when exercising during the past 12 months (%)		Among students with lifetime asthma 58.5% (2003-2005)		
Percent of students with asthma that had an asthma attack during past 12 months (%)				
Percentage of children with asthma having trouble sleeping in the past 30 days, by number of days				
Most recent asthma symptoms, children with current asthma (%)				

	Alabama	California	Connecticut	District of Columbia
Percentage of children with current asthma experiencing 14 asthma symptom-free days during the past 2 weeks (%)				
with current asthma who had asthma symptoms every day of the last 2 weeks (%)				
Fair or poor health by asthma status				
Perceived health difficulties among children with current asthma (%)				
Dry cough at night without a cold or flu during the past 12 months (%)		Among students with lifetime asthma 44.6% (2003-2005)		
Percent of children receiving an asthma management/action plan from a provider (%)		38% (2003)		
Percent of children receiving an asthma management/action plan from a provider, by insurance provider (%)				
Asthma action plan on file at school (%)				

	Alabama	California	Connecticut	District of Columbia
Prevalence of ever having a written asthma action plan (%)				
Child allowed to carry asthma medicine at school, current asthma (%)				
Percent of children with asthma using prescription medications (%)				
Use of appropriate medication for people with asthma enrolled in Medicaid (%)				
Children with current asthma using a long term control medication (%)				
asthma using rescue medication (%)				
Prevalence of daily preventive asthma medication use during past year among youth with asthma (%)				
Length of time since last asthma medication was taken, current asthma (%)				

	Alabama	California	Connecticut	District of Columbia
Use of asthma prescription medicines among children with asthma, by medication type (%)				
Percent of children with asthma receiving routine check ups for asthma (%)				
asthma receiving training on how to manage asthma (%)				
asthma receiving training on how to recognize signs and symptoms of an attack (%)				
Percent of children with asthma receiving training about things that can trigger asthma attacks (%)				

	Alabama	California	Connecticut	District of Columbia
asthma receiving training on use of peak flow meter (%)				
Percent of children with asthma receiving training on use of inhaler (among those with inhaler) (%)				
Percent of children with asthma receiving training on use of a spacer (among those with inhaler) (%)				
Percent of children with lifetime asthma who had a Flu Vaccination in the Past Year (%)		<5- 58.9% 5-17- 40.4% (2005)		
Percent of children with current asthma who had a Flu Vaccination in the Past Year (%)				
with Current asthma who are not taking daily asthma medications by frequency of asthma symptoms (%)		None- 78.0% Less than monthly- 71.1% Monthly- 52.8% Weekly/Daily- 27.8% (2003)		
Prevalence of exposure to environmental tobacco smoke among children by asthma status				

	Alabama	California	Connecticut	District of Columbia
Prevalence based on Residence with Smoker and Days spent in same room as smoker, public middle/high school				
Percent of students with current asthma who smoke				
Child/Student current prevalence of asthma by smoking status (%)				

	Alabama	California	Connecticut	District of Columbia
Prevalence of current smoking among middle and high school students by asthma status				
Prevalence of exposure to environmental tobacco smoke among middle and high school students by asthma status.				

	Alabama	California	Connecticut	District of Columbia
Prevalence of current asthma among children/students by exposure to environmental tobacco smoke				
Prevalence of obesity among middle and high school students by asthma status (%)				
Prevalence of weight status among children with asthma				

	Alabama	California	Connecticut	District of Columbia
Percent of students who had an asthma attack in the past 12 months by smoking status (%)				
Current asthma prevalence among high school youth according to Body Mass Index				
Current asthma prevalence for school children by overweight status (%)				
prevalence for school children by overweight status (%)				

	Alabama	California	Connecticut	District of Columbia
Persons with asthma who receive assistance with assessing and reducing exposure to environmental risk factors in their home, school, and work environment (%)				
Environmental triggers in the home of children with asthma (%)				

	Alabama	California	Connecticut	District of Columbia
Environmental modifications in the home of children (%)				
Level of asthma control among children with current asthma (%)				
Total cost of child asthma related hospitalizations (per year)			\$9.8 million (2003-2005)	
Total cost of child asthma related ED-visits (per year)			\$3.789 million	
asthma reimbursements for asthma services				
Average charges per asthma hospitalization, by age		0-4 - \$11,904 5-14- \$14,222 (2005)		

	Alabama	California	Connecticut	District of Columbia
Mean charges for child asthma ED visits			\$527 (2000-2004)	
Mean charges for asthma ED visits, by age group			0-4- \$532 5-9- \$520 10-14- %523 15-17- \$534 (2000-2004)	
Mean charges for child asthma ED visits, by race/ethnicity			White- \$520 Black- \$516 Hispanic- \$528 Other- \$468 (2000-2004)	
Average cost of asthma related care for children with probable asthma continuously enrolled in Medicaid				
Percent of children ever diagnosed with asthma that have health insurance coverage (%)		94.5% (2003)		
Percent of children with current asthma who has experienced a cost barrier to care during past 12 months (%)				
charges for asthma, children				
Child asthma death rate (per 1,000,000)		0-14: 2.1 (2004)	2.1 (2001-2005)	2 children (1999-2005)- need to calculate rate

	Alabama	California	Connecticut	District of Columbia
Number of asthma deaths, children				
Notes		Healthy People comparison section	Pediatric Prevalence, ED visits, Hospitalizations by county and 5 largest cities Healthy People 2010 comparison	

	Georgia	Illinois	Iowa	Hawaii
PublicationYear	2007	2009	2009	2009
Child lifetime asthma prevalence (%)			9% (2006)	18.5% (2005-2006)
Child current asthma prevalence (%)			7% (2006)	11.6% (2005-2006)
Child lifetime asthma prevalence by age group (%)				
Child current asthma prevalence by age (%)	0-10- 10% 0-4- 9% 5-10- 12% (2002-2003)		0-4- 4% 5-9- 5% 10-14- 7% 15-17- 8% (2005)	0-4- 8.4 5-9- 15.1 10-14- 11.9 15-17 - 11.2 (2005-2006)
Child current asthma prevalence by race (%)	0-10 year olds Black- 12% White - 10% (0-10) (2002-2003)		Caucasian- 6% All races- 7% (2004)	Native Hawaiians- 18% Whites- 9% Japanese- 9.1% Filipino- 12.4% Chinese- 14.2% Other- 11.8% (2005-2006)
Child lifetime asthma prevalence by race (%)				

	Georgia	Illinois	Iowa	Hawaii
Prevalence of current asthma among children by annual household income or FPL (%)	0-10 year olds Less than \$20,000- 17% \$20,000-\$34,999 - 10% \$35,000-\$49,999 -9% \$50,000-\$74,999 -8% \$75,000 or more -9% (2002-2003)			<100% FPL - 15.8% 100%-199% FPL - 12.9% >199% FPL -12.5% (2003-2005)
Prevalence of lifetime asthma among children by annual household income or FPL (%)			>\$15,000- 15% \$15,000- \$24,999- 11% \$25,000-\$34,999- 7% \$35,000- \$49,999-8% \$50,000-\$74,999- 9% \$75,000+- 6% (2006)	
Lifetime asthma prevalence among students by race/ethnicity (%)				

	Georgia	Illinois	Iowa	Hawaii
Current asthma prevalence among students by race/ethnicity (%)		High School White- 22.2% Black- 29.0% Hispanic- 23.1% Other- 25.0% (2008)	High School White- 12% Black- 24% Hispanic- 17% Other- 22% Middle School White- 11% Black- 29% Hispanic- 14% (2004)	
Prevalence of asthma among children enrolled in CHIP/Medicaid (%)		CHIP 17.5% (2006)		
Prevalence of asthma by age group among children enrolled in CHIP/Medicaid (%)		<6- 15.9% 6-9- 20.2% 10-14- 18.5% 15-18- 14.9% (2006)		
Prevalence of asthma by race/ethnicity among children enrolled in CHIP/Medicaid (%)				
Lifetime asthma prevalence among Hispanic students, by Hispanic subgroup (%)				

	Georgia	Illinois	Iowa	Hawaii
Lifetime asthma prevalence among Asian/Pacific Islander (A/PI) students, by A/PI subgroup (%)				
Current asthma prevalence among students by grade (%)	6th- 14% 7th- 17% 8th- 13% 9th- 15% 10th- 16% 11th- 18% 12th- 19% (2005)	13.9% - Middle School 14.9% - High School (2008) 9th- 17.7% 10th- 9.5% 11th- 20.3% 12th- 19.0% (2006)	Middle School- 12% High School- 13% (2004) 9th- 15% 10th- 17% 11th- 15% 12th- 11% (2005)	
Child lifetime asthma prevalence by weight status (%)				

	Georgia	Illinois	Iowa	Hawaii
Lifetime asthma prevalence among students by grade (%)		20.1%- Middle School 23.8%- High School (2008) 9th- 25.2 10th- 20.0% 11th- 27.5% 12th- 27.8% (2006)		
Child current asthma prevalence by insurance status (%)				Insured- 13.2 Uninsured- 10.7 (2003-2005)
Child lifetime asthma prevalence by insurance status (%)				
Child lifetime asthma prevalence by parents' educational level (%)			<High School- 10% High School or GED- 8% Some Post High School- 9% College Graduate- 7% (2006)	

	Georgia	Illinois	Iowa	Hawaii
Child current asthma prevalence by parents' educational level (%)				
Child asthma related ED-visits rate (per 10,000)				
Child asthma ED Visits by age group (per 10,000)	0-4 - 139.7 5-10 - 97 11-13 - 65 14-17 - 50.6 (2004)			Stratified by age and gender Graphic representation but number not readily available
Child asthma ED Visits by race/ethnicity (per 10,000)				Graphic representation but numbers not readily available

	Georgia	Illinois	Iowa	Hawaii
Child asthma ED visits-Medicaid (per 10,000)				
Percent of children with current asthma visiting an ED or urgent care clinic in past year (%)		<6- 49.7% 6-16- 23.1% (2004)		
Received urgent treatment for asthma during the past 12 months, children with current asthma (%)				
current asthma enrolled in CHIP visiting an ED or urgent care clinic in past year (%)				
who ever had asthma who were hospitalized for asthma in the past 12 months (%)			4%(2005)	
Percentage of children with current asthma enrolled in CHIP who were hospitalized for asthma in the past 12 months (%)				
Child asthma related hospitalization rate (per 10,000)		14.5 (2007)	7.2 (2006)	

	Georgia	Illinois	Iowa	Hawaii
Child asthma related hospitalization rate by race/ethnicity (per 10,000)				Graphic representation but numbers not readily available
Average length of stay (ALOS) of child asthma hospitalizations (days)		<5- 2.1 5-14- 2.3 (2007)		
Average length of stay (ALOS) for asthma hospitalizations by age (days)				

	Georgia	Illinois	Iowa	Hawaii
Average length of stay (ALOS) for child asthma hospitalizations by race/ethnicity (days)				
Child asthma hospitalizations by source of payment (%)				
Child asthma ED visits by source of payment (%)				
Percent of Medicaid recipients with asthma ambulatory visits (%)				
Rate of asthma ED visits among child CHIP recipients (per 10,000)		<6- 165.9 6-9- 159.6 10-14- 107.9 15-18- 127.3 (2006)		
Rate of asthma hospitalizations among child CHIP/Medicaid recipients (per 10,000)		<6- 53.6 6-9- 27.3 10-14- 20.8 15-18- 22.2 (2006)		

	Georgia	Illinois	Iowa	Hawaii
Child asthma related hospitalization rate by age group (per 10,000)	0-4- 36.4 5-10- 16.7 11-13- 8.1 14-17- 4.3 (2004)	<5 - 27.4 5-14- 11.1 (2007)	0-4- 16.2 5-17- 5.5 (2004-2006)	Stratified by age and gender Graphic representation but numbers not readily available
Number of hospitalizations, children asthma reporting asthma symptoms in the past 30 days		<6- 610.1 6-9- 517.5 10-14- 554.1 15-18- 380.0 (2006)		
Percentage of children reporting asthma symptoms in the past 30 days by frequency (%)		None- 22.8% <1x per week- 42.4% 1-2x per week- 14.8% >2x per week- 18.4% every day- 1.6% (2004)		
current asthma who had asthma symptoms on ≥9 days during past month (%)				

	Georgia	Illinois	Iowa	Hawaii
Distribution of asthma symptom frequency in past month among youth with asthma				
Frequency of asthma symptoms in the past year among children with current asthma (%)				
Distribution of asthma severity among youth with current asthma (%)				
Activity limitations due to asthma during the past 12 months, children (%)				
asthma reporting an asthma attack in the past 12 months (%)	60% (2002-2003)	69.1% (2004)	6% (2005)	

	Georgia	Illinois	Iowa	Hawaii
Percent of students with asthma that had an asthma attack during past 12 months by race/ethnicity (%)				
with asthma who experienced an asthma attack in the past year by age group (%)		0-4- 77.0% 5-11- 67.3% 12-17 - 68.1% (2004)	0-4- 4% 5-9- 7% 10-14- 7% 15-17- 7% (2005)	
Students whose activities were limited one or more times per week due to asthma symptoms, students with current asthma (%)				
missed per year due to asthma				
Children with current asthma reporting school days missed due to asthma in past 12 months (%)	48% (2002-2003)	58.2% (2004)		

	Georgia	Illinois	Iowa	Hawaii
School days missed due to asthma among children with asthma (%)		0- 41.8% 1-2 - 16.2% 3-4- 11.0% 5- 8.6% 6-10- 10.9% >11- 8.1% (2004)		
Number of days of school missed in the past 30 days by asthma status, public middle and high school students				
asthma reporting an asthma attack in the past 12 months by race/ethnicity (%)				
Children with current asthma reporting activity limitation due to asthma in the past 12 months (%)	23% (2002-2003)	Not at all- 32% A little- 39.4% Moderate Amount- 22.4% A lot- 6.1% (2004)		
Frequency of physical activity limitations due to asthma among children with asthma (%)				

	Georgia	Illinois	Iowa	Hawaii
Visiting the doctor or hospital for wheezing or trouble breathing in the past 12 months (%)				
Wheezing, chest tightness, or trouble breathing when not exercising during the past 12 months (%)			High School- 22% Middle School- 15% (2004)	
Wheezing, chest tightness, or trouble breathing when exercising during the past 12 months (%)			High School - 22% Middle School- 17% (2004)	
Percent of students with asthma that had an asthma attack during past 12 months (%)				
Percentage of children with asthma having trouble sleeping in the past 30 days, by number of days		0- 36.2% 1-2- 26.1% 3-4 - 9.9% 5- 7.1 % 6-10 - 8.7% >10- 8.8% (2004)		
Most recent asthma symptoms, children with current asthma (%)				

	Georgia	Illinois	Iowa	Hawaii
Percentage of children with current asthma experiencing 14 asthma symptom-free days during the past 2 weeks (%)				
with current asthma who had asthma symptoms every day of the last 2 weeks (%)				
Fair or poor health by asthma status				
Perceived health difficulties among children with current asthma (%)				
Dry cough at night without a cold or flu during the past 12 months (%)			High School- 9% Middle School- 11% (2004)	
Percent of children receiving an asthma management/action plan from a provider (%)	35% (2002-2003)		41% (2005)	
Percent of children receiving an asthma management/action plan from a provider, by insurance provider (%)				
Asthma action plan on file at school (%)				

	Georgia	Illinois	Iowa	Hawaii
Prevalence of ever having a written asthma action plan (%)				
Child allowed to carry asthma medicine at school, current asthma (%)				
Percent of children with asthma using prescription medications (%)	84% (2002-2003)			
Use of appropriate medication for people with asthma enrolled in Medicaid (%)				
Children with current asthma using a long term control medication (%)				
asthma using rescue medication (%)				
Prevalence of daily preventive asthma medication use during past year among youth with asthma (%)				
Length of time since last asthma medication was taken, current asthma (%)				

	Georgia	Illinois	Iowa	Hawaii
Use of asthma prescription medicines among children with asthma, by medication type (%)	No Prescription Medications- 16% Quick Relief Only- 34% Control Only- 14% Quick Relief and Control- 36% (2002-2003)	<6 years Inhaler- 69.9% Pulls- 15.8% Nebulizer- 55.8% 6-16 years inhaler- 87.2% Pulls- 34.7% Nebulizer- 55.8% (2004)		
Percent of children with asthma receiving routine check ups for asthma (%)	70% (2002-2003)			
asthma receiving training on how to manage asthma (%)	82% (2002-2003)			
asthma receiving training on how to recognize signs and symptoms of an attack (%)	72% (2002-2003)			
Percent of children with asthma receiving training about things that can trigger asthma attacks (%)	77% (2002-2003)			

	Georgia	Illinois	Iowa	Hawaii
asthma receiving training on use of peak flow meter (%)	87% (2002-2003)			
Percent of children with asthma receiving training on use of inhaler (among those with inhaler) (%)	94% (2002-2003)			
Percent of children with asthma receiving training on use of a spacer (among those with inhaler) (%)	70% (2002-2003)			
Percent of children with lifetime asthma who had a Flu Vaccination in the Past Year (%)				
Percent of children with current asthma who had a Flu Vaccination in the Past Year (%)				
with Current asthma who are not taking daily asthma medications by frequency of asthma symptoms (%)				
Prevalence of exposure to environmental tobacco smoke among children by asthma status	0-10 year olds No Asthma- 29% Current Asthma- 36%			

	Georgia	Illinois	Iowa	Hawaii
Prevalence based on Residence with Smoker and Days spent in same room as smoker, public middle/high school				
Percent of students with current asthma who smoke			<p>1 or more cigarettes per day</p> <p>Middle School- 7%</p> <p>High School- 18% (2004)</p>	
Child/Student current prevalence of asthma by smoking status (%)			<p>>20 cigarettes/day- 18%</p> <p>1 or more cigarettes/day- 22%</p> <p>w or more cigarettes/month- 14%</p> <p>Non-smoker- 12% (2004)</p> <p>High School</p> <p>>20 cigarettes/day- 41%</p> <p>1 Or more cigarettes/day- 22%</p> <p>1 or more cigarettes/mont- 15%</p>	<p>Smoker- 23.9%</p> <p>No Smoker in Household- 11.6 %</p> <p>Lives w/1 smoker- 16.4%</p> <p>Lives with >1 smoker- 16.4%</p>

	Georgia	Illinois	Iowa	Hawaii
Prevalence of current smoking among middle and high school students by asthma status	Middle School No Asthma- 9% Current Asthma- 8% High School No Asthma- 19% Current Asthma- 20% (2005)			
Prevalence of exposure to environmental tobacco smoke among middle and high school students by asthma status.	Middle School No Asthma- 63% Current Asthma- 67% High School No Asthma- 75% Current Asthma- 80% (2005)			

	Georgia	Illinois	Iowa	Hawaii
Prevalence of current asthma among children/students by exposure to environmental tobacco smoke				
Prevalence of obesity among middle and high school students by asthma status (%)	Middle School No Asthma- 11% Current Asthma- 14% High School No Asthma- 12% Current Asthma 12% (2005)			
Prevalence of weight status among children with asthma				

	Georgia	Illinois	Iowa	Hawaii
Percent of students who had an asthma attack in the past 12 months by smoking status (%)			>20 cigarettes/day- 50% 1 or more cigarettes/day- 27% 1 or more cigarettes/month- 21% Non-smoker- 12% (2004) High School >20 cigarettes/day- 8% 1 or more cigarettes/day- 18% 1 or more cigarettes/month- 16%	
Current asthma prevalence among high school youth according to Body Mass Index				
Current asthma prevalence for school children by overweight status (%)				
prevalence for school children by overweight status (%)				

	Georgia	Illinois	Iowa	Hawaii
Persons with asthma who receive assistance with assessing and reducing exposure to environmental risk factors in their home, school, and work environment (%)				
Environmental triggers in the home of children with asthma (%)				

	Georgia	Illinois	Iowa	Hawaii
Environmental modifications in the home of children (%)				
Level of asthma control among children with current asthma (%)				
Total cost of child asthma related hospitalizations (per year)				
Total cost of child asthma related ED-visits (per year)				
asthma reimbursements for asthma services			\$52 million	
Average charges per asthma hospitalization, by age				

	Georgia	Illinois	Iowa	Hawaii
Mean charges for child asthma ED visits				
Mean charges for asthma ED visits, by age group				
Mean charges for child asthma ED visits, by race/ethnicity				
Average cost of asthma related care for children with probable asthma continuously enrolled in Medicaid				
Percent of children ever diagnosed with asthma that have health insurance coverage (%)				
Percent of children with current asthma who has experienced a cost barrier to care during past 12 months (%)				
charges for asthma, children				
Child asthma death rate (per 1,000,000)				18 people (adults and children)- need to calculate rate. (2004)

	Georgia	Illinois	Iowa	Hawaii
Number of asthma deaths, children				
Notes		Healthy People 2010 comparison	Pediatric Asthma hospitalizations by County	Pediatric Prevalence by County and geographic area Pediatric ED visits and hospitalizations by geographic area

	Kentucky	Louisiana	Maine	Maryland
PublicationYear	2009	2007	2008	2008
Child lifetime asthma prevalence (%)		Households with child diagnosed with asthma 12% (2006)	14.6% (2003)	13.6% (2007)
Child current asthma prevalence (%)		Households with child currently with asthma 3.4% (2006)	10.7% (2003)	8.9% (2007)
Child lifetime asthma prevalence by age group (%)	<11- 13.7% (2006)		0-4- 6.8% 5-10- 10.4% 11-13- 13.5% 14-17- 13.0% (2003)	
Child current asthma prevalence by age (%)	<5- 11.1% 6-11 - 10.2% <11 - 10.6% (2006)			<2- 3.0% 2-5- 9.5% 6-10- 9.7% 12-17- 10.4% (2005-2007)
Child current asthma prevalence by race (%)			White- 11% Non-white- 4.6% (2003)	White- 7.3% Black- 11.6% Hispanic- 8.8% Asian- 6.9% Other- 14.5% (2005-2007)
Child lifetime asthma prevalence by race (%)			White- 15% Non-white- 7.3% (2003)	

	Kentucky	Louisiana	Maine	Maryland
Prevalence of current asthma among children by annual household income or FPL (%)				
Prevalence of lifetime asthma among children by annual household income or FPL (%)				
Lifetime asthma prevalence among students by race/ethnicity (%)				

	Kentucky	Louisiana	Maine	Maryland
Current asthma prevalence among students by race/ethnicity (%)	Middle School Black- 16.9% White- 13.5% (2006) High School Black- 22.4% White- 11.3% (2006)			
Prevalence of asthma among children enrolled in CHIP/Medicaid (%)				
Prevalence of asthma by age group among children enrolled in CHIP/Medicaid (%)	Medicaid 0-3- 12.4% 4-10- 10.7% 11-14- 8.4% 15-18- 7.6% (2006)	Medicaid 0-10- 3.23% 11-17- 2.59% (2007)		Medicaid Graphic representation but numbers not readily available (2007)
Prevalence of asthma by race/ethnicity among children enrolled in CHIP/Medicaid (%)				
Lifetime asthma prevalence among Hispanic students, by Hispanic subgroup (%)				

	Kentucky	Louisiana	Maine	Maryland
Lifetime asthma prevalence among Asian/Pacific Islander (A/PI) students, by A/PI subgroup (%)				
Current asthma prevalence among students by grade (%)	Middle school- 13.6% High school- 11.8% (2006)	High School- 11.2% Middle School- 13% (2008)		
Child lifetime asthma prevalence by weight status (%)				

	Kentucky	Louisiana	Maine	Maryland
Lifetime asthma prevalence among students by grade (%)		High School- 23% (2007)		6th- 17.5% 7th- 18.7% 8th- 19.4% 9th- 18.2% 10th- 27.8% 11th- 27.7% 12th- 21.7% High School- 23.7% Middle School- 18.5% (2006)
Child current asthma prevalence by insurance status (%)			Maincare- 15.1% Other- 9.5% Uninsured- 5.4% (2005)	
Child lifetime asthma prevalence by insurance status (%)				
Child lifetime asthma prevalence by parents' educational level (%)				

	Kentucky	Louisiana	Maine	Maryland
Child current asthma prevalence by parents' educational level (%)				
Child asthma related ED-visits rate (per 10,000)				
Child asthma ED Visits by age group (per 10,000)			<5 - 115.9 5-14- 68.8 (2005)	0-4- 184 (2007) Graphical representation but numbers not available
Child asthma ED Visits by race/ethnicity (per 10,000)				

	Kentucky	Louisiana	Maine	Maryland
Child asthma ED visits-Medicaid (per 10,000)				
Percent of children with current asthma visiting an ED or urgent care clinic in past year (%)				21.3% (2006-2008)
Received urgent treatment for asthma during the past 12 months, children with current asthma (%)				
current asthma enrolled in CHIP visiting an ED or urgent care clinic in past year (%)				
who ever had asthma who were hospitalized for asthma in the past 12 months (%)				N/A
Percentage of children with current asthma enrolled in CHIP who were hospitalized for asthma in the past 12 months (%)				
Child asthma related hospitalization rate (per 10,000)				

	Kentucky	Louisiana	Maine	Maryland
Child asthma related hospitalization rate by race/ethnicity (per 10,000)				
Average length of stay (ALOS) of child asthma hospitalizations (days)				
Average length of stay (ALOS) for asthma hospitalizations by age (days)				

	Kentucky	Louisiana	Maine	Maryland
Average length of stay (ALOS) for child asthma hospitalizations by race/ethnicity (days)				
Child asthma hospitalizations by source of payment (%)				
Child asthma ED visits by source of payment (%)				
Percent of Medicaid recipients with asthma ambulatory visits (%)				
Rate of asthma ED visits among child CHIP recipients (per 10,000)				
Rate of asthma hospitalizations among child CHIP/Medicaid recipients (per 10,000)				

	Kentucky	Louisiana	Maine	Maryland
Child asthma related hospitalization rate by age group (per 10,000)	0-4 - 42.4 5-14 - 12.3 (2007)	Graphic representation but numbers not readily available	<5- 22 5-14- 5.9 (2005)	0-4 - 42.1 (2007)
Number of hospitalizations, children asthma reporting asthma symptoms in the past 30 days				39.5% (2006-2008)
Percentage of children reporting asthma symptoms in the past 30 days by frequency (%)				Everyday- 3.2% 11-29 days- 4.7% 6-10 days- 8.5% 3-5 days- 12.3% 1-2 days- 11.4% None- 11.4% (2006-2008)
current asthma who had asthma symptoms on \geq9 days during past month (%)				

	Kentucky	Louisiana	Maine	Maryland
Distribution of asthma symptom frequency in past month among youth with asthma				
Frequency of asthma symptoms in the past year among children with current asthma (%)				
Distribution of asthma severity among youth with current asthma (%)				
Activity limitations due to asthma during the past 12 months, children (%)				
asthma reporting an asthma attack in the past 12 months (%)			48.9% (2003)	

	Kentucky	Louisiana	Maine	Maryland
Percent of students with asthma that had an asthma attack during past 12 months by race/ethnicity (%)				
with asthma who experienced an asthma attack in the past year by age group (%)				<10 - 21.1% 11-17 - 19.3% (2006-2008)
Students whose activities were limited one or more times per week due to asthma symptoms, students with current asthma (%)				
missed per year due to asthma				
Children with current asthma reporting school days missed due to asthma in past 12 months (%)				40.9% (2006-2008)

	Kentucky	Louisiana	Maine	Maryland
School days missed due to asthma among children with asthma (%)				None- 59.1% 1-2 days- 16.8% 3-7- 16.6% 8-29 days- 5.7% (2006-2008)
Number of days of school missed in the past 30 days by asthma status, public middle and high school students				
asthma reporting an asthma attack in the past 12 months by race/ethnicity (%)				
Children with current asthma reporting activity limitation due to asthma in the past 12 months (%)			K-3rd- 65.6% 5th grade- 46.9% (2004-2005)	
Frequency of physical activity limitations due to asthma among children with asthma (%)				

	Kentucky	Louisiana	Maine	Maryland
Visiting the doctor or hospital for wheezing or trouble breathing in the past 12 months (%)				
Wheezing, chest tightness, or trouble breathing when not exercising during the past 12 months (%)				
Wheezing, chest tightness, or trouble breathing when exercising during the past 12 months (%)				
Percent of students with asthma that had an asthma attack during past 12 months (%)				
Percentage of children with asthma having trouble sleeping in the past 30 days, by number of days				
Most recent asthma symptoms, children with current asthma (%)				

	Kentucky	Louisiana	Maine	Maryland
Percentage of children with current asthma experiencing 14 asthma symptom-free days during the past 2 weeks (%)				
with current asthma who had asthma symptoms every day of the last 2 weeks (%)				
Fair or poor health by asthma status				
Perceived health difficulties among children with current asthma (%)				
Dry cough at night without a cold or flu during the past 12 months (%)			K-3rd- 60.8% 5th grade- 44.2% (2004-2005)	
Percent of children receiving an asthma management/action plan from a provider (%)			59.7% (2004)	26.4% (2006-2008)
Percent of children receiving an asthma management/action plan from a provider, by insurance provider (%)				
Asthma action plan on file at school (%)				38.9% (2006-2008)

	Kentucky	Louisiana	Maine	Maryland
Prevalence of ever having a written asthma action plan (%)				
Child allowed to carry asthma medicine at school, current asthma (%)				
Percent of children with asthma using prescription medications (%)				
Use of appropriate medication for people with asthma enrolled in Medicaid (%)				
Children with current asthma using a long term control medication (%)				
asthma using rescue medication (%)				
Prevalence of daily preventive asthma medication use during past year among youth with asthma (%)				
Length of time since last asthma medication was taken, current asthma (%)				

	Kentucky	Louisiana	Maine	Maryland
Use of asthma prescription medicines among children with asthma, by medication type (%)				Inhaler- 85.7% Pill- 29.7% Nebulizer- 41.1% (2006-2008) In past 3 months
Percent of children with asthma receiving routine check ups for asthma (%)				82.1% (2006-2008)
asthma receiving training on how to manage asthma (%)				7.5% (2006-2008) Took a class
asthma receiving training on how to recognize signs and symptoms of an attack (%)				58.9% (2006-2008)
Percent of children with asthma receiving training about things that can trigger asthma attacks (%)				

	Kentucky	Louisiana	Maine	Maryland
asthma receiving training on use of peak flow meter (%)				30.6% (2006-2008)
Percent of children with asthma receiving training on use of inhaler (among those with inhaler) (%)				68.8% (2006-2008)
Percent of children with asthma receiving training on use of a spacer (among those with inhaler) (%)				
Percent of children with lifetime asthma who had a Flu Vaccination in the Past Year (%)				
Percent of children with current asthma who had a Flu Vaccination in the Past Year (%)				48% (2006-2008)
with Current asthma who are not taking daily asthma medications by frequency of asthma symptoms (%)				
Prevalence of exposure to environmental tobacco smoke among children by asthma status				

	Kentucky	Louisiana	Maine	Maryland
Prevalence based on Residence with Smoker and Days spent in same room as smoker, public middle/high school				
Percent of students with current asthma who smoke				
Child/Student current prevalence of asthma by smoking status (%)	Middle School Smoker- 13.9% Non-Smoker- 13.7% High School Smoker- 10.4% Non-Smoker- 10.4% (2006)			

	Kentucky	Louisiana	Maine	Maryland
Prevalence of current smoking among middle and high school students by asthma status				
Prevalence of exposure to environmental tobacco smoke among middle and high school students by asthma status.				

	Kentucky	Louisiana	Maine	Maryland
Prevalence of current asthma among children/students by exposure to environmental tobacco smoke	<p>Middle School</p> <p>Exposed to ETS- 12.7% Not Exposed to ETS- 15.4%</p> <p>High School</p> <p>Exposed to ETS- 12.0% Not Exposed to ETS- 11.3%</p>			<p>Current adult smoker- 13% Former adult smoker- 10.8% Never adult smoker- 9.3% (2005-2007)</p>
Prevalence of obesity among middle and high school students by asthma status (%)				
Prevalence of weight status among children with asthma				

	Kentucky	Louisiana	Maine	Maryland
Percent of students who had an asthma attack in the past 12 months by smoking status (%)				
Current asthma prevalence among high school youth according to Body Mass Index				
Current asthma prevalence for school children by overweight status (%)				
prevalence for school children by overweight status (%)				

	Kentucky	Louisiana	Maine	Maryland
Persons with asthma who receive assistance with assessing and reducing exposure to environmental risk factors in their home, school, and work environment (%)				
Environmental triggers in the home of children with asthma (%)				Carpeting or Rugs in bedroom- 72.8% Indoor pets - 57.4% Gas used for cooking - 49.6% Pets in bedroom- 32.0% Wood burning fireplace or stove used in home- 22.4% Smoking inside home in the past week - 8.2% Mold inside home- 7.3% Mice or rats seen in home in the past month- 7.0% Unvented gas logs, gas fireplaces, or gas stoves used in home- 5.3% Cockroach seen in home in the past month- 3.0% (2006-2008)

	Kentucky	Louisiana	Maine	Maryland
Environmental modifications in the home of children (%)				when cooking - 68.9% Exhaust fan regularly used in bathroom - 62.3% Sheets and pillow cases washed in hot water - 42.9% Air cleaner or purifier regularly used- 35.2% Dehumidifier regularly used - 41.4% Mattress cover used for controlling dust mites - 34.7% Pillow cover used for controlling dust mites - 32.5% (2006-2008)
Level of asthma control among children with current asthma (%)				
Total cost of child asthma related hospitalizations (per year)				
Total cost of child asthma related ED-visits (per year)				
asthma reimbursements for asthma services				
Average charges per asthma hospitalization, by age				

	Kentucky	Louisiana	Maine	Maryland
Mean charges for child asthma ED visits				
Mean charges for asthma ED visits, by age group				
Mean charges for child asthma ED visits, by race/ethnicity				
Average cost of asthma related care for children with probable asthma continuously enrolled in Medicaid				
Percent of children ever diagnosed with asthma that have health insurance coverage (%)				
Percent of children with current asthma who has experienced a cost barrier to care during past 12 months (%)				
charges for asthma, children				
Child asthma death rate (per 1,000,000)				

	Kentucky	Louisiana	Maine	Maryland
Number of asthma deaths, children				
Notes		Limited Healthy People 2010 comparison	Limited Healthy People 2010 Comparison	

	Indiana	Michigan	Massachusetts	Mississippi
PublicationYear	2008	2009	2009	2009
Child lifetime asthma prevalence (%)	13.7% (2005)	13.7% (2007)	14.4% (2005-2007)	14.8% (2007)
Child current asthma prevalence (%)	8.4 % (2005)	9.5% (2007)	10.3% (2005-2007)	10.4% (2007)
Child lifetime asthma prevalence by age group (%)	<10- 13.6% 11-17- 14.7% (2005)			
Child current asthma prevalence by age (%)	<10- 9.9% 11-17- 9.5% (2005)	0-4- 7% 5-9- 9.8% 10-14- 10.7% 15-17- 11.9% (2007)	0-4- 5.8% 5-11- 10.7% 12-17- 12.5% (2005-2007)	0-4- 9.3% 5-11- 10.4% 12-17- 11.3% (2007)
Child current asthma prevalence by race (%)		White- 8.1% Black- 11.6% Hispanic- 10.6% (2007)	White- 9.1% Black- 16% Hispanic- 13.1% (2005-2007)	Black- 13.7% White- 7.6% (2007)
Child lifetime asthma prevalence by race (%)				

	Indiana	Michigan	Massachusetts	Mississippi
Prevalence of current asthma among children by annual household income or FPL (%)		<\$20,000- 13.3% >\$75,000- 8.9% (2007) More available in graphic representation but numerical values not included	<\$75,000 - 12.7% \$75,000+ -7.7% (2005-2007)	
Prevalence of lifetime asthma among children by annual household income or FPL (%)				
Lifetime asthma prevalence among students by race/ethnicity (%)		High School White- 22.5% Black- 27.8% Hispanic- 26.2% American Indian- 47.6% (2007)		

	Indiana	Michigan	Massachusetts	Mississippi
Current asthma prevalence among students by race/ethnicity (%)				High School Black-9.3% White- 7.4% (2007)
Prevalence of asthma among children enrolled in CHIP/Medicaid (%)	Medicaid 5.7% (2006)			
Prevalence of asthma by age group among children enrolled in CHIP/Medicaid (%)				
Prevalence of asthma by race/ethnicity among children enrolled in CHIP/Medicaid (%)	Medicaid White- 6% Black- 6% Hispanic- 3.5% Other- 3.8% (2006)			
Lifetime asthma prevalence among Hispanic students, by Hispanic subgroup (%)				

	Indiana	Michigan	Massachusetts	Mississippi
Lifetime asthma prevalence among Asian/Pacific Islander (A/PI) students, by A/PI subgroup (%)				
Current asthma prevalence among students by grade (%)				High School 8.4% (2007)
Child lifetime asthma prevalence by weight status (%)				

	Indiana	Michigan	Massachusetts	Mississippi
Lifetime asthma prevalence among students by grade (%)		Middle School- 20.5%(2003) High School- 21.1% (2007)	K-8th- 10.8% (2006-2007) K- 9.4% 1st- 10.3% 2nd- 10.6% 3rd- 10.9% 4th- 11.4% 5th- 11.4% 6th- 11.1% 7th- 11.1% 8th- 11.0% (2006-2007) Middle School- 21.1% High School- 22.8% (2007)	High School- 17.2% (2007)
Child current asthma prevalence by insurance status (%)				
Child lifetime asthma prevalence by insurance status (%)				
Child lifetime asthma prevalence by parents' educational level (%)				

	Indiana	Michigan	Massachusetts	Mississippi
Child current asthma prevalence by parents' educational level (%)		High School- 11% Some College- 9.3% College graduate- 8.4% (2007)	<High School- 16.7% High School- 12.6% Some College or More- 9.1% (2005-2007)	
Child asthma related ED-visits rate (per 10,000)				
Child asthma ED Visits by age group (per 10,000)	<5 - 81.5 5-9- 59.3 10-14- 43.3 15-19- 43.9 (2005)		0-4- 115.4 5-11- 71.8 12-17- 51.9 (2005)	0-4- 99 5-11-75 12-17-44 (2003-2007)
Child asthma ED Visits by race/ethnicity (per 10,000)	0-4 White- 54.5 Black- 195.1 Other- 333.3 5-9 White-37.2 Black- 165.4 Other- 226.6 10-14 White- 28.8 Black- 108.3 Other- 204.2 15-19 White- 31.8 Black- 100.4 Other- 204.9 (2005)			

	Indiana	Michigan	Massachusetts	Mississippi
Child asthma ED visits-Medicaid (per 10,000)		242.5 (2005)		
Percent of children with current asthma visiting an ED or urgent care clinic in past year (%)		2 or more times 9.5%(2005-2007)		
Received urgent treatment for asthma during the past 12 months, children with current asthma (%)				
current asthma enrolled in CHIP visiting an ED or urgent care clinic in past year (%)				
who ever had asthma who were hospitalized for asthma in the past 12 months (%)		3% (2005-2007)		
Percentage of children with current asthma enrolled in CHIP who were hospitalized for asthma in the past 12 months (%)				
Child asthma related hospitalization rate (per 10,000)				

	Indiana	Michigan	Massachusetts	Mississippi
Child asthma related hospitalization rate by race/ethnicity (per 10,000)	0-4 White- 19.4 Black- 48.6 Other- 79.9 5-9 White- 7.8 Black- 35.1 Other- 40.6 10-14 White- 5.1 Black- 20.0 Other- 27.1 15-19 White- 5.6 Black- 9.8 Other- 10.4 (2005)			
Average length of stay (ALOS) of child asthma hospitalizations (days)		1.9 (2006)		
Average length of stay (ALOS) for asthma hospitalizations by age (days)			0-4- 2.0 5-11-2.4 12-17- 2.7 (2006)	

	Indiana	Michigan	Massachusetts	Mississippi
Average length of stay (ALOS) for child asthma hospitalizations by race/ethnicity (days)				
Child asthma hospitalizations by source of payment (%)				
Child asthma ED visits by source of payment (%)				
Percent of Medicaid recipients with asthma ambulatory visits (%)				
Rate of asthma ED visits among child CHIP recipients (per 10,000)				
Rate of asthma hospitalizations among child CHIP/Medicaid recipients (per 10,000)				

	Indiana	Michigan	Massachusetts	Mississippi
Child asthma related hospitalization rate by age group (per 10,000)	0-4 - 25.1 5-9 - 12.2 10-14 - 7.4 15-19 - 4.4 (2005)	0-4- 45.6 5-14- 15.3 (2004-2006)	0-4- 39.5 5-11- 17.0 12-17- 7.4 (2006)	0-4- 50 5-11- 19 12-17- 8 (2003-2007)
Number of hospitalizations, children asthma reporting asthma symptoms in the past 30 days			40.5% (2006-2007)	
Percentage of children reporting asthma symptoms in the past 30 days by frequency (%)				
current asthma who had asthma symptoms on ≥ 9 days during past month (%)		21.2% (2005-2007)		

	Indiana	Michigan	Massachusetts	Mississippi
Distribution of asthma symptom frequency in past month among youth with asthma				
Frequency of asthma symptoms in the past year among children with current asthma (%)				
Distribution of asthma severity among youth with current asthma (%)				
Activity limitations due to asthma during the past 12 months, children (%)			Not at all- 49.1% A little- 36.9% A moderate amount to a lot- 14.0% (2006-2007)	
asthma reporting an asthma attack in the past 12 months (%)			44.2% (2006-2007)	

	Indiana	Michigan	Massachusetts	Mississippi
Percent of students with asthma that had an asthma attack during past 12 months by race/ethnicity (%)				
with asthma who experienced an asthma attack in the past year by age group (%)				
Students whose activities were limited one or more times per week due to asthma symptoms, students with current asthma (%)				
missed per year due to asthma			1.9 (2006-2007)	
Children with current asthma reporting school days missed due to asthma in past 12 months (%)		44% (2005-2007)	37.8% (2006-2007)	

	Indiana	Michigan	Massachusetts	Mississippi
School days missed due to asthma among children with asthma (%)		6 or more- 16.3% (2005-2007)		
Number of days of school missed in the past 30 days by asthma status, public middle and high school students				
asthma reporting an asthma attack in the past 12 months by race/ethnicity (%)				
Children with current asthma reporting activity limitation due to asthma in the past 12 months (%)		65.3% (2005-2007)		
Frequency of physical activity limitations due to asthma among children with asthma (%)				

	Indiana	Michigan	Massachusetts	Mississippi
Visiting the doctor or hospital for wheezing or trouble breathing in the past 12 months (%)				
Wheezing, chest tightness, or trouble breathing when not exercising during the past 12 months (%)				
Wheezing, chest tightness, or trouble breathing when exercising during the past 12 months (%)				
Percent of students with asthma that had an asthma attack during past 12 months (%)				
Percentage of children with asthma having trouble sleeping in the past 30 days, by number of days		2 or more days- 20.1% (2005-2007)		
Most recent asthma symptoms, children with current asthma (%)				

	Indiana	Michigan	Massachusetts	Mississippi
Percentage of children with current asthma experiencing 14 asthma symptom-free days during the past 2 weeks (%)		55.6% (2005-2007)		
with current asthma who had asthma symptoms every day of the last 2 weeks (%)		8.2% (2005-2007)		
Fair or poor health by asthma status				
Perceived health difficulties among children with current asthma (%)				
Dry cough at night without a cold or flu during the past 12 months (%)				
Percent of children receiving an asthma management/action plan from a provider (%)		40.2% (2005-2007)	45% (2006-2007)	
Percent of children receiving an asthma management/action plan from a provider, by insurance provider (%)				
Asthma action plan on file at school (%)				

	Indiana	Michigan	Massachusetts	Mississippi
Prevalence of ever having a written asthma action plan (%)				
Child allowed to carry asthma medicine at school, current asthma (%)				
Percent of children with asthma using prescription medications (%)			66.4% (2006-2007)- in past 3 months	
Use of appropriate medication for people with asthma enrolled in Medicaid (%)				
Children with current asthma using a long term control medication (%)		In past 3 months 44.7% (2005-2007)		
asthma using rescue medication (%)				
Prevalence of daily preventive asthma medication use during past year among youth with asthma (%)				
Length of time since last asthma medication was taken, current asthma (%)				

	Indiana	Michigan	Massachusetts	Mississippi
Use of asthma prescription medicines among children with asthma, by medication type (%)			29.7% inhaled long-acting beta2-agonist- 2.4% leukotriene modifier- 12.9% inhaled anti-inflammatory- 0.0% inhaled short-acting beta2-agonists- 45.5% any inhaled prescription asthma medication- 56.1% a spacer (with inhaled prescription asthma medication)- 62.1% In past 3 months	
Percent of children with asthma receiving routine check ups for asthma (%)		40.4% - 2 or more during past 12 months (2005-2007)	80% - in past 12 months (2006-2007)	
asthma receiving training on how to manage asthma (%)		7% (2005-2007) took a class	7.8% (2006-2007) Took a class	
asthma receiving training on how to recognize signs and symptoms of an attack (%)			84.2% (2006-2007)	
Percent of children with asthma receiving training about things that can trigger asthma attacks (%)				

	Indiana	Michigan	Massachusetts	Mississippi
asthma receiving training on use of peak flow meter (%)			55.3% (2006-2007)	
Percent of children with asthma receiving training on use of inhaler (among those with inhaler) (%)			97.2% (2006-2007)	
Percent of children with asthma receiving training on use of a spacer (among those with inhaler) (%)				
Percent of children with lifetime asthma who had a Flu Vaccination in the Past Year (%)				
Percent of children with current asthma who had a Flu Vaccination in the Past Year (%)		35% (2005-2007)	48.9% (2006-2007)	
with Current asthma who are not taking daily asthma medications by frequency of asthma symptoms (%)				
Prevalence of exposure to environmental tobacco smoke among children by asthma status				

	Indiana	Michigan	Massachusetts	Mississippi
Prevalence based on Residence with Smoker and Days spent in same room as smoker, public middle/high school				
Percent of students with current asthma who smoke				
Child/Student current prevalence of asthma by smoking status (%)				

	Indiana	Michigan	Massachusetts	Mississippi
Prevalence of current smoking among middle and high school students by asthma status				
Prevalence of exposure to environmental tobacco smoke among middle and high school students by asthma status.				

	Indiana	Michigan	Massachusetts	Mississippi
Prevalence of current asthma among children/students by exposure to environmental tobacco smoke				
Prevalence of obesity among middle and high school students by asthma status (%)				
Prevalence of weight status among children with asthma				

	Indiana	Michigan	Massachusetts	Mississippi
Percent of students who had an asthma attack in the past 12 months by smoking status (%)				
Current asthma prevalence among high school youth according to Body Mass Index				
Current asthma prevalence for school children by overweight status (%)				
prevalence for school children by overweight status (%)				

	Indiana	Michigan	Massachusetts	Mississippi
Persons with asthma who receive assistance with assessing and reducing exposure to environmental risk factors in their home, school, and work environment (%)				
Environmental triggers in the home of children with asthma (%)			<ul style="list-style-type: none"> carpeting or rugs in bedroom- 56.3% Gas used for cooking- 51.5 % Has pets inside home- 49.6 % Wood burning fireplace/stove- 27.2 % Pets allowed in bedroom- 26.6 % Mice or rats inside the home, past 30 days-11.0% Mold inside the home, past 30 days- 8.7% Gas fireplace or unvented gas stove-4.9% Smoking inside the home, past week-3.5% Cockroaches inside the home, past 30 days- 1.4% (2006-2007) 	

	Indiana	Michigan	Massachusetts	Mississippi
Environmental modifications in the home of children (%)			Exhaust fan used in the bathroom-59.3% Exhaust fan used in the kitchen-52.8% Sheets and pillowcases washed in hot water-52.0 % Mattress cover used- 41.8 % Pillow cover used- 37.6 % Dehumidifier regularly used-35.3% Air cleaner or purifier regularly used- 33.3 % (2006-2007)	
Level of asthma control among children with current asthma (%)			18.3% Well Controlled- 34.8% Not well controlled- 46.9% (2006-2007)	
Total cost of child asthma related hospitalizations (per year)				
Total cost of child asthma related ED-visits (per year)				
asthma reimbursements for asthma services				
Average charges per asthma hospitalization, by age				

	Indiana	Michigan	Massachusetts	Mississippi
Mean charges for child asthma ED visits				
Mean charges for asthma ED visits, by age group				
Mean charges for child asthma ED visits, by race/ethnicity				
Average cost of asthma related care for children with probable asthma continuously enrolled in Medicaid				
Percent of children ever diagnosed with asthma that have health insurance coverage (%)				
Percent of children with current asthma who has experienced a cost barrier to care during past 12 months (%)		8.3% (2005-2007)		
charges for asthma, children				
Child asthma death rate (per 1,000,000)	0-14 - 3.6 (1999-2005)			0-4- 1 5-14- 3 (2003-2007)

	Indiana	Michigan	Massachusetts	Mississippi
Number of asthma deaths, children				
Notes	Healthy People 2010 comparison	Pediatric Asthma Prevalence, ED visits and hospitalizations by County	Pediatric Asthma Prevalence by County Healthy People Comparison	

	Missouri	Montana	New Hampshire	New Jersey
PublicationYear	2006	no date	2004/2010	2006
Child lifetime asthma prevalence (%)	11% (2004)		12.5% (2007)	12% (2003)
Child current asthma prevalence (%)	8% (2004)		8.8% (2007)	8.5% (2003)
Child lifetime asthma prevalence by age group (%)				
Child current asthma prevalence by age (%)			0-4-4.6% 5-14-9.0% 15-17-12.0% (2006-2008)	
Child current asthma prevalence by race (%)				Black- 12.8% Hispanic- 10.4% White- 7.4% (2003)
Child lifetime asthma prevalence by race (%)				

	Missouri	Montana	New Hampshire	New Jersey
Prevalence of current asthma among children by annual household income or FPL (%)			\$25,000>- 13 \$25,000+ - 7.5 (2006-2008)	
Prevalence of lifetime asthma among children by annual household income or FPL (%)				
Lifetime asthma prevalence among students by race/ethnicity (%)				

	Missouri	Montana	New Hampshire	New Jersey
Current asthma prevalence among students by race/ethnicity (%)		High School American Indian- 7.5% White- 11.4% Other- 14.5% (2005)		
Prevalence of asthma among children enrolled in CHIP/Medicaid (%)				
Prevalence of asthma by age group among children enrolled in CHIP/Medicaid (%)		Medicaid 0-4- 11.4% 5-14- 8.0% 15-18- 8.1% (2005-2006)		
Prevalence of asthma by race/ethnicity among children enrolled in CHIP/Medicaid (%)		Medicaid American Indian- 10.8% White- 8.0% Other- 7.9% (2005-2006)		
Lifetime asthma prevalence among Hispanic students, by Hispanic subgroup (%)				

	Missouri	Montana	New Hampshire	New Jersey
Lifetime asthma prevalence among Asian/Pacific Islander (A/PI) students, by A/PI subgroup (%)				
Current asthma prevalence among students by grade (%)		High School- 15.8% (2005)	Middle School- 15% (2007) High School- 15.3% (2009)	
Child lifetime asthma prevalence by weight status (%)				

	Missouri	Montana	New Hampshire	New Jersey
Lifetime asthma prevalence among students by grade (%)		High School- 20.9% (2005)	Middle School- 19.6% (2007) High School- 23.2% (2009)	
Child current asthma prevalence by insurance status (%)				
Child lifetime asthma prevalence by insurance status (%)				
Child lifetime asthma prevalence by parents' educational level (%)				

	Missouri	Montana	New Hampshire	New Jersey
Child current asthma prevalence by parents' educational level (%)				
Child asthma related ED-visits rate (per 10,000)				88.9 (2004)
Child asthma ED Visits by age group (per 10,000)	0-4- 147 5-9- 99 10-14- 75 15-19-68 (2003)		0-4- 64.3 5-14- 39.8 (2004)	Male 0-4- 187.5 5-9- 103.6 10-13- 74.8 14-17- 44.3 Female 0-4- 109.6 5-9- 62.7 10-13- 49.3 14-17- 57.1 (2004)
Child asthma ED Visits by race/ethnicity (per 10,000)	0-4 White- 87 Black- 438 5-9 White-57 Black- 311 10-14 White-40 Black- 250 15-19 White-45 Black- 203 (2003)			White- 53.5 Black- 167.9 Asian/Pacific Islander- 13.7 American Indian/Alaska Native- 288.9 (2004)

	Missouri	Montana	New Hampshire	New Jersey
Child asthma ED visits-Medicaid (per 10,000)				
Percent of children with current asthma visiting an ED or urgent care clinic in past year (%)				
Received urgent treatment for asthma during the past 12 months, children with current asthma (%)				
current asthma enrolled in CHIP visiting an ED or urgent care clinic in past year (%)				
who ever had asthma who were hospitalized for asthma in the past 12 months (%)				
Percentage of children with current asthma enrolled in CHIP who were hospitalized for asthma in the past 12 months (%)				
Child asthma related hospitalization rate (per 10,000)			0-4- 14.7 5-14- 3.7 (2004)	24.0 (2004)

	Missouri	Montana	New Hampshire	New Jersey
Child asthma related hospitalization rate by race/ethnicity (per 10,000)	0-4 White- 30.1 Black- 84.0 5-9 White- 10.3 Black- 62.5 10-14 White-4.9 Black- 48.4 15-19 White- 3.9 Black- 24.8 (2003)			White- 15.0 Black-46.9 Asian/Pacific Islander- 6.6 American Indian/Alaska Native- 74.4 (2004)
Average length of stay (ALOS) of child asthma hospitalizations (days)				
Average length of stay (ALOS) for asthma hospitalizations by age (days)				

	Missouri	Montana	New Hampshire	New Jersey
Average length of stay (ALOS) for child asthma hospitalizations by race/ethnicity (days)				
Child asthma hospitalizations by source of payment (%)				
Child asthma ED visits by source of payment (%)				
Percent of Medicaid recipients with asthma ambulatory visits (%)				
Rate of asthma ED visits among child CHIP recipients (per 10,000)				
Rate of asthma hospitalizations among child CHIP/Medicaid recipients (per 10,000)				

	Missouri	Montana	New Hampshire	New Jersey
Child asthma related hospitalization rate by age group (per 10,000)	0-4- 39.6 5-9- 19.1 10-14- 12.4 15-19- 7.1 (2003)	<5- 24.5 (2005)		Male 0-4- 69.1 5-9- 23.4 10-13- 14.3 14-17- 6.4 Female 0-4- 35.8 5-9- 14.5 10-13- 10.4 14-17- 9.0 (2004)
Number of hospitalizations, children asthma reporting asthma symptoms in the past 30 days				
Percentage of children reporting asthma symptoms in the past 30 days by frequency (%)				
current asthma who had asthma symptoms on \geq9 days during past month (%)				

	Missouri	Montana	New Hampshire	New Jersey
Distribution of asthma symptom frequency in past month among youth with asthma				
Frequency of asthma symptoms in the past year among children with current asthma (%)				
Distribution of asthma severity among youth with current asthma (%)				
Activity limitations due to asthma during the past 12 months, children (%)				
asthma reporting an asthma attack in the past 12 months (%)				

	Missouri	Montana	New Hampshire	New Jersey
Percent of students with asthma that had an asthma attack during past 12 months by race/ethnicity (%)				
with asthma who experienced an asthma attack in the past year by age group (%)				
Students whose activities were limited one or more times per week due to asthma symptoms, students with current asthma (%)				
missed per year due to asthma				
Children with current asthma reporting school days missed due to asthma in past 12 months (%)				

	Missouri	Montana	New Hampshire	New Jersey
School days missed due to asthma among children with asthma (%)				
Number of days of school missed in the past 30 days by asthma status, public middle and high school students				
asthma reporting an asthma attack in the past 12 months by race/ethnicity (%)				
Children with current asthma reporting activity limitation due to asthma in the past 12 months (%)				
Frequency of physical activity limitations due to asthma among children with asthma (%)				

	Missouri	Montana	New Hampshire	New Jersey
Visiting the doctor or hospital for wheezing or trouble breathing in the past 12 months (%)				
Wheezing, chest tightness, or trouble breathing when not exercising during the past 12 months (%)				
Wheezing, chest tightness, or trouble breathing when exercising during the past 12 months (%)				
Percent of students with asthma that had an asthma attack during past 12 months (%)				
Percentage of children with asthma having trouble sleeping in the past 30 days, by number of days				
Most recent asthma symptoms, children with current asthma (%)				

	Missouri	Montana	New Hampshire	New Jersey
Percentage of children with current asthma experiencing 14 asthma symptom-free days during the past 2 weeks (%)				
with current asthma who had asthma symptoms every day of the last 2 weeks (%)				
Fair or poor health by asthma status				amount- 23% Little or not at all- 77% (2003)
Perceived health difficulties among children with current asthma (%)				
Dry cough at night without a cold or flu during the past 12 months (%)				
Percent of children receiving an asthma management/action plan from a provider (%)				49% (2004)
Percent of children receiving an asthma management/action plan from a provider, by insurance provider (%)				
Asthma action plan on file at school (%)				

	Missouri	Montana	New Hampshire	New Jersey
Prevalence of ever having a written asthma action plan (%)				
Child allowed to carry asthma medicine at school, current asthma (%)				
Percent of children with asthma using prescription medications (%)				
Use of appropriate medication for people with asthma enrolled in Medicaid (%)				
Children with current asthma using a long term control medication (%)				
asthma using rescue medication (%)				
Prevalence of daily preventive asthma medication use during past year among youth with asthma (%)				
Length of time since last asthma medication was taken, current asthma (%)				

	Missouri	Montana	New Hampshire	New Jersey
Use of asthma prescription medicines among children with asthma, by medication type (%)				
Percent of children with asthma receiving routine check ups for asthma (%)				
asthma receiving training on how to manage asthma (%)				
asthma receiving training on how to recognize signs and symptoms of an attack (%)				
Percent of children with asthma receiving training about things that can trigger asthma attacks (%)				

	Missouri	Montana	New Hampshire	New Jersey
asthma receiving training on use of peak flow meter (%)				
Percent of children with asthma receiving training on use of inhaler (among those with inhaler) (%)				
Percent of children with asthma receiving training on use of a spacer (among those with inhaler) (%)				
Percent of children with lifetime asthma who had a Flu Vaccination in the Past Year (%)				
Percent of children with current asthma who had a Flu Vaccination in the Past Year (%)				
with Current asthma who are not taking daily asthma medications by frequency of asthma symptoms (%)				
Prevalence of exposure to environmental tobacco smoke among children by asthma status			Current Asthma Someone in Household Smokes Tobacco- 31.6% Someone Smokes But Not Inside the Home- 24.7% Someone Smokes Inside the Home- 6.9% No one uses tobacco- 68.4% (2007)	

	Missouri	Montana	New Hampshire	New Jersey
Prevalence based on Residence with Smoker and Days spent in same room as smoker, public middle/high school				
Percent of students with current asthma who smoke			Ever Tried Smoking- 24.6% Currently Smoke- 6.8% (2007) High School Ever Tried Smoking- 42% Currently smoke- 21.9%	
Child/Student current prevalence of asthma by smoking status (%)				

	Missouri	Montana	New Hampshire	New Jersey
Prevalence of current smoking among middle and high school students by asthma status				
Prevalence of exposure to environmental tobacco smoke among middle and high school students by asthma status.			<p>Current Asthma Middle School Lives with someone who smokes cigarettes- 34.8% Smoking is allowed in the home- 31.5% Was in the same room in the last 7 days as someone who was smoking- 53.9% Was in a car in the last 7 days with someone who was smoking- 66.4% (2007)</p> <p>High School Lives with someone who smokes cigarettes- 29.8% Smoking is allowed in the home- 17.0% Was in the same room in the last 7 days as someone who was smoking- 49.5% Was in a car in the last 7 days with someone who was smoking- 64.9% (2009)</p>	

	Missouri	Montana	New Hampshire	New Jersey
Prevalence of current asthma among children/students by exposure to environmental tobacco smoke				
Prevalence of obesity among middle and high school students by asthma status (%)				
Prevalence of weight status among children with asthma			10-17 Underweight/normal- 72.9% Overweight/obese- 27.1% (2007)	

	Missouri	Montana	New Hampshire	New Jersey
Percent of students who had an asthma attack in the past 12 months by smoking status (%)				
Current asthma prevalence among high school youth according to Body Mass Index		Overweight- 15.2% At risk for overweight- 12.7% Not at risk for overweight- 10.2% (2007)		
Current asthma prevalence for school children by overweight status (%)				
prevalence for school children by overweight status (%)				

	Missouri	Montana	New Hampshire	New Jersey
Persons with asthma who receive assistance with assessing and reducing exposure to environmental risk factors in their home, school, and work environment (%)				
Environmental triggers in the home of children with asthma (%)				

	Missouri	Montana	New Hampshire	New Jersey
Environmental modifications in the home of children (%)				
Level of asthma control among children with current asthma (%)				
Total cost of child asthma related hospitalizations (per year)				
Total cost of child asthma related ED-visits (per year)				
asthma reimbursements for asthma services				
Average charges per asthma hospitalization, by age				

	Missouri	Montana	New Hampshire	New Jersey
Mean charges for child asthma ED visits				
Mean charges for asthma ED visits, by age group				
Mean charges for child asthma ED visits, by race/ethnicity				
Average cost of asthma related care for children with probable asthma continuously enrolled in Medicaid				
Percent of children ever diagnosed with asthma that have health insurance coverage (%)				
Percent of children with current asthma who has experienced a cost barrier to care during past 12 months (%)				
charges for asthma, children				
Child asthma death rate (per 1,000,000)	4 (1994-2004)	0-4- 0 5-14- 0 (2002-2005)	0 (2002-2006)	

	Missouri	Montana	New Hampshire	New Jersey
Number of asthma deaths, children				
Notes	Breaks down some measures by region	Rates of asthma by region for children continuously enrolled in Montana Medicaid Rate of ED visits per 100 children with probable asthma continuously enrolled in Montana Medicaid by region		

	New Mexico	New York	North Carolina	Ohio
PublicationYear	2009	2009	2006	2009
Child lifetime asthma prevalence (%)	13% (2007)		17.8% (2005)	
Child current asthma prevalence (%)	8.6% (2007)	11% (2006-2008)	11.5% (2005)	
Child lifetime asthma prevalence by age group (%)			0-4- 15% 5-10-19.8% 11-13- 18.2% 14-17- 16.7% (2005)	
Child current asthma prevalence by age (%)		0-4- 7.5% 5-9- 14.3% 10-14- 12.5% 15-17- 9.5% (2006-2008)	0-4- 10.5% 5-10- 14.1% 11-13- 9.5% 14-17- 9.9% (2005)	
Child current asthma prevalence by race (%)	White- 7.1% Hispanic- 9.5% Native American- 8.8% (2007)	White- 8.7% Black-17.3% Hispanic-11.1% Other- 11.8% (2006-2008)	White-10.4% Black- 14.5% Other- 11% (2005)	White- 12.2% Black- 19.5% Hispanic- 16% Asian- 9.5% (2004)
Child lifetime asthma prevalence by race (%)			White- 16.8% Black- 20.7% Other- 16.5% (2005)	

	New Mexico	New York	North Carolina	Ohio
Prevalence of current asthma among children by annual household income or FPL (%)		<\$15,000- 15.6% \$15,000-\$24,999- 16.5% \$25,000- \$49,999- 11.1% \$50,000- \$74,999-8.8% >\$75,000- 8.4%		<100% FPL- 20.6% >300% FPL- 10.7% (2004)
Prevalence of lifetime asthma among children by annual household income or FPL (%)				
Lifetime asthma prevalence among students by race/ethnicity (%)	Middle School White- 18.6% Hispanic- 16.1% Native American- 20.0% (2007) High School White- 25.3% Hispanic- 24.7% Native American- 23.6% Black- 22.4% Asian/Pacific Islander- 29.8% (2007)		High School Black- 28.1% Hispanic- 16.3% White- 16.2% Other- 21.2% Multiple Races- 25.9% (2005)	

	New Mexico	New York	North Carolina	Ohio
Current asthma prevalence among students by race/ethnicity (%)	White- 10.8% Hispanic- 8.8% Native American- 9.5% (2007) High School White- 12.9% Hispanic- 12.9% Native American- 10.8% Black- 6.9% Asian/Pacific Islander- 11.4% (2007)	Middle School White- 16.6% Black- 24.2% Hispanic- 24.1% Other- 18.9% High School White- 19.9% Black- 21.4% Hispanic- 24.5% Other- 16.0% (2008)	High School Black- 23.2% Hispanic- 9.6% White- 13.8% Other- 12% Multiple Races- 18.4% (2005)	
Prevalence of asthma among children enrolled in CHIP/Medicaid (%)				
Prevalence of asthma by age group among children enrolled in CHIP/Medicaid (%)		Medicaid 0-4- 14.3% 5-9- 14.7% 10-17- 10.0% (2007)		Medicaid Graphic representation but numbers not readily available
Prevalence of asthma by race/ethnicity among children enrolled in CHIP/Medicaid (%)				
Lifetime asthma prevalence among Hispanic students, by Hispanic subgroup (%)				

	New Mexico	New York	North Carolina	Ohio
Lifetime asthma prevalence among Asian/Pacific Islander (A/PI) students, by A/PI subgroup (%)				
Current asthma prevalence among students by grade (%)	Middle School- 9.4% (2007) 6th- 9.8% 7th- 9.2% 8th- 9.6% (2007) High School- 12.1% (2007) 9th-12.9% 10th- 12.1% 11th- 12.7% 12- 10.2% (2007)	Middle School- 19.6% High School- 20.7% (2008)	Not in School- 10.0 K-5th- 13.9% 6th-8th- 10.8% 9th-12th- 9.3% (2005)	
Child lifetime asthma prevalence by weight status (%)				

	New Mexico	New York	North Carolina	Ohio
Lifetime asthma prevalence among students by grade (%)	<p>Middle School - 18.8% (2007) 6th-18.2% 7th- 19% 8th- 18.9% (2007)</p> <p>High School- 24.9% 9th- 23.9% 10th- 24.3% 11th- 26.7% 12th- 25.0% (2007)</p>		<p>9th- 20.7% 10th- 20.2% 11th- 18.9% 12th- 19.5% (2005)</p>	
Child current asthma prevalence by insurance status (%)			<p>State health plan- 10.3% Private- 9.9% Healthchoice- 15.2% Medicaid- 15.6% Other- 12.9% None- 6.0% (2005)</p>	
Child lifetime asthma prevalence by insurance status (%)			<p>State Health Plan- 18.1% Private- 16.6% Healthchoice- 20.1% Medicaid- 22.2% Other- 17.5% None- 11.4% (2005)</p>	
Child lifetime asthma prevalence by parents' educational level (%)				

	New Mexico	New York	North Carolina	Ohio
Child current asthma prevalence by parents' educational level (%)				
Child asthma related ED-visits rate (per 10,000)		129 (2006-2007)		numbers not readily available
Child asthma ED Visits by age group (per 10,000)	<15- 50.2 (2003) 0-4- 50.2 5-14- 43.1 (2001-2003)	0-4- 219.8 5-14-127.8 (2007)		
Child asthma ED Visits by race/ethnicity (per 10,000)		With current asthma White- 530 Black-1980 Other- 680 Hispanic- 1300 (2006-2007)		

	New Mexico	New York	North Carolina	Ohio
Child asthma ED visits-Medicaid (per 10,000)		2080 (2007)		
Percent of children with current asthma visiting an ED or urgent care clinic in past year (%)			24.9% (2005)	5-9- 20% 10-17- 21% (2004) 24.1%- total
Received urgent treatment for asthma during the past 12 months, children with current asthma (%)				
current asthma enrolled in CHIP visiting an ED or urgent care clinic in past year (%)				
who ever had asthma who were hospitalized for asthma in the past 12 months (%)				
Percentage of children with current asthma enrolled in CHIP who were hospitalized for asthma in the past 12 months (%)				
Child asthma related hospitalization rate (per 10,000)		29.7 (2005-2007)		

	New Mexico	New York	North Carolina	Ohio
Child asthma related hospitalization rate by race/ethnicity (per 10,000)	<15 Black- 35.7 White- 14.9 Hispanic- 17.3 (2006)	With Current Asthma White- 130 Black- 400 Other- 160 Hispanic- 260 (2006-2007)-		
Average length of stay (ALOS) of child asthma hospitalizations (days)				
Average length of stay (ALOS) for asthma hospitalizations by age (days)				0-4- 2.0 5-14- 2.1 (2005)

	New Mexico	New York	North Carolina	Ohio
Average length of stay (ALOS) for child asthma hospitalizations by race/ethnicity (days)				
Child asthma hospitalizations by source of payment (%)				
Child asthma ED visits by source of payment (%)				
Percent of Medicaid recipients with asthma ambulatory visits (%)				
Rate of asthma ED visits among child CHIP recipients (per 10,000)				
Rate of asthma hospitalizations among child CHIP/Medicaid recipients (per 10,000)		Medicaid 380 (2007)		

	New Mexico	New York	North Carolina	Ohio
Child asthma related hospitalization rate by age group (per 10,000)	0-4- 31.2 5-14- 14.4 (2006)	0-4- 55.2 5-14- 20.8 (2007)	0-4-31.27 5-14- 11.39 (2004) 0-14- 18.02 (2004)	<5- 39.5 (2003)
Number of hospitalizations, children asthma reporting asthma symptoms in the past 30 days				
Percentage of children reporting asthma symptoms in the past 30 days by frequency (%)				
current asthma who had asthma symptoms on \geq9 days during past month (%)				

	New Mexico	New York	North Carolina	Ohio
Distribution of asthma symptom frequency in past month among youth with asthma				
Frequency of asthma symptoms in the past year among children with current asthma (%)				
Distribution of asthma severity among youth with current asthma (%)				
Activity limitations due to asthma during the past 12 months, children (%)				
asthma reporting an asthma attack in the past 12 months (%)			52.1% (2003)	50.3% (2004)

	New Mexico	New York	North Carolina	Ohio
Percent of students with asthma that had an asthma attack during past 12 months by race/ethnicity (%)	High School White- 32.5% Hispanic- 36.9% (2005)	Middle School White- 33.3% Black- 30.1% Hispanic- 33.7% Other- 27.8% High School White- 31.6% Black-29.0% Hispanic-33.2% Other- 29.8% (2008)	High School Black- 28.8% White- 34.2% (2005)	
with asthma who experienced an asthma attack in the past year by age group (%)				
Students whose activities were limited one or more times per week due to asthma symptoms, students with current asthma (%)				
missed per year due to asthma				
Children with current asthma reporting school days missed due to asthma in past 12 months (%)			47.50%	

	New Mexico	New York	North Carolina	Ohio
School days missed due to asthma among children with asthma (%)			No days- 52.5% 1-4 days- 27.2% 5-9 days- 10.2% 10-14 days- 5.9% 18 or more days- 4.2% (2005)	
Number of days of school missed in the past 30 days by asthma status, public middle and high school students				
asthma reporting an asthma attack in the past 12 months by race/ethnicity (%)			White- 53.5% Black- 52.7% Hispanic- 40.5% (2003)	
Children with current asthma reporting activity limitation due to asthma in the past 12 months (%)				
Frequency of physical activity limitations due to asthma among children with asthma (%)				

	New Mexico	New York	North Carolina	Ohio
Visiting the doctor or hospital for wheezing or trouble breathing in the past 12 months (%)				
Wheezing, chest tightness, or trouble breathing when not exercising during the past 12 months (%)				
Wheezing, chest tightness, or trouble breathing when exercising during the past 12 months (%)				
Percent of students with asthma that had an asthma attack during past 12 months (%)	HighSchool- 33.7% (2005) 9th- 37.5% 10th- 33.8% 11th- 31.6% 12th- 32.1% (2005)	Middle School- 33.6% High School- 31.3% (2008)	9th- 28.6% 10th- 32.8% 11th- 33.5% 12th- 34.3% (2005)	
Percentage of children with asthma having trouble sleeping in the past 30 days, by number of days				
Most recent asthma symptoms, children with current asthma (%)				

	New Mexico	New York	North Carolina	Ohio
Percentage of children with current asthma experiencing 14 asthma symptom-free days during the past 2 weeks (%)				
with current asthma who had asthma symptoms every day of the last 2 weeks (%)				
Fair or poor health by asthma status			A medium amount- 12.1% A little- 26.1% A lot- 59% (2003)	
Perceived health difficulties among children with current asthma (%)				
Dry cough at night without a cold or flu during the past 12 months (%)				
Percent of children receiving an asthma management/action plan from a provider (%)			56.9% (2005)	
Percent of children receiving an asthma management/action plan from a provider, by insurance provider (%)			State health plan- 45.8% Private- 59% HealthChoice- 57% Medicaid- 49% Other- 71.9% None- 66.1% (2005)	
Asthma action plan on file at school (%)				

	New Mexico	New York	North Carolina	Ohio
Prevalence of ever having a written asthma action plan (%)				
Child allowed to carry asthma medicine at school, current asthma (%)				
Percent of children with asthma using prescription medications (%)				
Use of appropriate medication for people with asthma enrolled in Medicaid (%)				
Children with current asthma using a long term control medication (%)				
asthma using rescue medication (%)			85.1% (2005)	
Prevalence of daily preventive asthma medication use during past year among youth with asthma (%)			Every Day- 52.6% (2005)	
Length of time since last asthma medication was taken, current asthma (%)				

	New Mexico	New York	North Carolina	Ohio
Use of asthma prescription medicines among children with asthma, by medication type (%)				
Percent of children with asthma receiving routine check ups for asthma (%)				
asthma receiving training on how to manage asthma (%)				
asthma receiving training on how to recognize signs and symptoms of an attack (%)				
Percent of children with asthma receiving training about things that can trigger asthma attacks (%)				

	New Mexico	New York	North Carolina	Ohio
asthma receiving training on use of peak flow meter (%)				
Percent of children with asthma receiving training on use of inhaler (among those with inhaler) (%)				
Percent of children with asthma receiving training on use of a spacer (among those with inhaler) (%)				
Percent of children with lifetime asthma who had a Flu Vaccination in the Past Year (%)				
Percent of children with current asthma who had a Flu Vaccination in the Past Year (%)				
with Current asthma who are not taking daily asthma medications by frequency of asthma symptoms (%)				
Prevalence of exposure to environmental tobacco smoke among children by asthma status				

	New Mexico	New York	North Carolina	Ohio
Prevalence based on Residence with Smoker and Days spent in same room as smoker, public middle/high school				
Percent of students with current asthma who smoke				
Child/Student current prevalence of asthma by smoking status (%)				

	New Mexico	New York	North Carolina	Ohio
Prevalence of current smoking among middle and high school students by asthma status		Smoked in past 30 days Middle School Asthma- 6.4% No Asthma- 2.9% High School Asthma- 19.4% No Asthma- 13% (2008)		
Prevalence of exposure to environmental tobacco smoke among middle and high school students by asthma status.				

	New Mexico	New York	North Carolina	Ohio
Prevalence of current asthma among children/students by exposure to environmental tobacco smoke				
Prevalence of obesity among middle and high school students by asthma status (%)				
Prevalence of weight status among children with asthma				

	New Mexico	New York	North Carolina	Ohio
Percent of students who had an asthma attack in the past 12 months by smoking status (%)				
Current asthma prevalence among high school youth according to Body Mass Index				
Current asthma prevalence for school children by overweight status (%)	Middle School Not Overweight- 9.8% Overweight- 10.4% (2007)			
prevalence for school children by overweight status (%)	High School Not Overweight- 11.9% Overweight- 12.2% (2007)			

	New Mexico	New York	North Carolina	Ohio
Persons with asthma who receive assistance with assessing and reducing exposure to environmental risk factors in their home, school, and work environment (%)				
Environmental triggers in the home of children with asthma (%)				

	New Mexico	New York	North Carolina	Ohio
Environmental modifications in the home of children (%)				
Level of asthma control among children with current asthma (%)				
Total cost of child asthma related hospitalizations (per year)				
Total cost of child asthma related ED-visits (per year)				
asthma reimbursements for asthma services				
Average charges per asthma hospitalization, by age		0-4- \$8,343 5-14- \$9,707 (2007)		

	New Mexico	New York	North Carolina	Ohio
Mean charges for child asthma ED visits				
Mean charges for asthma ED visits, by age group				
Mean charges for child asthma ED visits, by race/ethnicity				
Average cost of asthma related care for children with probable asthma continuously enrolled in Medicaid		Average AsthmaRelated Service Cost per Asthma Universe* Enrollee 0-4- \$1070 5-9- \$1079 10-17-\$ 910 (2007)		
Percent of children ever diagnosed with asthma that have health insurance coverage (%)				
Percent of children with current asthma who has experienced a cost barrier to care during past 12 months (%)				
charges for asthma, children				
Child asthma death rate (per 1,000,000)		0-4 - 1.9 5-14 - 3.3 0-14- 2.8 (2005-2007)		

	New Mexico	New York	North Carolina	Ohio
Number of asthma deaths, children				
Notes	<p>Lifetime Child Asthma Prevalence by Region, Current Child Asthma Prevalence by Region</p> <p>Lifetime Asthma Middle School Prevalence by Region, Current Asthma Middle School Prevalence by Region</p> <p>Lifetime Asthma High School Prevalence by Region</p> <p>Percent of High School Students with Asthma that Had an Asthma Attack During Past 12 Months by Region</p> <p>Current Asthma High School Prevalence by Region</p> <p>Asthma Hospitalization Rates by Region (<15yrs)</p> <p>Asthma Emergency Department Discharge Rates</p>		<p>Section on asthma management in Schools</p> <p>Healthy People 2010 comparison</p>	<p>Healthy People 2010 comparison</p> <p>County level Lifetime Child Asthma Prevalence</p>

	Oklahoma	Oregon	Minnesota	Pennsylvania
PublicationYear	2006	2009	2008	2009
Child lifetime asthma prevalence (%)	13.4% (2003)		9.5% (2006)	15% (2007)
Child current asthma prevalence (%)	9.2% (2003)	8.3% (2007)	7% (2006)	11% (2007)
Child lifetime asthma prevalence by age group (%)	0-5- 10.2% 6-11- 16.2% 12-17-13.8% (2003)			0-4- 10% 5-12- 16% 13-17- 18% (2007)
Child current asthma prevalence by age (%)	0-5-7.3% 6-11-12.1% 12-17-8.3% (2003)			0-4- 8% 5-12-12% 13-17- 11% (2007)
Child current asthma prevalence by race (%)	White- 8.8% Black- 18% American Indian- 6.6% Multiracial- 10.1% Hispanic- 4.0% (2003)			White- 9% Black- 17% Hispanic- 12% (2007)
Child lifetime asthma prevalence by race (%)	White-12.5% Black- 21.3% American Indian- 12.8% Multiracial- 18.2% Hispanic-6.7% (2003)			White- 12% Black- 24% Hispanic- 21% (2007)

	Oklahoma	Oregon	Minnesota	Pennsylvania
Prevalence of current asthma among children by annual household income or FPL (%)	<100% FPL- 10.4% 100-199% FPL- 8.2% 200-399% FPL - 10.4% 400%+ FPL- 8.0% (2003)			
Prevalence of lifetime asthma among children by annual household income or FPL (%)	<100% FPL- 15.2% 100-199% FPL- 10.4% 200-399% FPL- 14.4% 400%+ FPL- 13.0% (2003)			
Lifetime asthma prevalence among students by race/ethnicity (%)	<p>High School Black- 25.3% Hispanic- 16.1% White- 19.1% Other- 19.4% (2005)</p> <p>Middle School White- 19.5% Black- 16.2% Hispanic- 18.1% Other- 19.8% (2005)</p>			

	Oklahoma	Oregon	Minnesota	Pennsylvania
Current asthma prevalence among students by race/ethnicity (%)	<p>High School Black- 17.5% Hispanic- 14.3% White- 16.5% Other- 15.8% (2005)</p> <p>Middle School White- 13% Black- 10.2% Hispanic- 10.6% Other- 17.8% (2005)</p>			
Prevalence of asthma among children enrolled in CHIP/Medicaid (%)				
Prevalence of asthma by age group among children enrolled in CHIP/Medicaid (%)				<p>Medicaid 0-4-10.8% 5-14- 10.6% (2007)</p>
Prevalence of asthma by race/ethnicity among children enrolled in CHIP/Medicaid (%)				
Lifetime asthma prevalence among Hispanic students, by Hispanic subgroup (%)				

	Oklahoma	Oregon	Minnesota	Pennsylvania
Lifetime asthma prevalence among Asian/Pacific Islander (A/PI) students, by A/PI subgroup (%)				
Current asthma prevalence among students by grade (%)	6th- 14.6% 7th- 13.2% 8th- 12.5% 9th- 14.8% 10th- 14.7% 11th- 18.4% 12th- 17.9% (2005)	8th- 9.7% 11th- 10.5% (2007)	Middle School Male- 12.9% Female- 9.8% High School Male- 14.8% Female- 18.5% (2008)	
Child lifetime asthma prevalence by weight status (%)				

	Oklahoma	Oregon	Minnesota	Pennsylvania
Lifetime asthma prevalence among students by grade (%)	6th- 19.6% 7th-18.1% 8th- 18.2% 9th- 19.7% 10th- 17.4% 11th- 21.6% 12th- 20.3% (2005)		Male 6th- 15.5% 9th- 17.3% 12th- 17.2% Middle School- 18.8% High School - 20.9% (2008) Female 6th- 12.7% 9th- 18.4% 12th- 19.8% (2007) Middle School- 13.8% High School- 24.1% (2008)	K-12- 10.6% (2006-2007)
Child current asthma prevalence by insurance status (%)				
Child lifetime asthma prevalence by insurance status (%)				
Child lifetime asthma prevalence by parents' educational level (%)				

	Oklahoma	Oregon	Minnesota	Pennsylvania
Child current asthma prevalence by parents' educational level (%)				
Child asthma related ED-visits rate (per 10,000)				
Child asthma ED Visits by age group (per 10,000)			0-4- 88.7 5-14- 46.0 (2006)	
Child asthma ED Visits by race/ethnicity (per 10,000)				

	Oklahoma	Oregon	Minnesota	Pennsylvania
Child asthma ED visits-Medicaid (per 10,000)				
Percent of children with current asthma visiting an ED or urgent care clinic in past year (%)			15.4% (2005)	
Received urgent treatment for asthma during the past 12 months, children with current asthma (%)				
current asthma enrolled in CHIP visiting an ED or urgent care clinic in past year (%)				
who ever had asthma who were hospitalized for asthma in the past 12 months (%)				
Percentage of children with current asthma enrolled in CHIP who were hospitalized for asthma in the past 12 months (%)				
Child asthma related hospitalization rate (per 10,000)				23.8 (2007)

	Oklahoma	Oregon	Minnesota	Pennsylvania
Child asthma related hospitalization rate by race/ethnicity (per 10,000)				0-4 White- 33.7 Black- 174.7 Other- 211.8 Hispanic- 117.2 (2003) 5-14 White- 10.0 Black- 74.1 Other- 61.1 Hispanic- 35.0 (2003)
Average length of stay (ALOS) of child asthma hospitalizations (days)				
Average length of stay (ALOS) for asthma hospitalizations by age (days)				

	Oklahoma	Oregon	Minnesota	Pennsylvania
Average length of stay (ALOS) for child asthma hospitalizations by race/ethnicity (days)				
Child asthma hospitalizations by source of payment (%)				
Child asthma ED visits by source of payment (%)				
Percent of Medicaid recipients with asthma ambulatory visits (%)				
Rate of asthma ED visits among child CHIP recipients (per 10,000)				
Rate of asthma hospitalizations among child CHIP/Medicaid recipients (per 10,000)				

	Oklahoma	Oregon	Minnesota	Pennsylvania
Child asthma related hospitalization rate by age group (per 10,000)	0-4- 35 5-14-14 (2005)	Graphic representation but numbers not readily available	0-4- 25.3 5-14- 7.9 (2006)	0-4- 45.3 5-14- 19.0 (2007)
Number of hospitalizations, children asthma reporting asthma symptoms in the past 30 days			39.4% (2005)	
Percentage of children reporting asthma symptoms in the past 30 days by frequency (%)				
current asthma who had asthma symptoms on ≥ 9 days during past month (%)				

	Oklahoma	Oregon	Minnesota	Pennsylvania
Distribution of asthma symptom frequency in past month among youth with asthma				
Frequency of asthma symptoms in the past year among children with current asthma (%)				
Distribution of asthma severity among youth with current asthma (%)				
Activity limitations due to asthma during the past 12 months, children (%)				
asthma reporting an asthma attack in the past 12 months (%)	71.9% (2003-2004)		40.7% (2005)	

	Oklahoma	Oregon	Minnesota	Pennsylvania
Percent of students with asthma that had an asthma attack during past 12 months by race/ethnicity (%)				
with asthma who experienced an asthma attack in the past year by age group (%)				
Students whose activities were limited one or more times per week due to asthma symptoms, students with current asthma (%)				
missed per year due to asthma		2.7 (2005)		
Children with current asthma reporting school days missed due to asthma in past 12 months (%)			28.5% (2005)	

	Oklahoma	Oregon	Minnesota	Pennsylvania
School days missed due to asthma among children with asthma (%)				
Number of days of school missed in the past 30 days by asthma status, public middle and high school students				
asthma reporting an asthma attack in the past 12 months by race/ethnicity (%)				
Children with current asthma reporting activity limitation due to asthma in the past 12 months (%)			51.8% (2005)	
Frequency of physical activity limitations due to asthma among children with asthma (%)				

	Oklahoma	Oregon	Minnesota	Pennsylvania
Visiting the doctor or hospital for wheezing or trouble breathing in the past 12 months (%)				
Wheezing, chest tightness, or trouble breathing when not exercising during the past 12 months (%)				
Wheezing, chest tightness, or trouble breathing when exercising during the past 12 months (%)				
Percent of students with asthma that had an asthma attack during past 12 months (%)	37.2% (2005)			
Percentage of children with asthma having trouble sleeping in the past 30 days, by number of days				
Most recent asthma symptoms, children with current asthma (%)				

	Oklahoma	Oregon	Minnesota	Pennsylvania
Percentage of children with current asthma experiencing 14 asthma symptom-free days during the past 2 weeks (%)				
with current asthma who had asthma symptoms every day of the last 2 weeks (%)				
Fair or poor health by asthma status				
Perceived health difficulties among children with current asthma (%)				
Dry cough at night without a cold or flu during the past 12 months (%)				
Percent of children receiving an asthma management/action plan from a provider (%)		31.9% (2005)- with lifetime asthma 33% (2005)- with current asthma	51.4% (2005)	
Percent of children receiving an asthma management/action plan from a provider, by insurance provider (%)				
Asthma action plan on file at school (%)			35.8% (2005)	

	Oklahoma	Oregon	Minnesota	Pennsylvania
Prevalence of ever having a written asthma action plan (%)				
Child allowed to carry asthma medicine at school, current asthma (%)				
Percent of children with asthma using prescription medications (%)			65.2% (2005)- in past 3 months	
Use of appropriate medication for people with asthma enrolled in Medicaid (%)				
Children with current asthma using a long term control medication (%)				
asthma using rescue medication (%)				
Prevalence of daily preventive asthma medication use during past year among youth with asthma (%)				
Length of time since last asthma medication was taken, current asthma (%)	>1 week- 50.3% 1-6 days- 9.2% <1 day- 40.5% (2003)			

	Oklahoma	Oregon	Minnesota	Pennsylvania
Use of asthma prescription medicines among children with asthma, by medication type (%)			Used inhaled corticosteroid- 25.2 % Used leukotriene modifier- 14.9% Used inhaled short-acting beta2-agonist- 46.8% (2005) In past 3 months	
Percent of children with asthma receiving routine check ups for asthma (%)			73.8%- in past year- one or more- (2005)	
asthma receiving training on how to manage asthma (%)		12.6% (2005)- took a class- with lifetime asthma		
asthma receiving training on how to recognize signs and symptoms of an attack (%)		70.4% (2005)- with lifetime asthma	78.2% (2005)	
Percent of children with asthma receiving training about things that can trigger asthma attacks (%)				

	Oklahoma	Oregon	Minnesota	Pennsylvania
asthma receiving training on use of peak flow meter (%)		35.8% (2005)- with lifetime asthma	50.7% (2005)	
Percent of children with asthma receiving training on use of inhaler (among those with inhaler) (%)		94.5% (2005)- with lifetime asthma 92.4% (2005)- with current asthma	87.1% (2005)	
Percent of children with asthma receiving training on use of a spacer (among those with inhaler) (%)				
Percent of children with lifetime asthma who had a Flu Vaccination in the Past Year (%)				
Percent of children with current asthma who had a Flu Vaccination in the Past Year (%)		51.4% (2007)		
with Current asthma who are not taking daily asthma medications by frequency of asthma symptoms (%)				
Prevalence of exposure to environmental tobacco smoke among children by asthma status				

	Oklahoma	Oregon	Minnesota	Pennsylvania
Prevalence based on Residence with Smoker and Days spent in same room as smoker, public middle/high school				
Percent of students with current asthma who smoke				
Child/Student current prevalence of asthma by smoking status (%)			High School Smoked cigarettes in past 30 days- 23.4% (2008)	

	Oklahoma	Oregon	Minnesota	Pennsylvania
Prevalence of current smoking among middle and high school students by asthma status				
Prevalence of exposure to environmental tobacco smoke among middle and high school students by asthma status.			<p>44.7% (2008) - high school students with asthma living with a smoker</p> <p>48.6%- middle school students with asthma reporting being exposed to secondhand smoke in the past week (2008)</p>	

	Oklahoma	Oregon	Minnesota	Pennsylvania
Prevalence of current asthma among children/students by exposure to environmental tobacco smoke				
Prevalence of obesity among middle and high school students by asthma status (%)				
Prevalence of weight status among children with asthma				

	Oklahoma	Oregon	Minnesota	Pennsylvania
Percent of students who had an asthma attack in the past 12 months by smoking status (%)				
Current asthma prevalence among high school youth according to Body Mass Index				
Current asthma prevalence for school children by overweight status (%)	Normal- 14.2% At Risk for Overweight- 9.7% Overweight- 7.5% (2005)			
prevalence for school children by overweight status (%)	At Risk for Overweight- 23.1% Overweight- 26.7% (2005)			

	Oklahoma	Oregon	Minnesota	Pennsylvania
Persons with asthma who receive assistance with assessing and reducing exposure to environmental risk factors in their home, school, and work environment (%)		39% (2005)- with current asthma		
Environmental triggers in the home of children with asthma (%)			Gas used for cooking-40.3% Has pets inside home- 71.5 % Pets allowed in bedroom- 66.8% Carpeting or rugs in bedroom- 79.2% Ever advised to change environment- 25.7% (2005)	

	Oklahoma	Oregon	Minnesota	Pennsylvania
Environmental modifications in the home of children (%)			Air cleaner or purifier regularly used- 25.3 % Dehumidifier regularly used- 45.0 % Exhaust fan in kitchen regularly used- 64.4% Mattress cover used-24.4% Pillow cover used- 27.4 % Exhaust fan in bathroom used regularly- 65.3% Sheets and pillowcases washed in hot water- 38.6% (2005)	
Level of asthma control among children with current asthma (%)				
Total cost of child asthma related hospitalizations (per year)		0-4- \$1,886,920 5-14- \$1,531,172 (2007)		
Total cost of child asthma related ED-visits (per year)				
asthma reimbursements for asthma services				
Average charges per asthma hospitalization, by age	0-4- \$3,726 5-14- \$4,292 (2005)			

	Oklahoma	Oregon	Minnesota	Pennsylvania
Mean charges for child asthma ED visits				
Mean charges for asthma ED visits, by age group				
Mean charges for child asthma ED visits, by race/ethnicity				
Average cost of asthma related care for children with probable asthma continuously enrolled in Medicaid				
Percent of children ever diagnosed with asthma that have health insurance coverage (%)			91.1% (2005)	
Percent of children with current asthma who has experienced a cost barrier to care during past 12 months (%)				
charges for asthma, children				
Child asthma death rate (per 1,000,000)				

	Oklahoma	Oregon	Minnesota	Pennsylvania
Number of asthma deaths, children				
Notes	Section on Medicaid Beneficiaries Healthy People 2010 comparison	Youths (8th grade and 11th grade) with current asthma by county Asthma emergency department visits per 100 children (0–17 years of age) with asthma on the Oregon Health Plan Asthma hospitalizations per 100 children (0–17 years of age) with asthma on the Oregon Health Plan Low asthma medication ratios per 100 children (0–17 years of age) with persistent asthma on the Oregon Health Plan Healthy People 2010 comparison	Local data profiles	Prevalence of Lifetime Asthma Among School Students by Health District Lifetime Asthma Prevalence Among School Students Health District and County Prevalence of the Persistent Asthma Among Medicaid Recipients with Asthma by County Annual Inpatient Hospitalization Rates with Asthma as Primary Discharge Diagnosis Among Children Healthy People 2010 comparison

	Puerto Rico	Rhode Island	Texas	Utah
PublicationYear	2009	2009	2000-2005	2009
Child lifetime asthma prevalence (%)	28.4% (2007)	16.5% (2005-2007)	11.6% (2005)	
Child current asthma prevalence (%)	13.6% (2007)	11.3% (2005-2007)	7.3% (2005)	
Child lifetime asthma prevalence by age group (%)			0-4 - 7.9% 5-9 - 13.0% 10-14 - 12.8% 15-17 - 13.3 (2005)	13.2%- male 10.0% - female (2007)
Child current asthma prevalence by age (%)			0-4 - 5.8% 5-9 - 7.9% 10-14 - 9.1% 15-17 - 6.2% (2005)	8.7% - male 6.8% - female (2007)
Child current asthma prevalence by race (%)				
Child lifetime asthma prevalence by race (%)				

	Puerto Rico	Rhode Island	Texas	Utah
Prevalence of current asthma among children by annual household income or FPL (%)				
Prevalence of lifetime asthma among children by annual household income or FPL (%)				
Lifetime asthma prevalence among students by race/ethnicity (%)				

	Puerto Rico	Rhode Island	Texas	Utah
Current asthma prevalence among students by race/ethnicity (%)				
Prevalence of asthma among children enrolled in CHIP/Medicaid (%)				
Prevalence of asthma by age group among children enrolled in CHIP/Medicaid (%)				
Prevalence of asthma by race/ethnicity among children enrolled in CHIP/Medicaid (%)				
Lifetime asthma prevalence among Hispanic students, by Hispanic subgroup (%)				

	Puerto Rico	Rhode Island	Texas	Utah
Lifetime asthma prevalence among Asian/Pacific Islander (A/PI) students, by A/PI subgroup (%)				
Current asthma prevalence among students by grade (%)				
Child lifetime asthma prevalence by weight status (%)				

	Puerto Rico	Rhode Island	Texas	Utah
Lifetime asthma prevalence among students by grade (%)				
Child current asthma prevalence by insurance status (%)				
Child lifetime asthma prevalence by insurance status (%)				
Child lifetime asthma prevalence by parents' educational level (%)				

	Puerto Rico	Rhode Island	Texas	Utah
Child current asthma prevalence by parents' educational level (%)				
Child asthma related ED-visits rate (per 10,000)				
Child asthma ED Visits by age group (per 10,000)				<1- 32.0 (males) 14.2 (females) 1-4 - 55.4 (males) 31.0 (females) 5-9 - 37.6 (males) 22.4 (females) 10-14- 20.3 (males) 15.1 (females) 15-17 - 10.1 (males) 25.0 (females) (2007)
Child asthma ED Visits by race/ethnicity (per 10,000)				

	Puerto Rico	Rhode Island	Texas	Utah
Child asthma ED visits-Medicaid (per 10,000)				
Percent of children with current asthma visiting an ED or urgent care clinic in past year (%)				16.2% (2007)
Received urgent treatment for asthma during the past 12 months, children with current asthma (%)				visited ER or urgent care center - 16.2% visited doctor for urgent treatment of worsening symptoms - 29.6% (2007)
current asthma enrolled in CHIP visiting an ED or urgent care clinic in past year (%)				
who ever had asthma who were hospitalized for asthma in the past 12 months (%)				
Percentage of children with current asthma enrolled in CHIP who were hospitalized for asthma in the past 12 months (%)				
Child asthma related hospitalization rate (per 10,000)		0- 4- 48.4 5- 17 - 11..5 (2007)	0-4 - 36.6 5-9 - 18.2 10-14 - 9.7 (1999-2004)	

	Puerto Rico	Rhode Island	Texas	Utah
Child asthma related hospitalization rate by race/ethnicity (per 10,000)		White, Non-Hispanic - 16.4 Black, Non-Hispanic - 42.0 Hispanic - 29.8 (2007)		
Average length of stay (ALOS) of child asthma hospitalizations (days)				2.2 (2007)
Average length of stay (ALOS) for asthma hospitalizations by age (days)			0-4 - 1.8 5-11 - 1.7 12-17 1.9 (2006-2007)	

	Puerto Rico	Rhode Island	Texas	Utah
Average length of stay (ALOS) for child asthma hospitalizations by race/ethnicity (days)				
Child asthma hospitalizations by source of payment (%)			Medicaid - 52% Commercial - 44% Self - 4% (2007)	
Child asthma ED visits by source of payment (%)				
Percent of Medicaid recipients with asthma ambulatory visits (%)				
Rate of asthma ED visits among child CHIP recipients (per 10,000)				
Rate of asthma hospitalizations among child CHIP/Medicaid recipients (per 10,000)				Medicaid male- 43 female- 25 (2008)

	Puerto Rico	Rhode Island	Texas	Utah
Child asthma related hospitalization rate by age group (per 10,000)				< 1 - 10.4 (males) 2.3 (females) 1-4 - 22.3 (male) 12.9 (female) 5-9 - 7.7 (male) 6.6 (female) 10-14 - 2.6 (male) 2.3 (female) 15-17 - 1.1 (male) 1.2 (female)
Number of hospitalizations, children asthma reporting asthma symptoms in the past 30 days				638 (2007)
Percentage of children reporting asthma symptoms in the past 30 days by frequency (%)				
current asthma who had asthma symptoms on ≥ 9 days during past month (%)				

	Puerto Rico	Rhode Island	Texas	Utah
Distribution of asthma symptom frequency in past month among youth with asthma				
Frequency of asthma symptoms in the past year among children with current asthma (%)				
Distribution of asthma severity among youth with current asthma (%)				
Activity limitations due to asthma during the past 12 months, children (%)				a lot - 0% a moderate amount - 14.4% a little - 45.7% not at all - 39.8% (2007)
asthma reporting an asthma attack in the past 12 months (%)				

	Puerto Rico	Rhode Island	Texas	Utah
Percent of students with asthma that had an asthma attack during past 12 months by race/ethnicity (%)				
with asthma who experienced an asthma attack in the past year by age group (%)				
Students whose activities were limited one or more times per week due to asthma symptoms, students with current asthma (%)				middle school 19.8% - males 21.2% - females high school 18.7% - male 16.2% - female (combined 2003, 2005, 2007)
missed per year due to asthma				
Children with current asthma reporting school days missed due to asthma in past 12 months (%)		25% (2005-2007)		

	Puerto Rico	Rhode Island	Texas	Utah
School days missed due to asthma among children with asthma (%)				18.3% of school-aged children missed 1-5 days 15.5% of school- aged children missed > 5 days 66.2% of school- aged children missed no days (2007)
Number of days of school missed in the past 30 days by asthma status, public middle and high school students				middle school 22.9% - males 22.0% - Females high school 17.2% - males 14.6% - female (2003, 2005, 2007 combined)
asthma reporting an asthma attack in the past 12 months by race/ethnicity (%)				
Children with current asthma reporting activity limitation due to asthma in the past 12 months (%)				
Frequency of physical activity limitations due to asthma among children with asthma (%)				

	Puerto Rico	Rhode Island	Texas	Utah
Visiting the doctor or hospital for wheezing or trouble breathing in the past 12 months (%)				
Wheezing, chest tightness, or trouble breathing when not exercising during the past 12 months (%)				
Wheezing, chest tightness, or trouble breathing when exercising during the past 12 months (%)				
Percent of students with asthma that had an asthma attack during past 12 months (%)				
Percentage of children with asthma having trouble sleeping in the past 30 days, by number of days				
Most recent asthma symptoms, children with current asthma (%)				3 months to <1 year - 21.5% 1 week to < 3 months - 44.4% <1 week - 19.7% (2007)

	Puerto Rico	Rhode Island	Texas	Utah
Percentage of children with current asthma experiencing 14 asthma symptom-free days during the past 2 weeks (%)				
with current asthma who had asthma symptoms every day of the last 2 weeks (%)				
Fair or poor health by asthma status				
Perceived health difficulties among children with current asthma (%)				
Dry cough at night without a cold or flu during the past 12 months (%)				
Percent of children receiving an asthma management/action plan from a provider (%)				33.9% (2007)
Percent of children receiving an asthma management/action plan from a provider, by insurance provider (%)				
Asthma action plan on file at school (%)				

	Puerto Rico	Rhode Island	Texas	Utah
Prevalence of ever having a written asthma action plan (%)				
Child allowed to carry asthma medicine at school, current asthma (%)				69.5% (2007)
Percent of children with asthma using prescription medications (%)				
Use of appropriate medication for people with asthma enrolled in Medicaid (%)		5-9 - 95.1% 10-17 - 91.9% (2007)		
Children with current asthma using a long term control medication (%)				
asthma using rescue medication (%)				
Prevalence of daily preventive asthma medication use during past year among youth with asthma (%)				
Length of time since last asthma medication was taken, current asthma (%)				< 1 day ago - 35.7% 1-6 days ago - 8.9% 1 week to < 1 year ago - 19.6% 1 year or more ago - 12.0% (2007)

	Puerto Rico	Rhode Island	Texas	Utah
Use of asthma prescription medicines among children with asthma, by medication type (%)				ever used OTC medication for asthma - 17.0 ever used a prescription inhaler - 87.6 took prescription asthma medication using an inhaler during past 3 months - 49.5 took asthma medication in pill form during past 3 months - 23.3 took asthma medication using nebulizer during past 3 months - 16.8 (2007, among current asthma)
Percent of children with asthma receiving routine check ups for asthma (%)				64.4%- in past year (2007)
asthma receiving training on how to manage asthma (%)				10.9% -took a class- (2007)
asthma receiving training on how to recognize signs and symptoms of an attack (%)				80.2% - taught what to do during an attack (2007)
Percent of children with asthma receiving training about things that can trigger asthma attacks (%)				79.2% - recognize signs and symptoms (2007)

	Puerto Rico	Rhode Island	Texas	Utah
asthma receiving training on use of peak flow meter (%)				29.5% (2007)
Percent of children with asthma receiving training on use of inhaler (among those with inhaler) (%)				92% (2007)
Percent of children with asthma receiving training on use of a spacer (among those with inhaler) (%)				
Percent of children with lifetime asthma who had a Flu Vaccination in the Past Year (%)				
Percent of children with current asthma who had a Flu Vaccination in the Past Year (%)				45% (2007)
with Current asthma who are not taking daily asthma medications by frequency of asthma symptoms (%)				
Prevalence of exposure to environmental tobacco smoke among children by asthma status				

	Puerto Rico	Rhode Island	Texas	Utah
Prevalence based on Residence with Smoker and Days spent in same room as smoker, public middle/high school				
Percent of students with current asthma who smoke				
Child/Student current prevalence of asthma by smoking status (%)				

	Puerto Rico	Rhode Island	Texas	Utah
Prevalence of current smoking among middle and high school students by asthma status				
Prevalence of exposure to environmental tobacco smoke among middle and high school students by asthma status.				

	Puerto Rico	Rhode Island	Texas	Utah
Prevalence of current asthma among children/students by exposure to environmental tobacco smoke				
Prevalence of obesity among middle and high school students by asthma status (%)				
Prevalence of weight status among children with asthma				

	Puerto Rico	Rhode Island	Texas	Utah
Percent of students who had an asthma attack in the past 12 months by smoking status (%)				
Current asthma prevalence among high school youth according to Body Mass Index				
Current asthma prevalence for school children by overweight status (%)				
prevalence for school children by overweight status (%)				

	Puerto Rico	Rhode Island	Texas	Utah
Persons with asthma who receive assistance with assessing and reducing exposure to environmental risk factors in their home, school, and work environment (%)				
Environmental triggers in the home of children with asthma (%)				mold inside home - 6.8% unvented gas logs, gas fireplace, or gas stove used in home - 16.6% gas used for cooking - 23.5% pets allowed in bedroom - 60.7% pets allowed in home - 63.5% carpeting or rugs in bedroom - 83.4% (2007)

	Puerto Rico	Rhode Island	Texas	Utah
Environmental modifications in the home of children (%)				bathroom - 38.3% exhaust fan regularly used when cooking - 48.2% sheets and pillowcases washed in hot water - 27.8% use pillow cover for controlling dust mites - 11.1% use mattress cover for controlling dust mites - 16.6% dehumidifier regularly used - 14.5% air cleaner or purifier regularly used - 23.9%
Level of asthma control among children with current asthma (%)				
Total cost of child asthma related hospitalizations (per year)		\$35,002,196		
Total cost of child asthma related ED-visits (per year)		\$3,383,654		
asthma reimbursements for asthma services				
Average charges per asthma hospitalization, by age		0-4 - \$7816 5-11 - \$7682 12-17 - \$8371 2006-2007)		\$5403 (0-17), 2007

	Puerto Rico	Rhode Island	Texas	Utah
Mean charges for child asthma ED visits		0-4 - \$2013 5-11 - \$1775 12-17 - \$1466 (2007)		
Mean charges for asthma ED visits, by age group				
Mean charges for child asthma ED visits, by race/ethnicity				
Average cost of asthma related care for children with probable asthma continuously enrolled in Medicaid				
Percent of children ever diagnosed with asthma that have health insurance coverage (%)				
Percent of children with current asthma who has experienced a cost barrier to care during past 12 months (%)				
charges for asthma, children				\$3446871 (2007)
Child asthma death rate (per 1,000,000)				0.1 (2001-2007)

	Puerto Rico	Rhode Island	Texas	Utah
Number of asthma deaths, children			0-4 - 1.2 5-9 - 1.9 10-14 - 4.3 (1999-2004)	6 (2001-2007)
Notes				Does have local health district level data for adults, but not children (prevalence); has school level data about % of schools that are prepared to appropriately treat/manage students with asthma

	Vermont	Washington	West Virginia	Wisconsin
PublicationYear	2008	2008	2007	2007
Child lifetime asthma prevalence (%)		11.3% (2003)	11.3% (2006)	12.8% (2005)
Child current asthma prevalence (%)	9.9% (2008-2009)	8.2% (2003)	8.4% (2006)	8.5% (2005)
Child lifetime asthma prevalence by age group (%)				
Child current asthma prevalence by age (%)		0-4 - 5% 5-12 - 8.9% 13-17 - 8.8% (1999, 2000 combined, parent/adult proxy report)	0-4 - 7.5% 5-9 - 12.5% 10-13 - 12.2% 14-17 - 12.5% (2003)	
Child current asthma prevalence by race (%)				
Child lifetime asthma prevalence by race (%)				White- 16.8% African American - 25.3% Other - 11.7% (2006)

	Vermont	Washington	West Virginia	Wisconsin
Prevalence of current asthma among children by annual household income or FPL (%)				
Prevalence of lifetime asthma among children by annual household income or FPL (%)				
Lifetime asthma prevalence among students by race/ethnicity (%)				

	Vermont	Washington	West Virginia	Wisconsin
Current asthma prevalence among students by race/ethnicity (%)				
Prevalence of asthma among children enrolled in CHIP/Medicaid (%)				
Prevalence of asthma by age group among children enrolled in CHIP/Medicaid (%)				
Prevalence of asthma by race/ethnicity among children enrolled in CHIP/Medicaid (%)				
Lifetime asthma prevalence among Hispanic students, by Hispanic subgroup (%)		6-8-10-12 grades combined 5.8% (2002 and 2004)		

	Vermont	Washington	West Virginia	Wisconsin
Lifetime asthma prevalence among Asian/Pacific Islander (A/PI) students, by A/PI subgroup (%)		6-8-10-12 grades combined 13.9% (2002 and 2004)		
Current asthma prevalence among students by grade (%)		6th grade - 6.9% 8th grade - 8.8% 10th grade - 10.0% 12th grade - 9.2% (2004)		
Child lifetime asthma prevalence by weight status (%)				

	Vermont	Washington	West Virginia	Wisconsin
Lifetime asthma prevalence among students by grade (%)	Middle School & High School- 20.4% (2008-2009)	6th grade - 13.6% 8th grade - 17.1% 10th grade - 19.9% 12th grade - 19.3% (2004)		Middle school - 16.0% hHigh school - 18.8% (2006)
Child current asthma prevalence by insurance status (%)			CHIP enrollees- 16.8% (2005)	
Child lifetime asthma prevalence by insurance status (%)			none - 5.5% private - 42.1% public - 52.4% (2003)	
			5.5% (2003)	
Child lifetime asthma prevalence by parents' educational level (%)				

	Vermont	Washington	West Virginia	Wisconsin
Child current asthma prevalence by parents' educational level (%)				
Child asthma related ED-visits rate (per 10,000)				
Child asthma ED Visits by age group (per 10,000)	0-4 - 62.9 5-9 - 39.5 10-14 - 31.3 (2007)			0-4- 94 (2002-2005)
Child asthma ED Visits by race/ethnicity (per 10,000)				

	Vermont	Washington	West Virginia	Wisconsin
Child asthma ED visits-Medicaid (per 10,000)				
Percent of children with current asthma visiting an ED or urgent care clinic in past year (%)		8th grade- 23.6% 10th grade- 18.1% 12th grade - 16.8%	40% (2003)	
Received urgent treatment for asthma during the past 12 months, children with current asthma (%)			39.8% (2003)	
current asthma enrolled in CHIP visiting an ED or urgent care clinic in past year (%)				
who ever had asthma who were hospitalized for asthma in the past 12 months (%)			4% (2003-2005)	
Percentage of children with current asthma enrolled in CHIP who were hospitalized for asthma in the past 12 months (%)				
Child asthma related hospitalization rate (per 10,000)	<15- 9.4 (2007)		<5- 27.7 (2004)	

	Vermont	Washington	West Virginia	Wisconsin
Child asthma related hospitalization rate by race/ethnicity (per 10,000)				
Average length of stay (ALOS) of child asthma hospitalizations (days)				0-4- 1.87 5-14 - 1.9 (2005)
Average length of stay (ALOS) for asthma hospitalizations by age (days)				

	Vermont	Washington	West Virginia	Wisconsin
Average length of stay (ALOS) for child asthma hospitalizations by race/ethnicity (days)				
Child asthma hospitalizations by source of payment (%)				
Child asthma ED visits by source of payment (%)				<5 - 1.4% Medicaid 5-18 - 0.9% Medicaid (2003-2005)
Percent of Medicaid recipients with asthma ambulatory visits (%)				< 5 - 5.7% 5-9 - 6.0 10-14 - 5.6% 14-18 - 4.2% (2005)
Rate of asthma ED visits among child CHIP recipients (per 10,000)				
Rate of asthma hospitalizations among child CHIP/Medicaid recipients (per 10,000)				

	Vermont	Washington	West Virginia	Wisconsin
Child asthma related hospitalization rate by age group (per 10,000)				0-4- 29.6 5-14- 10.2 (2005)
Number of hospitalizations, children asthma reporting asthma symptoms in the past 30 days				
Percentage of children reporting asthma symptoms in the past 30 days by frequency (%)				
current asthma who had asthma symptoms on ≥ 9 days during past month (%)				

	Vermont	Washington	West Virginia	Wisconsin
Distribution of asthma symptom frequency in past month among youth with asthma		combined none- 21% less than once a week - 27.2% once or twice a week - 19.8% between 2-6 times per week - 16.3% daily but not all day - 12.3% every day, all the time - 3.5%		
Frequency of asthma symptoms in the past year among children with current asthma (%)				
Distribution of asthma severity among youth with current asthma (%)		combined mild intermittent - 65.8% mild persistent - 16.2% moderate persistent - 11.8% severe persistent - 13.3% (2004)		
Activity limitations due to asthma during the past 12 months, children (%)				
asthma reporting an asthma attack in the past 12 months (%)		59.9% (2003)		47.7% (2003)

	Vermont	Washington	West Virginia	Wisconsin
Percent of students with asthma that had an asthma attack during past 12 months by race/ethnicity (%)				
with asthma who experienced an asthma attack in the past year by age group (%)				
Students whose activities were limited one or more times per week due to asthma symptoms, students with current asthma (%)				
missed per year due to asthma				
Children with current asthma reporting school days missed due to asthma in past 12 months (%)		8th grade- 38.3% 10th grade- 29.7% 12th grade - 24.1% (2004)		

	Vermont	Washington	West Virginia	Wisconsin
School days missed due to asthma among children with asthma (%)			0 days - 7.3% 1-5 days - 47.4% 6-10 days - 26.4% more than 11 days - 18.9% (2003)	
Number of days of school missed in the past 30 days by asthma status, public middle and high school students				0 days - 44% 1-2 days - 36% 3+ days - 20% (2006)
asthma reporting an asthma attack in the past 12 months by race/ethnicity (%)				
Children with current asthma reporting activity limitation due to asthma in the past 12 months (%)		10th graders 24.1% (combined 2002 and 2004)		
Frequency of physical activity limitations due to asthma among children with asthma (%)				

	Vermont	Washington	West Virginia	Wisconsin
Visiting the doctor or hospital for wheezing or trouble breathing in the past 12 months (%)				
Wheezing, chest tightness, or trouble breathing when not exercising during the past 12 months (%)				
Wheezing, chest tightness, or trouble breathing when exercising during the past 12 months (%)				
Percent of students with asthma that had an asthma attack during past 12 months (%)				With lifetime asthma 34.7% (2006)
Percentage of children with asthma having trouble sleeping in the past 30 days, by number of days		combined 8-10-12 grades 0 days - 64.9% 1-2 days - 21.7% 3-4 days - 6.5% 5-10 days - 2.7% more than 10 days - 4.3% (2004)		
Most recent asthma symptoms, children with current asthma (%)				

	Vermont	Washington	West Virginia	Wisconsin
Percentage of children with current asthma experiencing 14 asthma symptom-free days during the past 2 weeks (%)				
with current asthma who had asthma symptoms every day of the last 2 weeks (%)				
Fair or poor health by asthma status			13.2% - poor health status	
Perceived health difficulties among children with current asthma (%)				minor - 72.8% moderate - 24.6% severe - 2.6%(2003)
Dry cough at night without a cold or flu during the past 12 months (%)				
Percent of children receiving an asthma management/action plan from a provider (%)			physician's order for a specialized health procedure tracked by HER, 81.6% were for an asthma inhaler (2006-2007)	
Percent of children receiving an asthma management/action plan from a provider, by insurance provider (%)				
Asthma action plan on file at school (%)	22.1% (2008-2009)		38% of schools have an asthma action plan on file for all students with known asthma (2008)	

	Vermont	Washington	West Virginia	Wisconsin
Prevalence of ever having a written asthma action plan (%)		yes - 34.6% no - 41.6% don't know - 23.8% (2006)		
Child allowed to carry asthma medicine at school, current asthma (%)				
Percent of children with asthma using prescription medications (%)				
Use of appropriate medication for people with asthma enrolled in Medicaid (%)				
Children with current asthma using a long term control medication (%)				
asthma using rescue medication (%)				
Prevalence of daily preventive asthma medication use during past year among youth with asthma (%)		yes - 63.8% no - 29% don't know - 7.2% (2006)		
Length of time since last asthma medication was taken, current asthma (%)			1-6 days ago - 7.1% 1 week to <3 months ago - 23.5% 3-11 months ago - 18.8% more than 1 year ago - 13.0% (2003)	

	Vermont	Washington	West Virginia	Wisconsin
Use of asthma prescription medicines among children with asthma, by medication type (%)				
Percent of children with asthma receiving routine check ups for asthma (%)	middle and high school 46% - 2008	8th grade - 67.6% 10th grade - 70.7% 12th grade - 68.4% (2002 and 2004, "past year routine healthcare visit for any reason")	85.8%- (2003)	
asthma receiving training on how to manage asthma (%)				
asthma receiving training on how to recognize signs and symptoms of an attack (%)				
Percent of children with asthma receiving training about things that can trigger asthma attacks (%)				

	Vermont	Washington	West Virginia	Wisconsin
asthma receiving training on use of peak flow meter (%)				
Percent of children with asthma receiving training on use of inhaler (among those with inhaler) (%)				
Percent of children with asthma receiving training on use of a spacer (among those with inhaler) (%)				
Percent of children with lifetime asthma who had a Flu Vaccination in the Past Year (%)				
Percent of children with current asthma who had a Flu Vaccination in the Past Year (%)				
with Current asthma who are not taking daily asthma medications by frequency of asthma symptoms (%)				
Prevalence of exposure to environmental tobacco smoke among children by asthma status				

	Vermont	Washington	West Virginia	Wisconsin
Prevalence based on Residence with Smoker and Days spent in same room as smoker, public middle/high school				yes- 19.2% no - 15.7% all 7 days - 20.1% no days - 14.2% (2006)
Percent of students with current asthma who smoke				
Child/Student current prevalence of asthma by smoking status (%)	11% (2003-2008)	6th grade - 11.2% 8th grade - 13.0% 10th grade - 11.0% 12th grade - 10.5% (2002, 2004 combined)	high school students - 14.8% of smokers 12.3% of non smokers	

	Vermont	Washington	West Virginia	Wisconsin
Prevalence of current smoking among middle and high school students by asthma status				
Prevalence of exposure to environmental tobacco smoke among middle and high school students by asthma status.			in room with smoker - 70.4% in car with smoker - 57.4% in room or car with smoker - 74.9% (2005)	

	Vermont	Washington	West Virginia	Wisconsin
Prevalence of current asthma among children/students by exposure to environmental tobacco smoke		6th grade - 8.7% 8th grade - .6% 10th grade - 11.3% 12th grade - 9.3% (2002, 2004 combined)		
Prevalence of obesity among middle and high school students by asthma status (%)		8-10-12th grades not overweight - 17.6% overweight - 20.6% obese- 23.2% (2002, 2004 combined)		
Prevalence of weight status among children with asthma				

	Vermont	Washington	West Virginia	Wisconsin
Percent of students who had an asthma attack in the past 12 months by smoking status (%)				
Current asthma prevalence among high school youth according to Body Mass Index			underweight - 5.3% normal - 42.8% at risk of overweight - 14.2% overweight - 37.7% ("child", 2003)	
Current asthma prevalence for school children by overweight status (%)				
prevalence for school children by overweight status (%)				

	Vermont	Washington	West Virginia	Wisconsin
Persons with asthma who receive assistance with assessing and reducing exposure to environmental risk factors in their home, school, and work environment (%)				
Environmental triggers in the home of children with asthma (%)				

	Vermont	Washington	West Virginia	Wisconsin
Environmental modifications in the home of children (%)				
Level of asthma control among children with current asthma (%)				
Total cost of child asthma related hospitalizations (per year)				
Total cost of child asthma related ED-visits (per year)				0-4 - 1653318 5-14 - 2103420 (2005)
asthma reimbursements for asthma services			\$1.8 million , \$450-475 per recipient	
Average charges per asthma hospitalization, by age				0-4 - \$4626 5-14 - \$5515 (2005)

	Vermont	Washington	West Virginia	Wisconsin
Mean charges for child asthma ED visits				0-40- \$519 5- 14 - \$555 (2005)
Mean charges for asthma ED visits, by age group				
Mean charges for child asthma ED visits, by race/ethnicity				
Average cost of asthma related care for children with probable asthma continuously enrolled in Medicaid				
Percent of children ever diagnosed with asthma that have health insurance coverage (%)				
Percent of children with current asthma who has experienced a cost barrier to care during past 12 months (%)				
charges for asthma, children				
Child asthma death rate (per 1,000,000)		0-4 - .1 5-14 - .3 (1998-2002 combined)		

	Vermont	Washington	West Virginia	Wisconsin
Number of asthma deaths, children				
Notes	Some county level data on prevalence for adults,	Some county data on adults (hospitalizations, prevalence, and by urban/rural setting); has school level data about % of schools that are prepared to appropriately treat/manage students with asthma	Some data local to regions in WV, for example prevalence of lifetime asthma among public middle school students for 2002, regional hospitalization data	Some local data on schools re: asthma management capabilities