Title

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Authors

Meng, Ying-Ying
Babey, Susan H.
Hastert, Theresa A.
et al.

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Uncontrolled Asthma Means Missed Work and School, Emergency Department Visits for Many Californians

Ying-Ying Meng, Susan H. Babey, Theresa A. Hastert, Christina Lombardi and E. Richard Brown

In 2005, three million Californians reported that they had current asthma. Despite advances in therapy, asthma remains a disease that is not optimally controlled in many Californians. Inadequately controlled asthma can result in missed work and school and emergency department visits. Asthma was responsible for an estimated 1.9 million missed days of school and two million days of missed work in California in 2005. In addition, more than 475,000 children and adults in California went to the emergency department or urgent care center because of asthma. There are 659,000 children and adults who suffer from asthma symptoms every day or every week (22% of those with current asthma). These Californians suffering from frequent asthma symptoms have higher rates of missing school or work due to their asthma, visiting the emergency department or urgent care for their asthma, and rating their overall health as fair or poor. Improvements in access to health care, asthma management and avoidance of triggers can help these Californians reduce the severity of their asthma burden.

Using data from the 2005 California Health Interview Survey (CHIS 2005), this policy brief examines the burden associated with frequent asthma symptoms among those with current asthma, and identifies key opportunities for reducing and controlling disease activity in these asthma sufferers. Asthma is a chronic disease that causes the airways of the lungs to become inflamed and more sensitive to constriction, making it harder to breathe. Current asthma refers to people who have been diagnosed with asthma and who report they still have asthma, or have had an episode or attack in the previous year. Frequent asthma symptoms are defined as experiencing asthma symptoms every day or every week.

Frequent Asthma Symptoms Have Adverse Health Consequences

Among Californians with current asthma, 111,000 children (11.3%) and 548,000 adults (27.1%) experience daily or weekly asthma symptoms. Frequent asthma symptoms can be an indicator of problems, including inadequate medical control, persistent exposure to environmental triggers, as well as greater severity of the condition. Frequent asthma symptoms significantly impact the lives of those with current asthma as indicated by higher rates of missed work or school due to asthma, emergency department or urgent care visits for asthma, and self-reported health status being "fair" or "poor."

Missed School or Work Due to Asthma

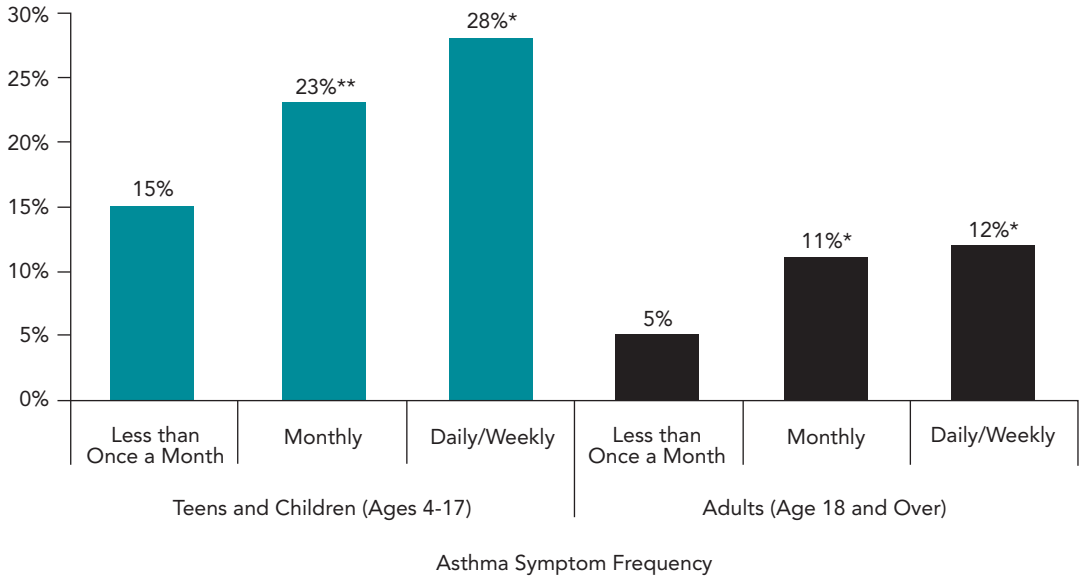
Frequent asthma symptoms can affect daily activities and contribute to school or work

The California Endowment

Support for this policy brief was provided by a grant from The California Endowment.

Exhibit 1

Rates of Missing at Least One Week of School or Work Due to Asthma in Past 12 Months by Frequency of Asthma Symptoms, Adults and School-Age Children with Current Asthma, California, 2005



* Significantly different from "Less than Once a Month" p<0.05.

** Significantly different from "Less than Once a Month" p<0.10.

Source: 2005 California Health Interview Survey

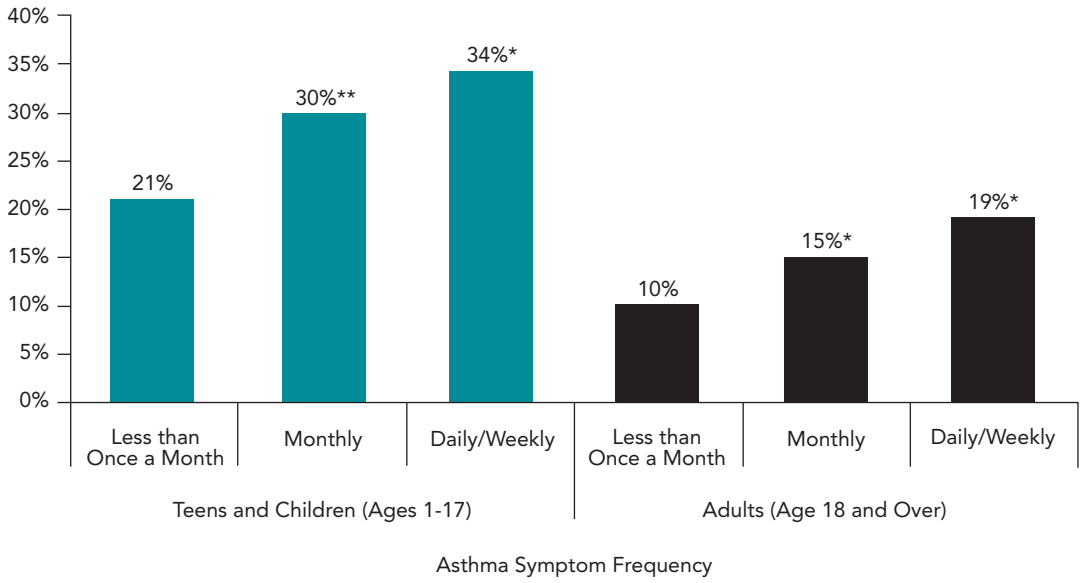
absences. Statewide, asthma was responsible for an estimated 1.9 million missed days of school and two million days of missed work in 2005. School-age children (ages 4-17) with daily or weekly asthma symptoms had a higher rate of missing at least one week of school in the past twelve months because of their asthma (28%) than children who experienced symptoms less than once a month (15%; Exhibit 1). For adults with current asthma, the rate of missing at least one week of work because of their asthma in the previous year was more than twice as high among those with daily or weekly symptoms (12%) compared to those who experienced symptoms less than once a month (5%).

Emergency Department or Urgent Care Visits Due to Asthma

Emergency Department (ED) or urgent care visits for asthma are an indicator of severe asthma exacerbations, which are largely preventable with optimum management of the condition and avoidance of individual asthma triggers. More than 475,000 children and adults in California went to the ED or urgent care because of asthma at least once in the past year (16%), and rates are higher among those with frequent symptoms. Both children and adults who experienced daily or weekly asthma symptoms have higher rates of asthma-related ED or urgent care visits when compared to those who experienced symptoms at least once a month or less frequently. Among those with daily or weekly symptoms, one-third of children (34%) and one-fifth of adults (19%) with current asthma had at least one asthma-related ED or urgent care visit in the previous year, significantly higher than among those with symptoms less than once a month (Exhibit 2). Although ED or urgent care visit rates increase as symptom frequency worsens in both age groups, children have higher rates of ED or urgent care visits than adults for all

Rates of Emergency Department or Urgent Care Visits Due to Asthma in Past 12 Months by Frequency of Asthma Symptoms, Adults and Children with Current Asthma, California, 2005

Exhibit 2



* Significantly different from "Less than Once a Month" p<0.05.

** Significantly different from "Less than Once a Month" p<0.10.

Source: 2005 California Health Interview Survey

symptom frequencies. This is consistent with national data, which have shown that children with asthma are more likely to have asthma-related ED visits than adults with asthma.[1]

Health Status

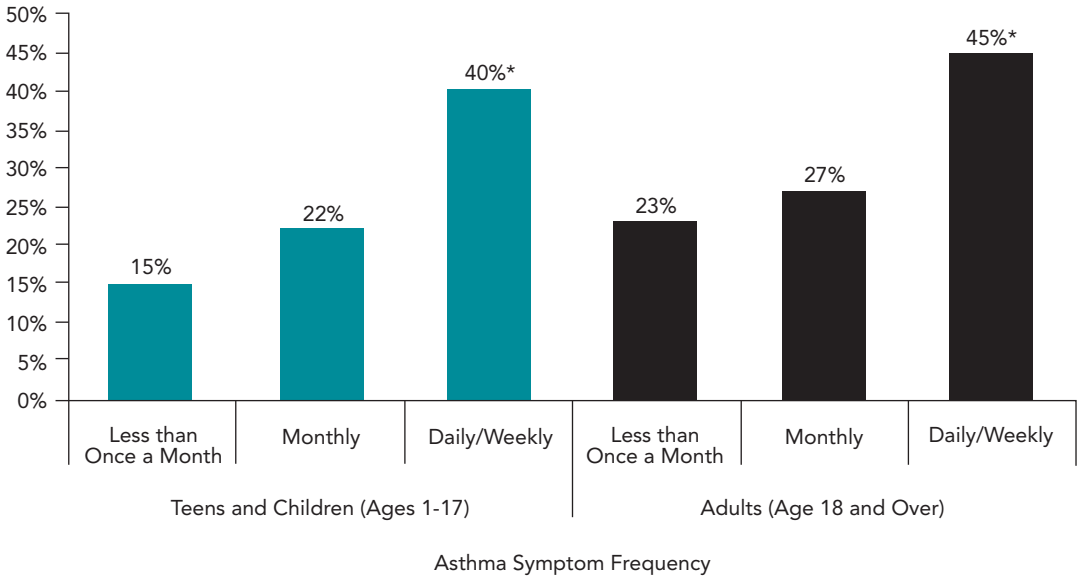
Self-reported health status indicates an individual's perception of his or her overall wellbeing, which can provide additional measures to evaluate and monitor the impact of asthma on the health of the population.[2] Among those with current asthma, the percentage of people describing their health as "fair" or "poor" compared to "good," "very good" or "excellent" is about twice as high for both children and adults who experience daily or weekly asthma symptoms compared to those who experience symptoms less than once a month (40% versus 15% among children; and 45% versus 23% among adults; Exhibit 3).

Opportunities to Reduce the Burden for Those Suffering from Frequent Asthma Symptoms

Management of asthma requires a comprehensive approach, including ongoing monitoring, education, use of appropriate medications and control of precipitating environmental factors.[3] People with asthma require regular doctor visits, appropriate asthma medications and asthma action plans. This optimal management, including daily asthma control medication, is particularly important for those who suffer from symptoms on a daily or weekly basis. Yet, the current health care system lacks sufficient measures to assess performance in providing all of these key aspects of quality asthma care. Uninterrupted health insurance coverage and a usual source of care are critical for individuals with asthma to access timely and appropriate care. Those who experience frequent asthma symptoms also need to avoid triggers such as smoking and

Exhibit 3

Percent Describing Health as "Fair" or "Poor" by Frequency of Asthma Symptoms, Adults and Children with Current Asthma, California, 2005



* Significantly different from "Less than Once a Month" $p<0.05$.

Source: 2005 California Health Interview Survey

exposure to second-hand smoke. This section presents data indicating that many Californians with frequent asthma symptoms experience less than optimal management of asthma in these domains.

Regular Doctor Visits

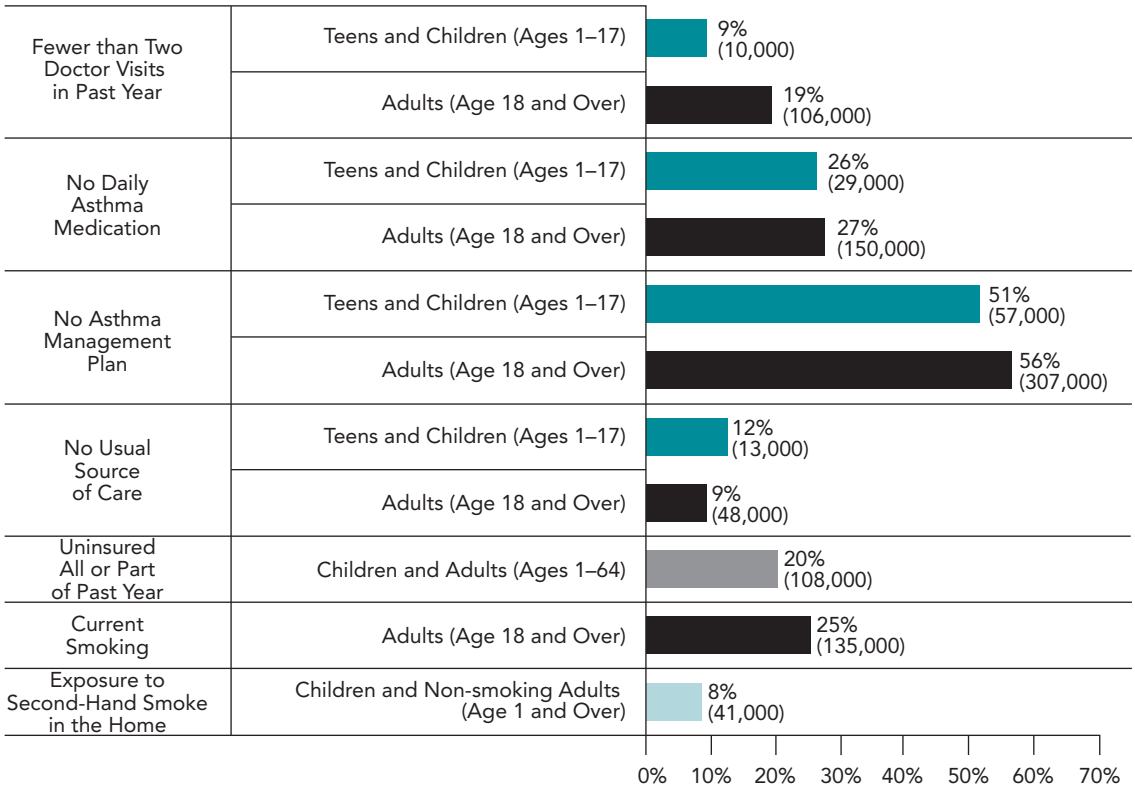
People with current asthma should have periodic doctor visits for assessing and monitoring asthma control and adjusting therapy. The National Heart, Lung, and Blood Institute (NHLBI) Expert Panel recommends a visit to a doctor at least every one to six months.[4] These scheduled visits provide patients the opportunity to discuss any changes in their symptoms and any related activity impairment, so clinicians can respond with the appropriate changes to their medications and asthma management plans. Without these regular checkups, fluctuations in asthma control or an overall worsening of the condition cannot be identified and treated promptly. Almost one-fifth of adults (19%) and one-tenth of children (9%) with daily or weekly asthma symptoms—116,000 Californians in all—had fewer than the minimum recommended two scheduled doctor visits in the past year (Exhibit 4). Among this group, 44,000 (7% of children and adults with daily or weekly symptoms) had not seen a doctor at all in the past year.

Daily Asthma Control Medication

Appropriate pharmacologic therapy for asthma is a key component of its management. While quick-relief asthma medications are used to treat acute symptoms, daily asthma control medications, such as inhaled corticosteroids and oral leukotriene modifiers, are essential for preventing asthma symptoms and are recommended for all those with persistent asthma. Of those with daily or weekly symptoms, 26% of children and 27% of adults—179,000 in all—do not take any daily control medications to prevent asthma

Indicators of Inadequate Management of Asthma, Adults and Children with Current Asthma Who Experience Daily or Weekly Asthma Symptoms, California, 2005

Exhibit 4



Note: Estimates of "Current Smoking" were not statistically reliable for teens and are not available for children under 12.
Source: 2005 California Health Interview Survey

exacerbations (Exhibit 4). This includes 64,000 who have symptoms every day but do not take any daily asthma control medication.

Asthma Management Plan

A partnership between the clinician and the individual with asthma (and the caregiver for children) is required for effective asthma management. This partnership includes asthma self-management education, which has been shown to improve patient outcomes (e.g., reduces ED visits, urgent care visits, hospitalizations and limitations on activities, and improves health status, quality of life and perceived control of asthma).[5] The National Asthma Education and Prevention Program's Expert Panel Report-3 places a strong emphasis on the use of the written asthma action plan for all patients with asthma as an essential component of asthma self-management education.[6] However, in California, over half of children (51%) and adults (56%) with daily or weekly asthma symptoms—364,000 in all—have never received an asthma management plan (Exhibit 4).

Health Insurance Coverage

Health insurance coverage is crucial for receiving timely and appropriate care (including medications) for asthma. Interruption in health insurance coverage reduces the likelihood of receiving regular follow-up visits for asthma, which results in increased risk of exacerbations of asthma.[7]

One-fifth of children and non-elderly adults with daily or weekly asthma symptoms (20% or 108,000) were uninsured for all or part of the previous year.

Usual Source of Care
In addition to health insurance coverage, having a usual source of care improves the continuity and quality of care for those with asthma and reduces the likelihood of a non-urgent ED visit.[8] In California, 61,000 asthma-sufferers, 12% of children and 9% of adults with daily or weekly symptoms, have no usual source of care (Exhibit 4).

Smoking and Environmental Tobacco Smoke (ETS)
ETS is associated with increased symptoms, decreased lung function and greater use of health services among those who have asthma in all age groups,[9] although exact negative effects may vary by age.[10] The NHLBI Expert Panel recommends that clinicians advise persons who have asthma not to smoke and to avoid exposure to ETS.[11] In California, 25% of adult asthma sufferers with daily or weekly symptoms are current smokers. In addition, 8% of children and non-smoking adults with daily or weekly symptoms—41,000 in all—are exposed to ETS at home (Exhibit 4).

Discussion and Recommendations

Improved scientific understanding of asthma has led to significant improvements in asthma care; however, challenges remain. Over one-half million Californians suffer from asthma that is not well controlled. The health and economic burden of frequent asthma symptoms affects these individuals, their families and society in terms of missed days of work and school, avoidable ED and urgent care visits, and worse perceived health status. The data presented in this brief suggest that many Californians with poorly controlled asthma do not receive the health care they need and are exposed to avoidable asthma triggers such as smoking and ETS.

To reduce the burden of asthma in California, efforts should be made in the areas of medicine, policy and public health. These efforts should include policies and programs designed to improve access to quality health care, and to reduce exposures to identified environmental asthma triggers at the state and local levels. Specific recommendations include:

- *Improve access to quality care.*
  Achieving and maintaining asthma control requires four components of care: assessment and monitoring; education for a partnership in care; control of environmental factors and comorbid conditions that affect asthma; and appropriate medications.[12] Health insurance coverage with comprehensive benefits is essential for people with asthma because it is related to both timely access to appropriate care—including medications—and continuity of care.[13] For example, self-management education is an integral component of effective asthma care and should be uniformly provided by health care providers, as well as supported by health care plan quality assurance and reimbursement policies.

- *Control of environmental factors.*
  Indoor and outdoor environmental triggers can play a role in the individual development and exacerbation of asthma.[14] These triggers include air pollutants such as ozone and particulate matter; irritants such as tobacco smoke; and allergens such as dust mites, animal dander, cockroaches and molds. Allergy testing is the only reliable way to determine individual sensitivity to perennial indoor allergens.[15] People spend much of their time indoors; however, indoor triggers have only recently appeared on the policy agenda.[16] On January 26, 2006, the California Air Resource Board identified environmental tobacco smoke as a Toxic Air Contaminant (TAC) as mandated by Assembly Bill

1807. Following this identification, further research and action plans are needed to determine how to help Californians curtail their individual indoor triggers. Local, state and national policies are needed to further reduce Californians' exposure to environmental triggers in the outdoor air, as well as in homes, schools, work places and child care centers.

Data Source

All statements in this report that compare rates for one group with another group reflect statistically significant differences ($p<0.05$) unless otherwise noted. The findings in this brief are based on data from the 2005 California Health Interview Survey (CHIS 2005). The analyses used survey weights to adjust for the complex survey design of CHIS. All rates, percents and population numbers were weighted to the California population by age, gender and race/ethnicity. As a result, the numbers and rates reported in this policy brief are estimates, not exact counts. CHIS 2005 completed interviews for over 43,000 adults and over 15,000 adolescents and children, drawn from every county in the state, in English, Spanish, Chinese (both Mandarin and Cantonese), Vietnamese and Korean. The California Health Interview Survey is a collaboration of the UCLA Center for Health Policy Research, the California Department of Health Services and the Public Health Institute. Funding for the CHIS 2005 statewide survey was provided by the California Department of Health Services, The California Endowment, the National Cancer Institute, the Robert Wood Johnson Foundation, the California Children and Families Commission, the California Office of the Patient Advocate, the California Department of Mental Health, the Centers for Disease Control and Prevention (CDC) and Kaiser Permanente. For local funders and other information on CHIS, visit *www.chis.ucla.edu*.

Author Information

Ying-Ying Meng, DrPH, is a senior research scientist at the UCLA Center for Health Policy Research. Susan H. Babey, PhD, is a senior research scientist at the UCLA Center for Health Policy Research. Theresa A. Hastert, MPP, is a senior research associate at the UCLA Center for Health Policy Research. Christina Lombardi, MPH, is a senior research associate at the UCLA Center for Health Policy Research.
E. Richard Brown, PhD, is the director of the UCLA Center for Health Policy Research and a professor in the UCLA School of Public Health.

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Editor-in-Chief: E. Richard Brown, PhD

Phone: 310-794-0909
Fax: 310-794-2686
Email: chpr@ucla.edu
Web Site: www.healthpolicy.ucla.edu

Notes

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