

## Asthma Hospitalization Rates, Berkeley, 1990-2006

### SUMMARY

#### BACKGROUND

##### Why is this Topic Important?

1 in 6 children have asthma in some areas of the nation. Asthma has profound economic implications, as it is the leading cause of hospital stays in children and a leading cause of school absences. Asthma can also greatly reduce the quality of life for the child and their family.

Asthma hospitalization rates tell us about the impact of asthma in a community due to environmental and household triggers, access to medical care, and the quality of disease management for asthma. Hospitalization is the “tip of the iceberg”: most people with asthma suffer the health impacts without needing hospitalization.

##### Purpose of this Report

This report describes who in Berkeley is impacted by asthma and if there have been changes over the last 17 years.

#### FINDINGS

Asthma decreasing overall in Berkeley:

- Over the entire 17-year period reviewed, asthma hospitalization rates (adjusted for age differences) declined an average of 2% per year. Between 1990 and 2006, the number of persons hospitalized for asthma each year ranged from 76 to 169, and the annual number of hospitalizations fluctuated from 93 to 200.
- Rates of asthma hospitalizations were highest for 0 to 4 year olds.
- From 1990 to 2002, hospitalization rates for 0 to 4 year olds went up an average of 6%, and from 2003 to 2006 these rates decreased an average of 16.5%, therefore the good news is that there are fewer and fewer asthma hospitalizations for children ages 0-4 years old in Berkeley.
- Asthma hospitalization rates declined for the age groups 5 to 14 years, 25 to 44 years, and 45 to 65 years as well.

Some groups in Berkeley are experiencing an increase in asthma:

- One Berkeley community is disproportionately suffering from asthma than any other group. African Americans had significantly higher rates than other race/ethnicity groups, and Asians had the lowest rates.
- While hospitalizations among Whites significantly decreased from 1990 to 2006 they significantly increased in African American children 0 to 4 years of age over that same time period.
- Asthma hospitalization rates for residents living in zip codes in South (94702, 94703) and West (94710) Berkeley – all lower income neighborhoods – were consistently higher



than rates for other wealthier Berkeley/Albany zip codes. Hospitalization rates in each of these three wealthier zip codes as well as 94704, 94707, and 94709, significantly decreased between 1990 and 2006. However, declining asthma hospitalization rates were not evident for children aged 0 to 4 years in zip codes 94702, 94703, and 94710. Children 0 to 4 years of age in zip codes 94705, 94706, and 94707 experienced significantly increasing rates between 1990 and 2006.

- Compared to the average in California, Berkeley has higher asthma hospitalization rates, but lower than the average for Alameda County.

## **RECOMMENDATIONS/FOLLOW-UP**

This report shows that although there was an overall decline in the rate of asthma hospitalization in the past decade, certain populations in Berkeley suffer more asthma hospitalizations than others. Currently, the City of Berkeley does not have an asthma prevention, self-management and control program. Therefore, the Public Health Division recommends that, as resources become available, the following activities be conducted to address the asthma inequities found in this report:

### **A. Disseminate Results of the Study and Engage Stakeholders**

1. Share results with community, affected populations and their advocates, health care providers and health plans to build partnerships and engage and garner community support.
2. Ensure community participation from affected populations in the planning, advising and staffing of a future asthma prevention, self-management and control program.

### **B. Strengthen Existing Public Health Division (PHD) Programs to Develop an Asthma Program**

1. Improve our existing data collection systems to better locate communities that have significantly more cases of severe and uncontrolled asthma.
2. Use the study to guide discussion among PHD staff on how the findings factor into PHD priorities, program emphasis, and potential grant writing.

### **C. Strengthen Programs and Linkages with Other City Agencies and Community Partners**

1. Discuss findings with City agencies that may have a role in facilitating public education and interventions.
2. Explore the partnership between the City of Berkeley School Linked Health Services Program and the Berkeley Unified School District in proposing a Comprehensive School-Based Asthma Program. Elements of the program could include: management of asthma medicines, parent and student asthma self-management education, staff education, indoor air quality improvement, and integrated pest management.



3. Assess the health impact of built environment/redevelopment plans on outdoor air quality in neighborhoods already impacted by vehicle and industrial air pollution.
4. Ensure that Berkeley residents at greatest risk of severe and uncontrolled asthma, are referred and followed-up by health care providers of established, local asthma programs.

#### **D. Monitor Progress, Evaluate Existing Programs, and Identify Areas of Improvement/Need**

1. Continue tracking asthma hospitalization rates to further inform program design and evaluate effectiveness.
2. Explore how Berkeley residents can utilize existing County-based programs and identify service gaps within these programs as well. This can include interventions that link individual home follow-up after a hospitalization.
3. Find school and community asthma education interventions that have been effective in facilitating families and schools to reduce indoor air triggers, teach patient and family self-management and asthma control. Especially relevant are the parent and pre-school education programs that work to prevent and control asthma in the 0-5 year old population.

#### **E. Support the Development of Appropriate Policies**

1. Support legislation, policies and institutional practices that positively impact resident's abilities to prevent, manage and control their asthma.
2. Identify incentives for homeowners, schools and local construction contractors to remediate indoor triggers of asthma.
3. Identify and support legislation, policies, and practices that improve the environment in neighborhoods where those most at risk live, learn, work, and play.

