





## Asthma Hospitalizations for Ages 1-17 King County Three Year Average, 1994-1996

Rate per 100,000	
	50.5 to 116.6
	116.7 to 252.9
	253.0 to 565.9
	566.0 to 567.6

This issue of *Public Health Data Watch* reports on asthma hospitalizations of children in King County from 1987 to 1996. Hospitalizations were analyzed by age group, geographic area of residence and neighborhood poverty level.

Over the last 10 years, childhood hospitalizations for asthma have been increasing in King County, even as the rate of all other childhood hospitalizations have decreased. Children one to four years old have higher rates than older children, and have seen the biggest increase in rates. Rates in the Central Region were consistently higher than the rates in all other regions of the county. Rates increased in high, medium and low poverty neighborhoods, but were highest in neighborhoods with the greatest poverty.

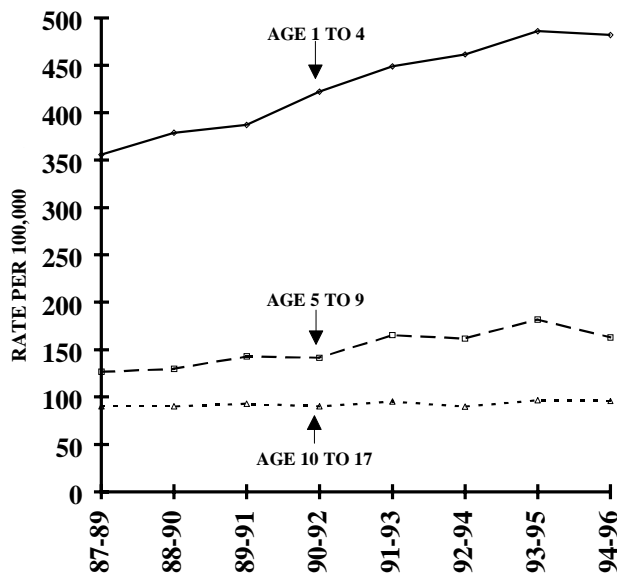
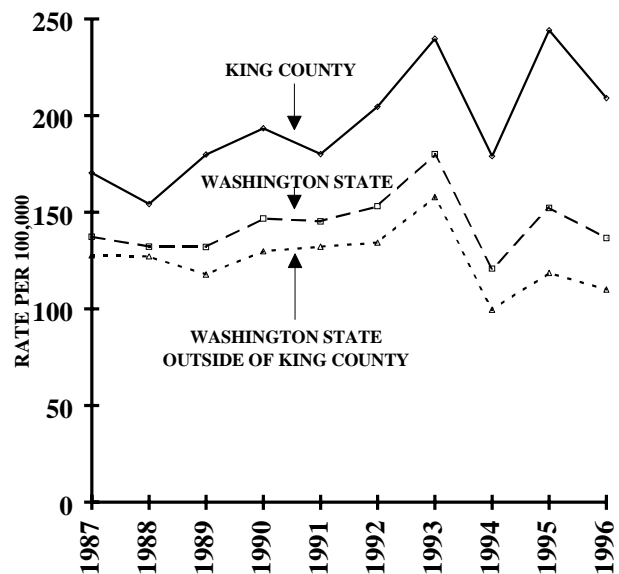


# Public Health Data Watch

## Childhood Asthma Hospitalizations King County, 1987-1996

Childhood Asthma Hospitalizations  
King County, Washington State and  
Washington State Outside of King County, 1987-1996

- **In King County, childhood (age 1 to 17) asthma hospitalizations rose by 25 percent from 1987 to 1996, a statistically significant increase.** Meanwhile, the rate of all other childhood hospitalizations decreased.
- **Rates increased fairly consistently from 1987 (170/100,000) to a peak in 1993 (240/100,000);** from 1994 to 1996, rates have fluctuated but on average have remained elevated (211/100,000 average from 1994 to 1996).
- **Asthma was the second leading cause of hospitalization in children.** Over 730 King County children were hospitalized for asthma in 1995 (the last year of available data on the number of individuals hospitalized).
- **Asthma hospitalization rates were significantly higher in King County** than elsewhere in Washington State.

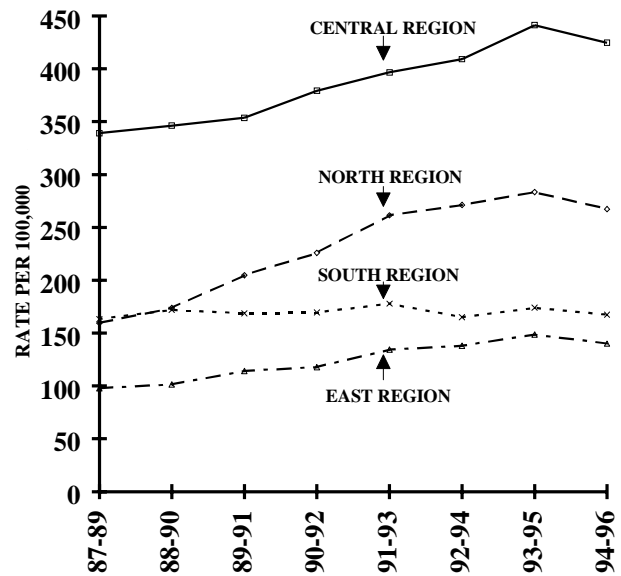


### Childhood Asthma Hospitalizations by Age Group King County, Three-Year Rolling Averages, 1987-1996

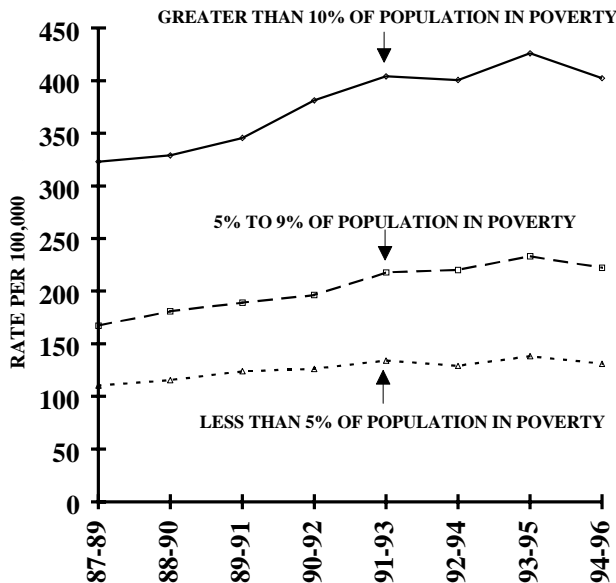
- **Children one to four years old were hospitalized more frequently than older children.** In 1994-1996, the youngest group had three times the rate of five-to-nine year olds, and five times the rate of children 10-to-17 years old.
- **The youngest group showed the biggest increase over time.** From 1987-1989 to 1994-1996, the increase for one-to-four year olds was 36 percent, compared to a 29 percent increase in five-to-nine year olds.
- **In the County as a whole, rates increased significantly in children under 10,** while in children aged 10 to 17, the trend was flat. However, in Seattle/North County only, asthma hospitalizations in 10-to-17 year olds also increased over this time (data not shown).

Trends in Childhood Asthma Hospitalizations  
By Region, King County  
Three-Year Rolling Averages, 1987-1996

- **The hospitalization rate in the Central Region was significantly higher than North, South and East Regions in every year.** On average, children in Central Region were 1.7 times as likely to be hospitalized for asthma as the next highest region, North. However, overall, North Region's rates were increasing fastest of any region during the 1987-1996 period.
- **From 1987 to 1996, children of Central, North and East Regions experienced a statistically significant increase in rates.** In South Region, the trend was flat over this period.



Trends in Childhood Asthma Hospitalizations  
By Neighborhood Poverty Level, King County  
Three-Year Rolling Averages, 1987-1996



- **Hospitalization rates in children residing in neighborhoods where poverty was greatest were significantly higher than rates in children residing in other neighborhoods.** In 1994-1996, the rate of hospitalization in high-poverty neighborhoods (402/100,000) was over one-and-a-half times greater than the rate for medium-poverty neighborhoods (222/100,000), and three times that for residents in low-poverty neighborhoods (131/100,000).
- **Rates increased significantly in high-, medium- and low-poverty neighborhoods.** Between 1987-1989 and 1994-1996, hospitalizations increased 25 percent in neighborhoods with the greatest poverty, 33 percent in medium-poverty neighborhoods, and 18 percent in low-poverty neighborhoods.

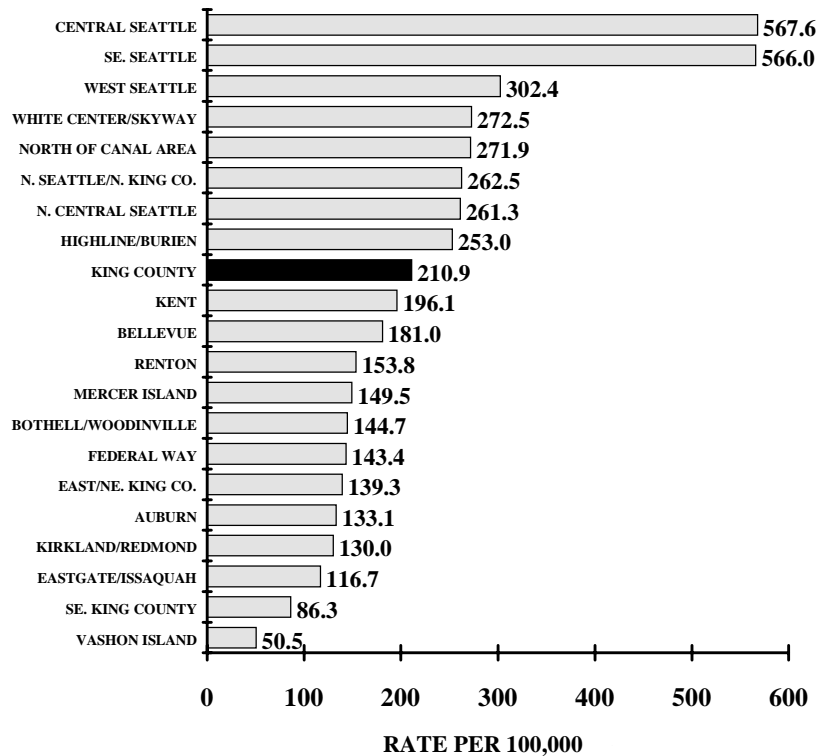
*Public Health Data Watch* monitors trends in key health indicators for King County. It is produced by the Epidemiology, Planning and Evaluation Unit (EPE) of the Seattle-King County Department of Public Health, with assistance from other Health Department staff. This is the second issue of *Data Watch*, which will be published four to six times a year.

For additional copies of *Data Watch* or for more information, call EPE at (206) 296-6817. This issue is also available on the Department web site, at: [www.metrokc.gov/health/](http://www.metrokc.gov/health/)

This issue of *Data Watch* was prepared by David Solet, James Krieger, Claire Talltree, and Jennifer Abbott.

Childhood Asthma Hospitalizations  
By Health Planning Area, King County  
Three-Year Average, 1994-1996

- **Central and Southeast Seattle had the highest rate of hospitalization**, significantly higher than all other Health Planning Areas and over 2.5 times higher than the County average.
- **Other Health Planning Areas significantly higher than the County average** were West Seattle, White Center/Skyway, North of Canal and North Seattle/North County.
- **Health Planning Areas with significantly lower-than-average rates** were Vashon Island, Southeast King County, Eastgate/Issaquah, Kirkland/Redmond, Auburn, East/Northeast County, Federal Way, Bothell/Woodinville and Renton.



Data Sources and Technical Notes

- **Hospitalizations:** Hospitalization rates presented in this report include duplicate hospitalizations (i.e., if a child was hospitalized more than one time for asthma in any given year, each hospitalization is counted in calculating rates). Hospitalization data was provided by the Washington State Department of Health Office of Hospital and Patient Data Systems.
- **Population:** Rates were calculated with population figures from the Department of Social and Health Services, Washington State Adjusted Population Estimates, June 30, 1997.
- **Percent of Population Living in Poverty (Neighborhood Poverty Level):** From the 1990 U.S. Census, this is the percent living below the Federal Poverty Level in 1989, by ZIP code.
- **Race/Ethnicity:** Race/ethnicity data is not collected in the hospitalizations dataset so no analyses by race/ethnicity were possible for this report.

Glossary

- **Children:** As used in this report, children are those aged one to 17. Infants under one year of age are excluded because of the difficulty of reliably classifying a respiratory problem in this group as asthma.
- **Rate Per 100,000:** The total number of asthma hospitalizations occurring within a population during a specified time period (usually a year), divided by the population and multiplied by 100,000.
- **Statistically Significantly Higher (or Lower):** If a rate for one area or age group is said to be significantly higher (or lower) than another, then chance (i.e., random variation) can largely be ruled out as a reason for the difference between the rates.
- **Statistically Significant Trend:** A statistically significant trend over time is a trend where chance (i.e., random variation) can largely be ruled out as a reason for seeing this pattern.
- **Rolling Averages:** For small populations, slight changes in the number of events can cause large fluctuations in rates, making year-to-year changes difficult to interpret. To help stabilize the rate and observe the overall time trend, the rates are aggregated into "rolled" averages in three-year intervals across the total observed period.
- **Percent Increase:** Percent increase over a time period was calculated using the three-year averages at the beginning and the end of the period (e.g., 1987-1989 to 1994-1996).

## RESOURCES

### ***Seattle-King County Department of Public Health (SKCDPH) Asthma Outreach, Prevention and Case Management Partnerships and Activities***

#### **South East County Asthma Management Project (SECAMP)**

Contact: Kathy Piggott, (425) 228-3440, x3497

SECAMP is a collaborative effort between SKCDPH and Valley Medical Center, Community Health Centers of King County, and Renton, Kent, Auburn and South Central School Districts to develop a system in Southeast King County whereby children who have asthma, and their families, will receive the support and continuity of care they need regardless of where or when they are identified.

SECAMP is a program that helps children, teens and their families have better control over their asthma. The project uses special tools, like peak flow meters and spacers, minimizing contact with “triggers” like cigarette smoke, house dust and pollen, and taking medication as prescribed to help assess and mitigate episodes of asthma. SECAMP is a holistic approach to a chronic health problem of childhood—addressing management issues as well as social and environmental factors that contribute to asthma risk..

#### **The Asthma Outreach Project (AOP)**

Odessa Brown Children’s Clinic (OBCC)

Contact: Latonya Rogers, (206) 296-2770 or (206) 205-9047

The Asthma Outreach Project (AOP) is a partnership between OBCC and SKCDPH. The project was founded to provide comprehensive case management for children with asthma with closely coordinated services provided by both a pediatrician and an asthma outreach worker. AOP provides coordinated care to 50-60 children at OBCC with moderate to severe asthma. Building on the AOP model, the Asthma Management Support Center (AMSC) was also founded to provide support, resources, expertise and evaluation to clinics and primary health care providers interested in improving the management of their patients with asthma. Currently, the AMSC is involved with 18 primary care practices in Western Washington State. For more information on the AMSC, contact Louise Novak, Project Manager at 206/616-6978.

#### **Environmental Interventions to Improve Children’s Health: Seattle Healthy Homes**

Seattle-King County Department of Public Health, Seattle Partners for Healthy Communities

Contact: Laurie Anderson or Jim Krieger, (206) 296-6817

Healthy Homes is a demonstration project to reduce exposure to indoor asthma triggers among 400 low-income households of children with asthma. An outreach worker will make an initial assessment visit, followed by nine visits over the next 12 months. The outreach workers will offer a comprehensive package of education and social support, encouragement of behavior changes, provision of materials to reduce exposures (bedding covers, vacuums, door mats, cleaning kits), help in locating assistance for making structural improvements to reduce moisture (moisture increases the amount of some asthma triggers in the home), and help in advocating for improved housing conditions. Community volunteers from the Master Home Environmentalist Program will then work with households for an additional year.

#### **King County Health Action Plan**

Seattle-King County Department of Public Health

Contact: Kirsten Wyses, (206) 296-2780

The King County Health Action Plan will assemble health care quality indicator data on asthma treatment in King County from managed care plans and explore collaboration opportunities with the Association of Washington Health Plans’ pediatric asthma activities. The purpose in studying asthma is to examine how the health care system is responding to illnesses that need frequent, on-going preventive services.

**Environmental Health Services**

Seattle-King County Department of Public Health  
Contact: David Williams, (206) 296-3930

Environmental Health Services provides direct assistance to asthma patients in our county as well as expert assistance to agencies that work on asthma issues. Activities include: *Training* of Public Health Nurses, Child Care Environmental Health Specialists and Community Outreach Workers to reduce environmental asthma triggers in homes; The *Indoor Air Program* which investigates homes with indoor air pollution and helps to find solutions to problems; *Little Lungs Breathing* partnership with the American Lung Association of Washington; and training volunteers in collaboration with the *Master Home Environmentalist Program* to improve the conditions of child care homes with asthmatic children.

***Other Community Asthma Resources\****

**American Lung Association of Washington (ALAW)**

Contact: Elizabeth Furrer, (206) 441-5100

The American Lung Association of Washington (ALAW) is a voluntary, community-supported health organization dedicated to preventing lung disease and promoting lung health through community service, education, advocacy and research. ALAW provides community-based programs working in partnership with families, health care professionals, educators, businesses, organizations and individuals.

**Asthma and Allergy Foundation of America, Washington State Chapter(AAFA-WA)**

Contact: Cheryl Selvar, (206) 368-2866

The Washington State Chapter of the Asthma and Allergy Foundation of America provides education, community resources and support to people affected by asthma and allergies. They provide free information on asthma and allergies (1/800-778-AAFA), provide training seminars and offer free peak flow meters and spacers to those unable to afford them.

\* See the Seattle-King County Department of Public Health World Wide Web site for links to other sources of asthma information, at: <http://www.metrokc.gov/health/>

***FAST FACTS ON ASTHMA IN THE U.S. AND KING COUNTY***

- Asthma affects 14 to 15 million Americans, including almost five million children.
- Extrapolating from national figures, an estimated 90,000 King County residents have asthma. Approximately 28,000, or 30%, are children under 18.
- In 1990, national costs related to asthma were estimated to total \$6.2 billion; the projected cost of asthma in this country for the year 2000 is expected to double to \$14.5 billion.