

# Hospitalization data for community health assessment

Assessment, Policy Development and Evaluation

Public Health – Seattle & King County

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# Why use hospitalization data?

- Estimate patterns in chronic disease prevalence or incidence
- Data on injury/violence
- Estimate lack of access to health care (“avoidable” hospitalizations and uncompensated care)
- Estimate partial costs of illness from health condition
- Look at health inequities

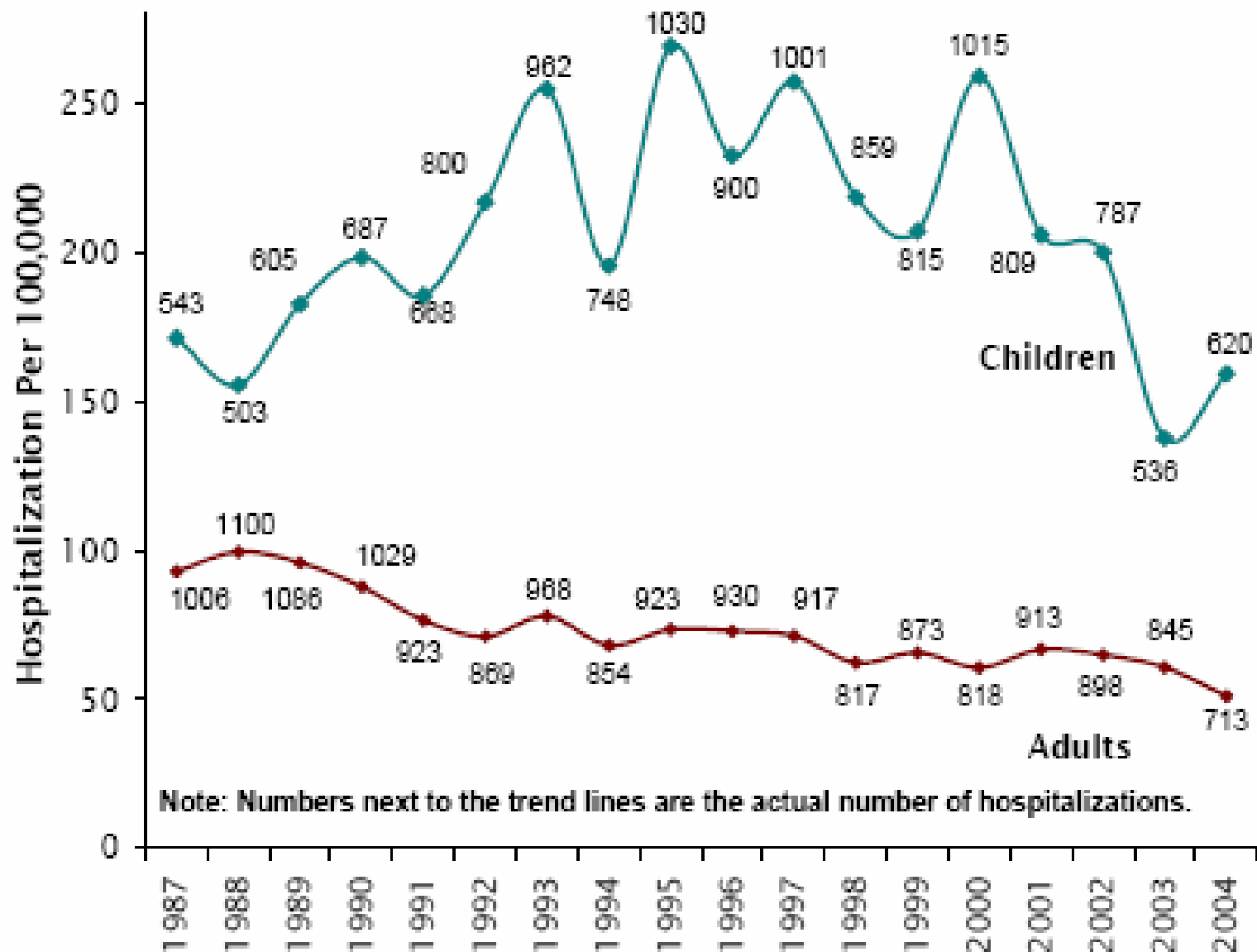
# Data sources

- WA Comprehensive Hospital Abstract Reporting System (CHARS)
  - Primary diagnosis (occasionally secondary diagnoses)
  - Age
  - Sex
  - Year
  - ZIP code of residence
- Detailed current population estimates (for rates)
- Census data (for looking at inequities)

# Examples

- Asthma (Data Watch report)
- Ambulatory care-sensitive hospitalizations (Health of King County)
- Assault (Community Health Indicators)

Figure 2. Asthma Hospitalization in King County



Note: Numbers next to the trend lines are the actual number of hospitalizations.

Source: Washington State Department of Health, Center for Health Statistics, CHARS.

# Asthma Hospitalizations, Age 0 to 17, King County, 1987-2006: JoinPoint Output

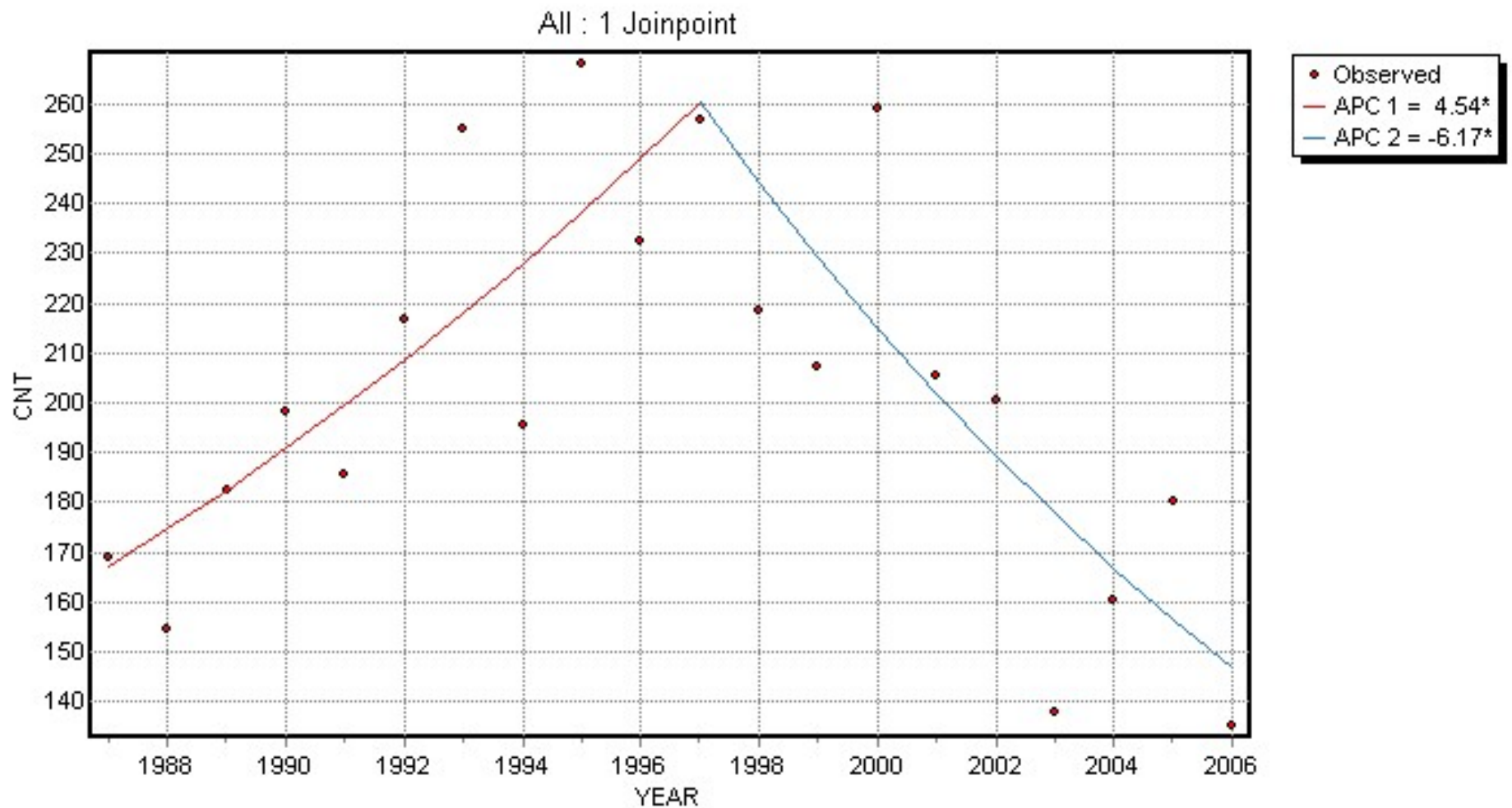
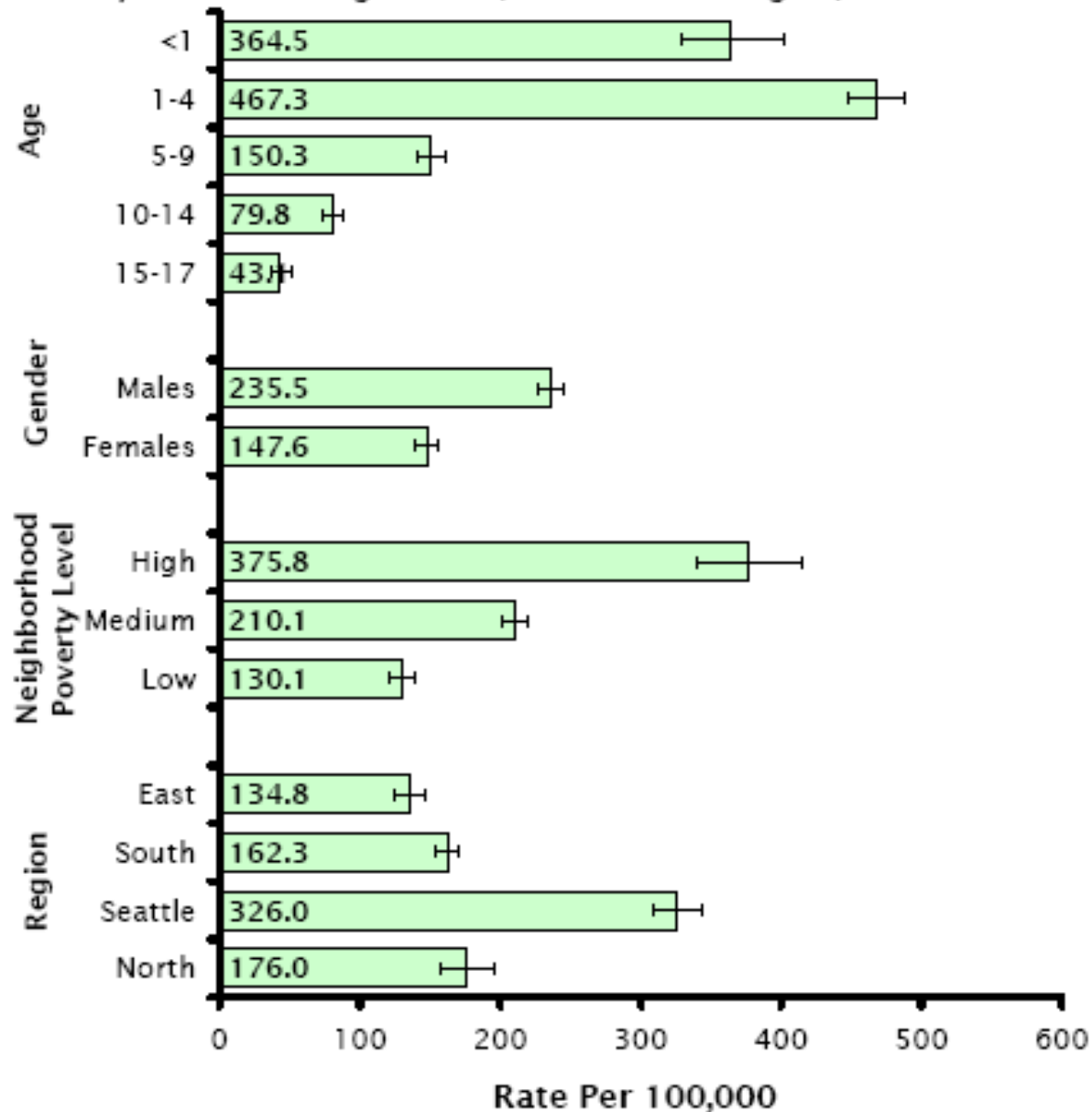


Figure 4. Asthma Hospitalization Rate Among King County Children Age 0-17, 5-Year Averages, 2000-2004



Source: Washington State Department of Health, Center for Health Statistics, CHARS.

# Health Planning Area (ZIP code base) Reference Map

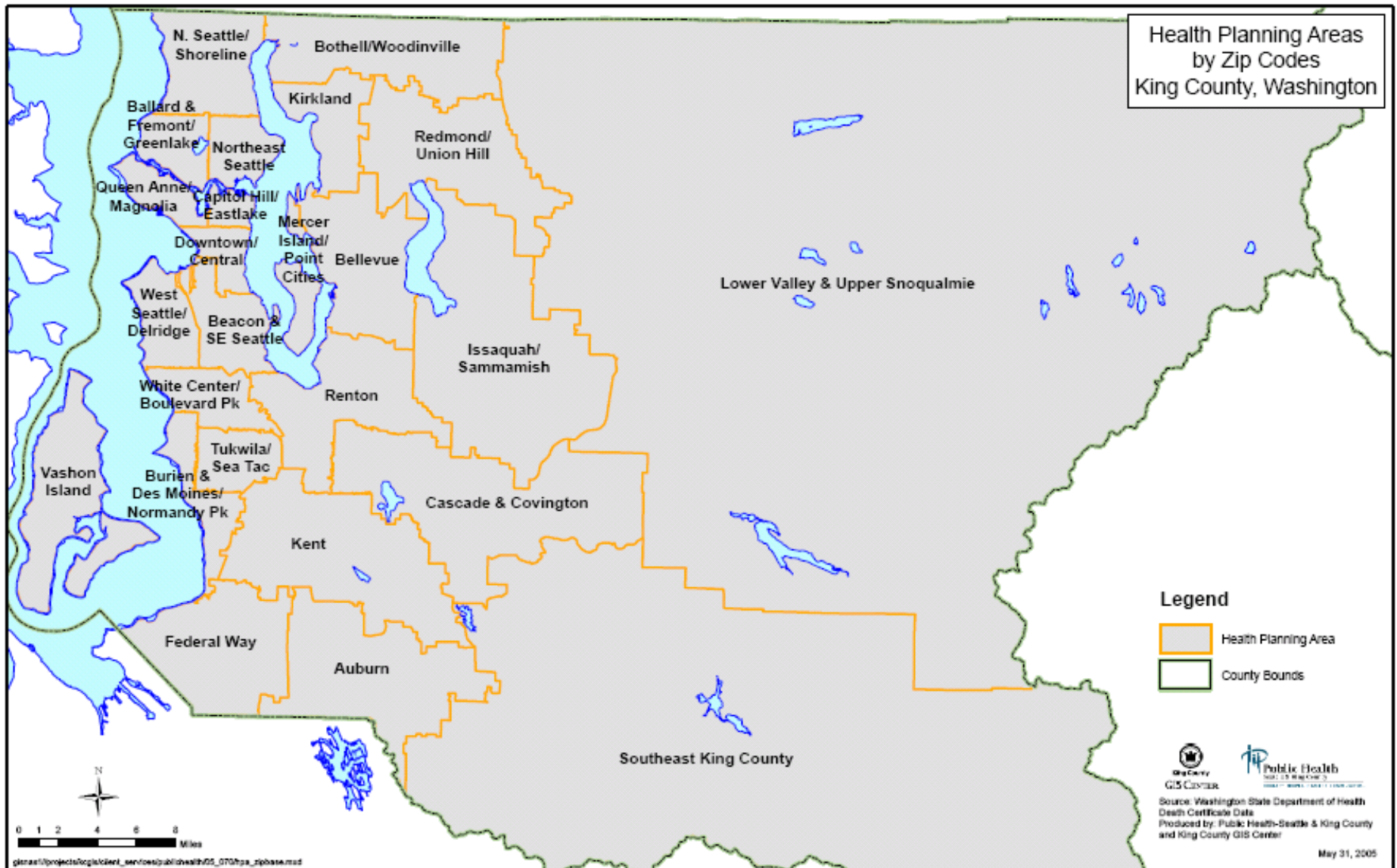
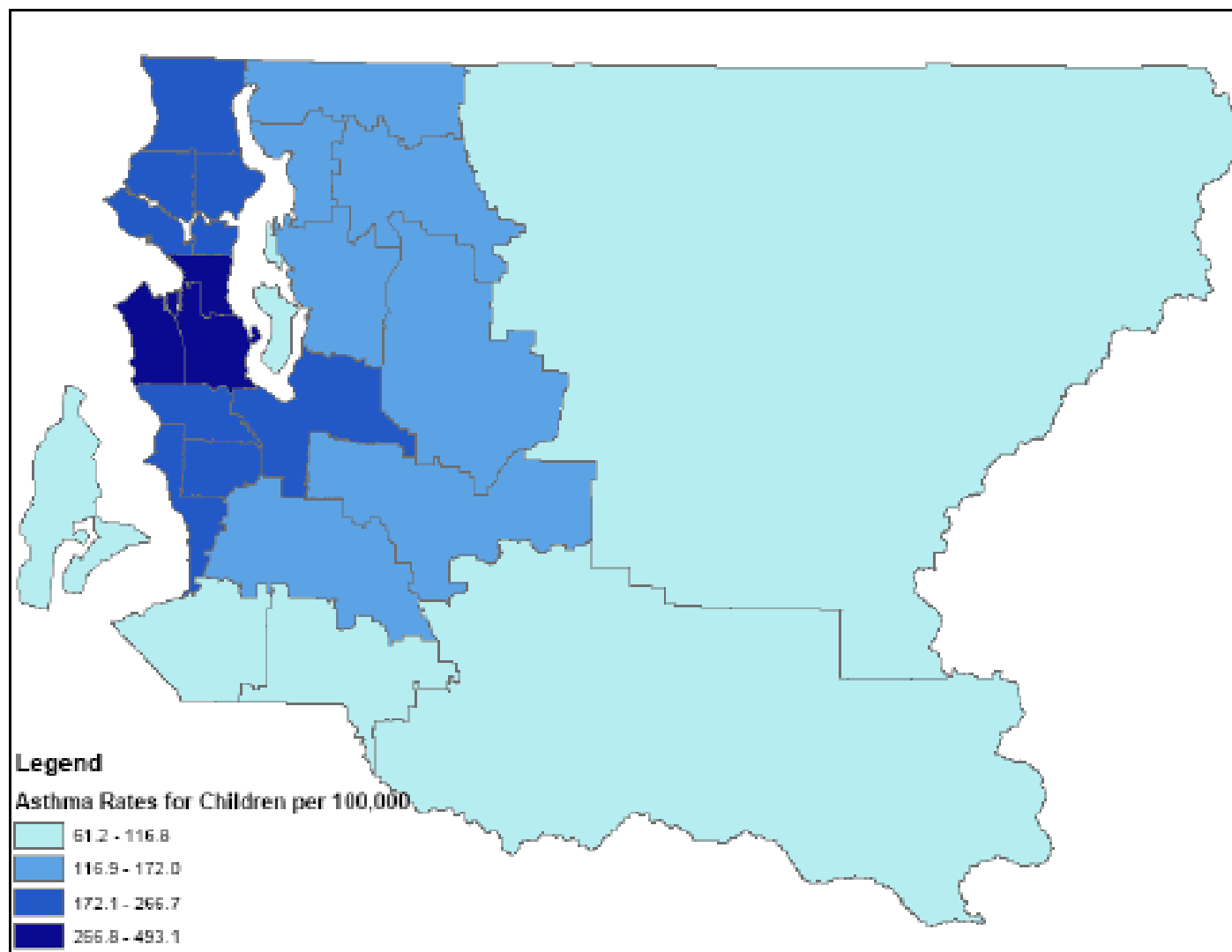


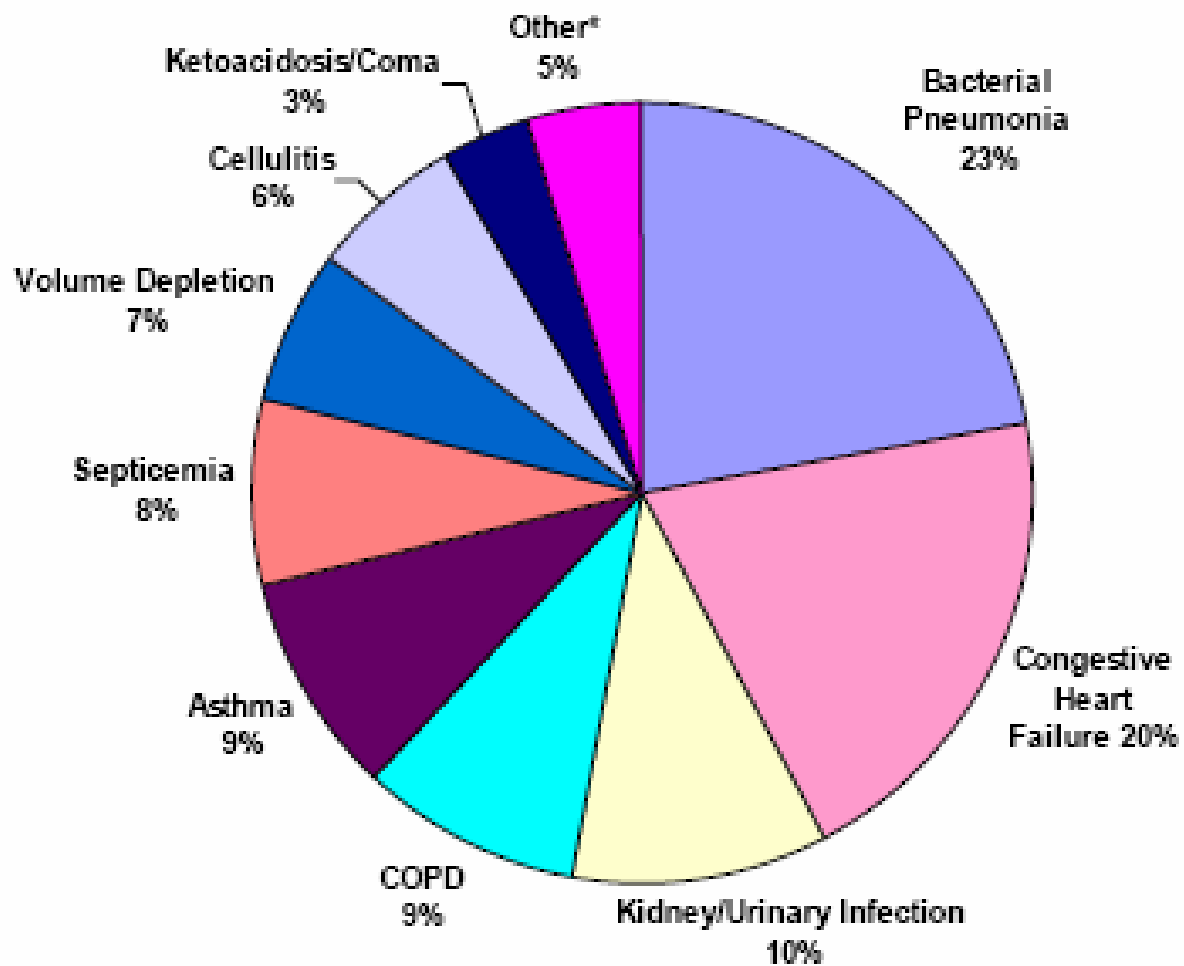


Figure 5. Asthma Hospitalization Rate Among Children Age 0-17 by Health Planning Area 2000-2004



Source: Washington State Department of Health, Center for Health Statistics, CHARS.

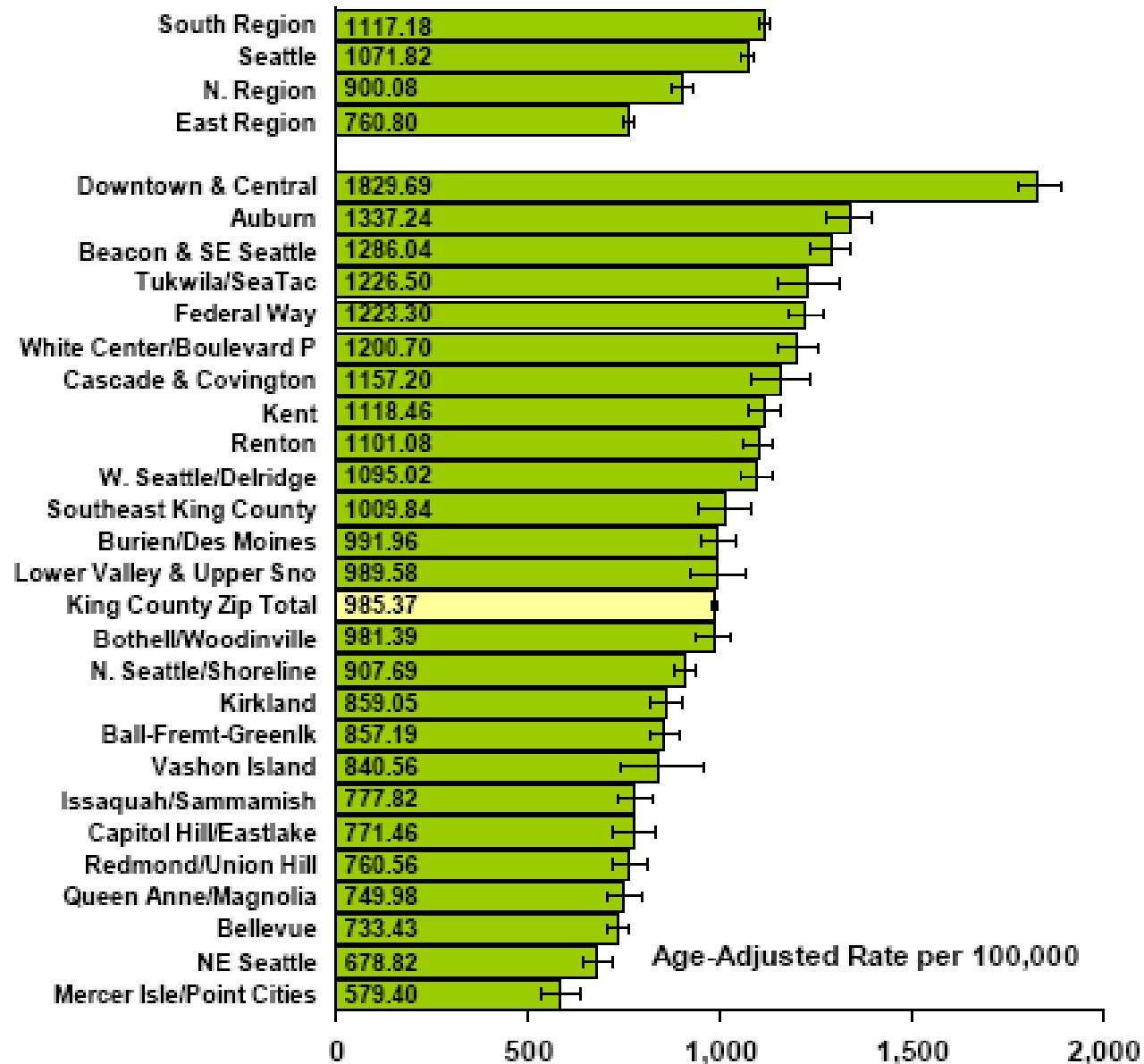
## Avoidable Hospitalizations in King County, Three Year Average, 2002-2004



\*"Other" includes: incarcerated hernia, primary hypertension, angina, dental conditions, Grand Mal status, and hypoglycemia

Data Source: Hospitalization Discharge Data, Washington State Department of Health, Office of Hospital and Patient Data Systems  
Produced by: Epidemiology, Planning & Evaluation, Public Health - Seattle & King County

## Avoidable Hospitalization Rates by Region and HPA, King County Three Year Average, 2002-2004

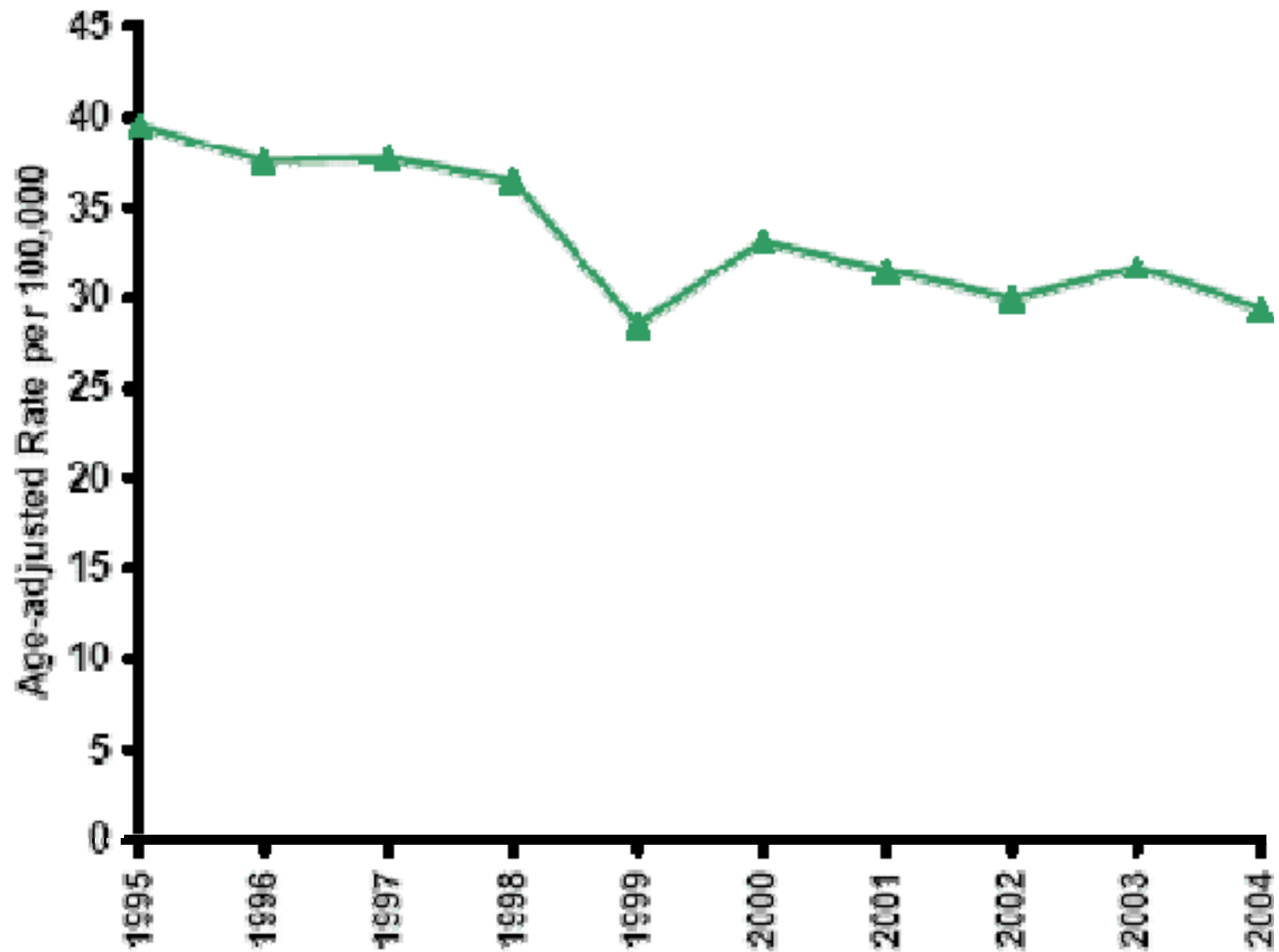


Data Source: Hospitalization Discharge Data, Washington State Department of Health, Office of Hospital and Patient Data Systems  
 Produced by: Epidemiology, Planning & Evaluation, Public Health - Seattle & King County

# Community Health Indicators

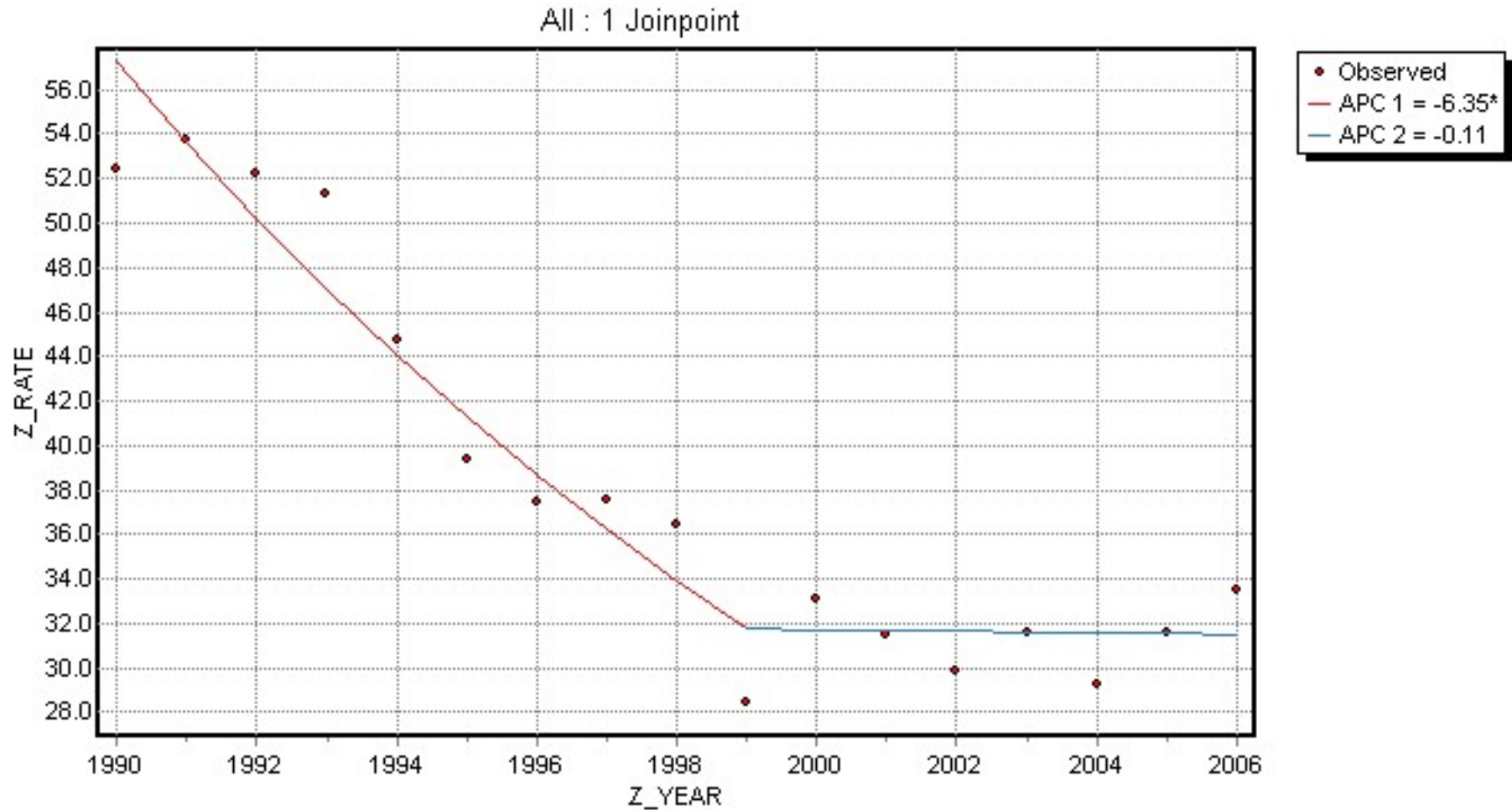
- Purpose: make comprehensive analysis of community health data publicly and readily available
- Systematic and comprehensive analysis of over 60 indicators
- Analysis includes current numbers and rates, geographic distribution, demographic differences, inequities and trends over time
- Data available in both tables and charts

## Assault Hospitalizations, King County, 1995 - 2004

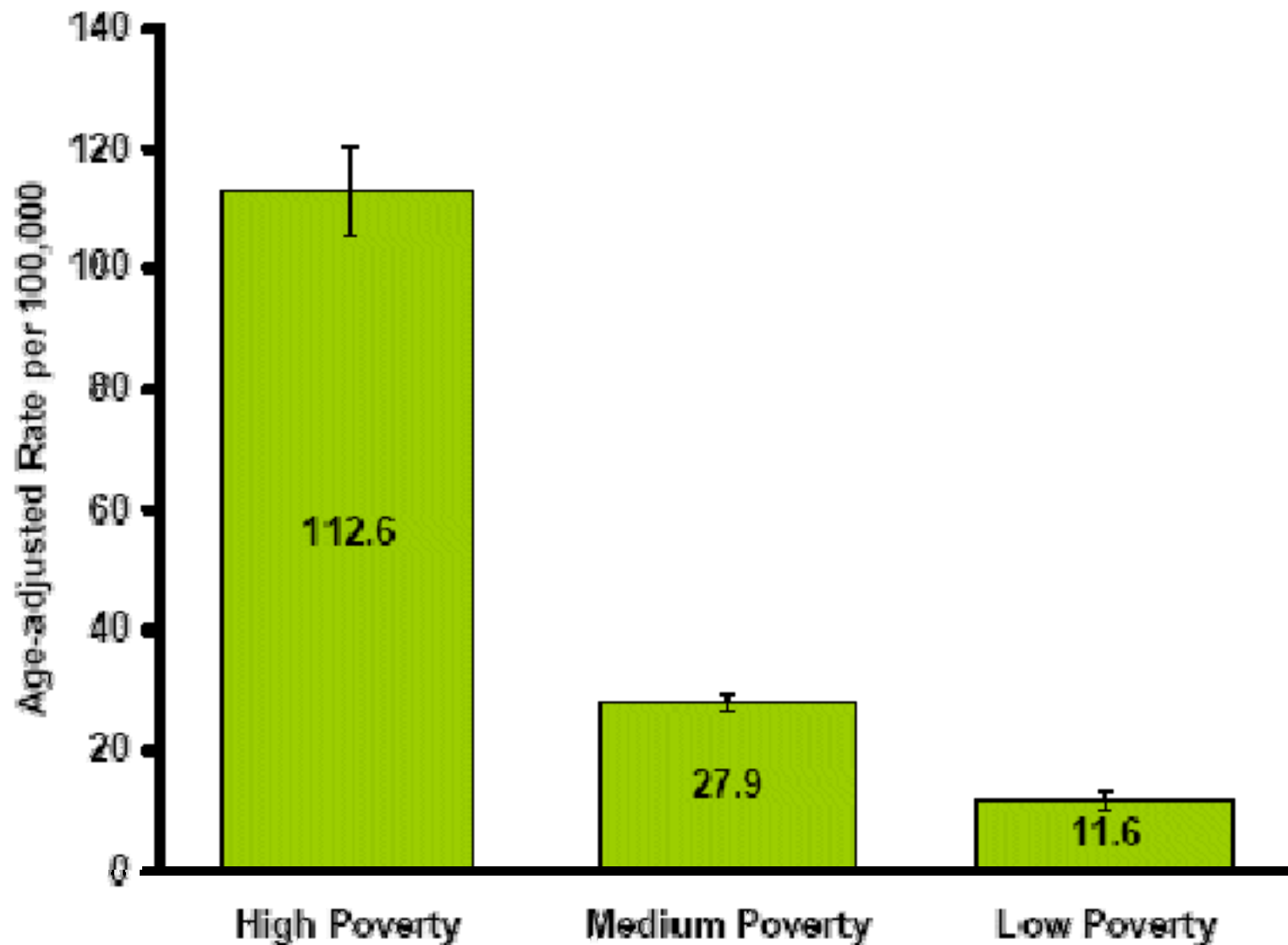


Data Source: WA State Department of Health, Office of Hospital and Patient Data Systems,  
Hospital Discharge Data  
Produced By: Public Health - Seattle & King County, Epidemiology, Planning & Evaluation, 12/05

# Update: assault hospitalizations

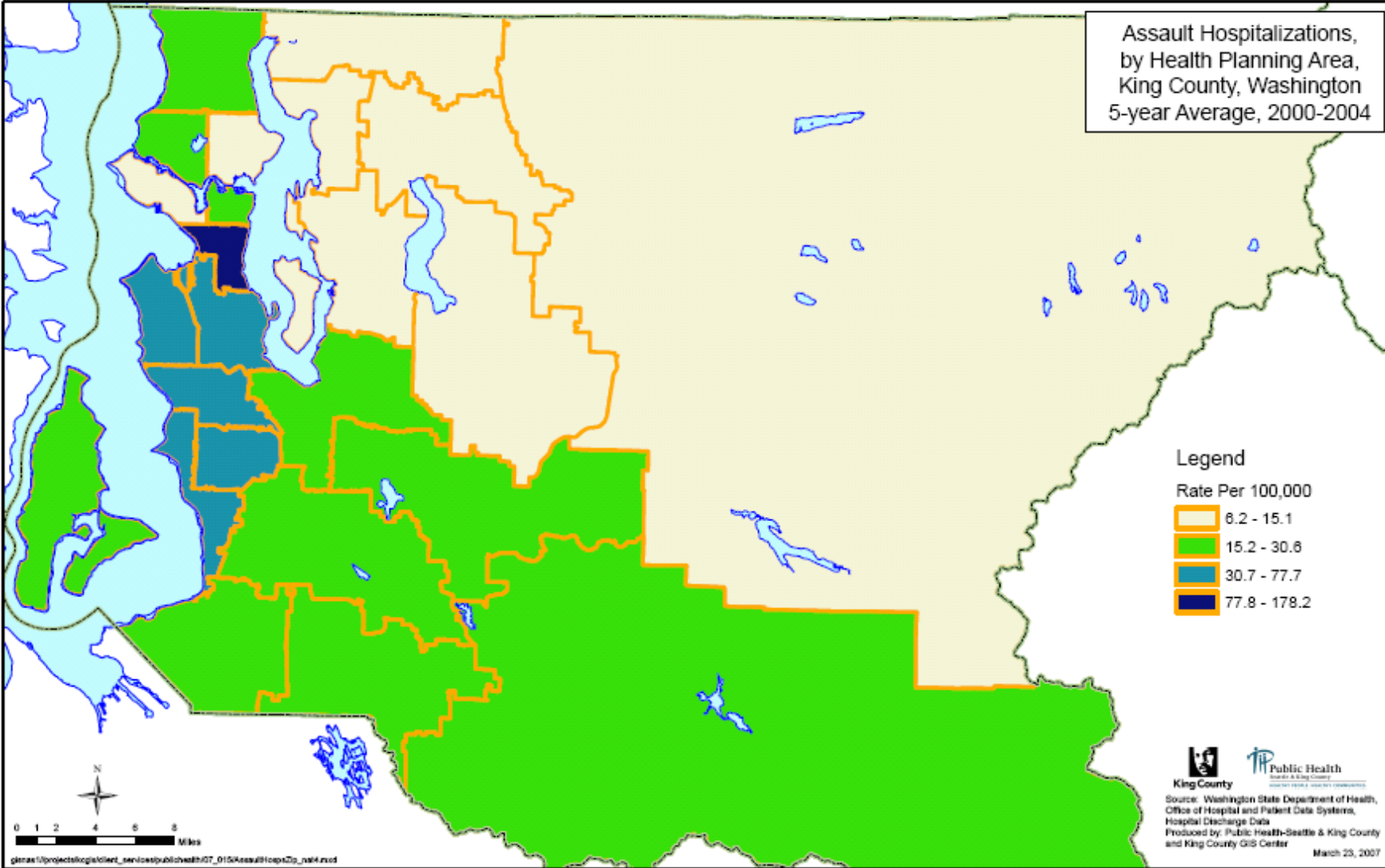


## Assault Hospitalizations by Neighborhood Poverty Level, King County, 2000 - 2004 Combined



Data Source: WA State Department of Health, Office of Hospital and Patient Data Systems,  
Hospital Discharge Data  
Produced By: Public Health - Seattle & King County, Epidemiology, Planning & Evaluation, 12/05

Assault Hospitalizations,  
by Health Planning Area,  
King County, Washington  
5-year Average, 2000-2004



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# Limitations of hospitalization data (I)

- May not include ER visits that do not result in hospital admission
- Do not include ambulatory care visits
- Cannot separate new from ongoing conditions (and thus incidence from prevalence)
- Race not included in some state datasets
- Not unduplicated in some state datasets
- Requires special statistical techniques because of lack of independence

# Limitations of hospitalization data (II)

- Hospitalizations reflect many complex factors:
  - Trends in providing health care (e.g., migration to outpatient care)
  - Severity of condition
  - Risks based on demographics (e.g., ACS conditions)
- Billing database being used for epidemiology
- Residence vs. occurrence should be clarified
- Data quality and completeness:
  - People residing in areas near state borders may get care elsewhere
  - Payor field can be inaccurate
- Access, cost of hospitalization data can be uneven from place to place

# Summary

- Hospitalizations can provide data on chronic diseases, access to care in the absence of or in addition to more direct measures
- Data can be used to track trends, residential distribution and inequities
- Other data, such as Census data and detailed intercensal population estimates, need to be available
- Temper interpretation with limitations

# Resources

- Asthma and other short reports:  
<http://www.metrokc.gov/health/datawatch/>
- Health of King County 2006  
<http://www.metrokc.gov/health/hokc/index.htm>
- Community Health Indicators  
<http://www.metrokc.gov/health/CHI/>
- JoinPoint software from National Cancer Institute (free)  
<http://srab.cancer.gov/joinpoint/>