# Impact of Child Health Insurance Expansions on Preventable Hospitalizations in California

Michael R. Cousineau, Dr.P.H.
Gregory D. Stevens, Ph.D., M.H.S.
Trevor A. Pickering, M.S.

Center for
COMMUNITY
HEALTH STUDIES

UNIVERSITY OF SOUTHERN CALIFORNIA

American Public Health Association Meeting • November 07, 2007

12:30 PM-2:00 PM at WCC, 148.

# Background

- Common chronic conditions in childhood, such as asthma or diabetes, can usually be managed adequately in primary care.

- Without primary care, children may end up requiring hospital care that may otherwise have been preventable (ACSC).

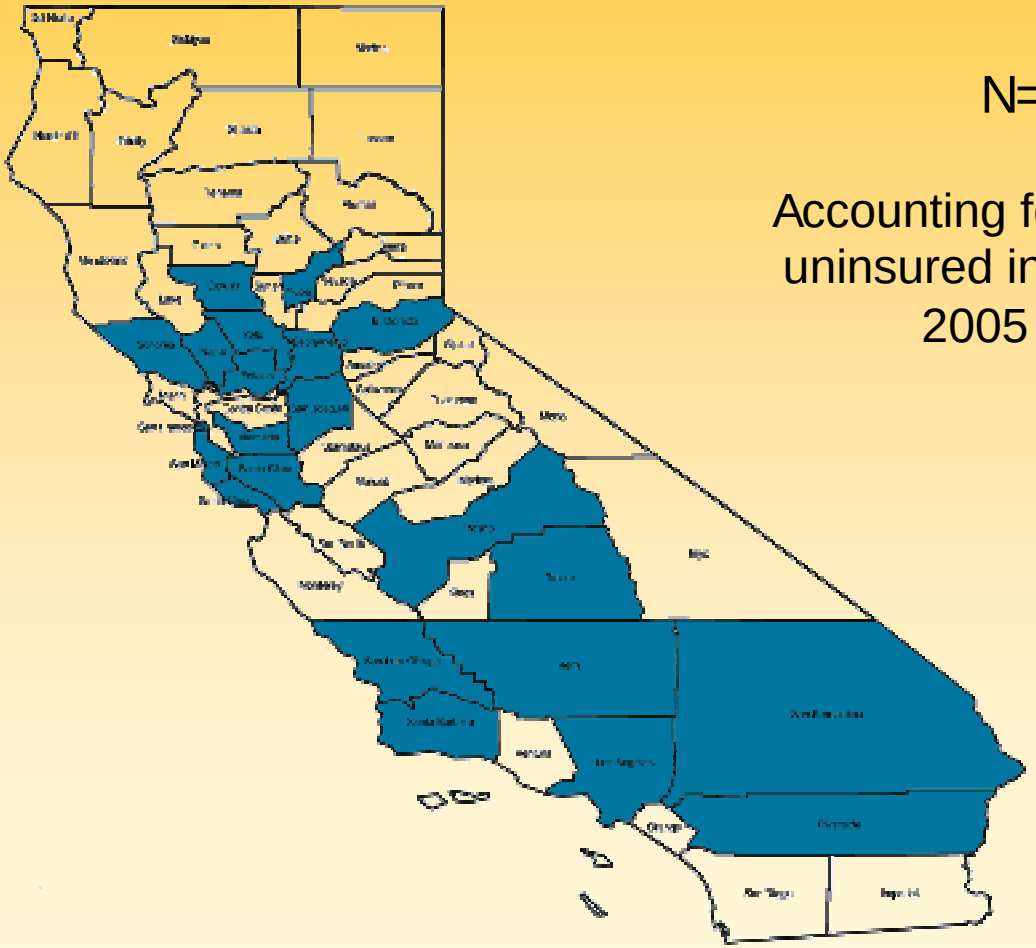
Center for COMMUNITY HEALTH STUDIES

# Healthy Kids Programs

- In 2001, there were an estimated 350,000 uninsured children in California who were *not eligible* for Medicaid or SCHIP.
- In response, 22 California counties developed local health insurance products known as "*Healthy Kids"* specifically for these children.
- The counties also substantially increased efforts to enroll children into Medicaid and SCHIP.

Center for COMMUNITY HEALTH STUDIES

# Healthy Kids Programs by 2005



N=22

Accounting for **68%** of all uninsured in state using 2005 CHIS

Center for COMMUNITY HEALTH STUDIES

# Research Questions

- Have Healthy Kids programs helped to reduce rates of preventable (or ACSC) hospitalizations among children?

Center for
COMMUNITY
HEALTH STUDIES

# Data Source

- **All** hospitalizations among children ages 0-18 years in California between 1999 and 2005 that are reported to the Office of State Health Planning and Development.

- Data are available as **quarterly** counts.

Center for COMMUNITY HEALTH STUDIES

# Independent Measure

- Analyses are limited to the **9** Healthy Kids programs that had been in operation for at least six months by the end of 2005.

- Independent measure: **county-quarters** in which a Healthy Kids program had been operational for six months or more.

Center for COMMUNITY HEALTH STUDIES

# Dependent Measure

- Preventable hospitalizations were defined by the Agency for Healthcare Research and Quality:
  - Asthma
  - Bacterial pneumonia
  - Dehydration
  - Diabetes
  - Gastroenteritis
  - Iron-deficiency anemia
  - Perforated appendix
  - Urinary tract infection
- Dependent Measure: Number of preventable hospitalizations **per 10,000** children.

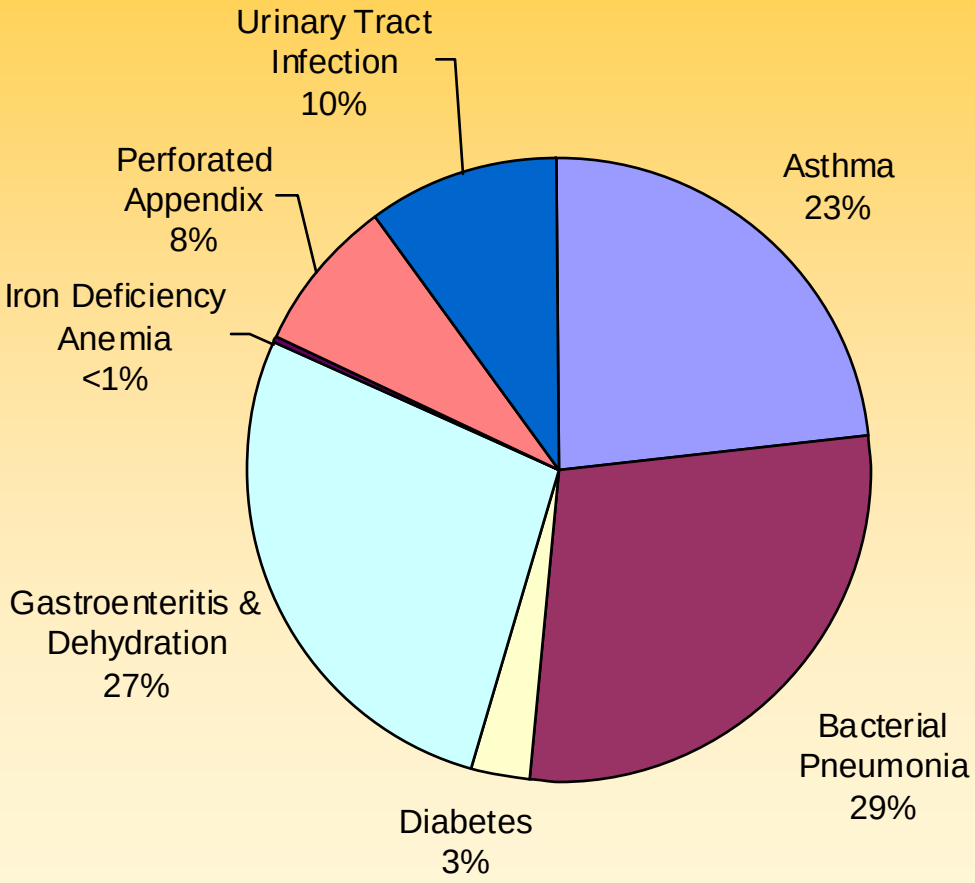
Center for COMMUNITY HEALTH STUDIES

# Analyses

- Pre-post analyses: county quarters with no HK program vs. county quarters with a HK program. Sample size = **432 county-quarters**.
- Analyses were stratified by high and low-income children (based on payer source), with high-income children serving as a comparison group.
- Poisson regression to account for non-normality.

Center for COMMUNITY HEALTH STUDIES

# Distribution of ACS Hospitalizations

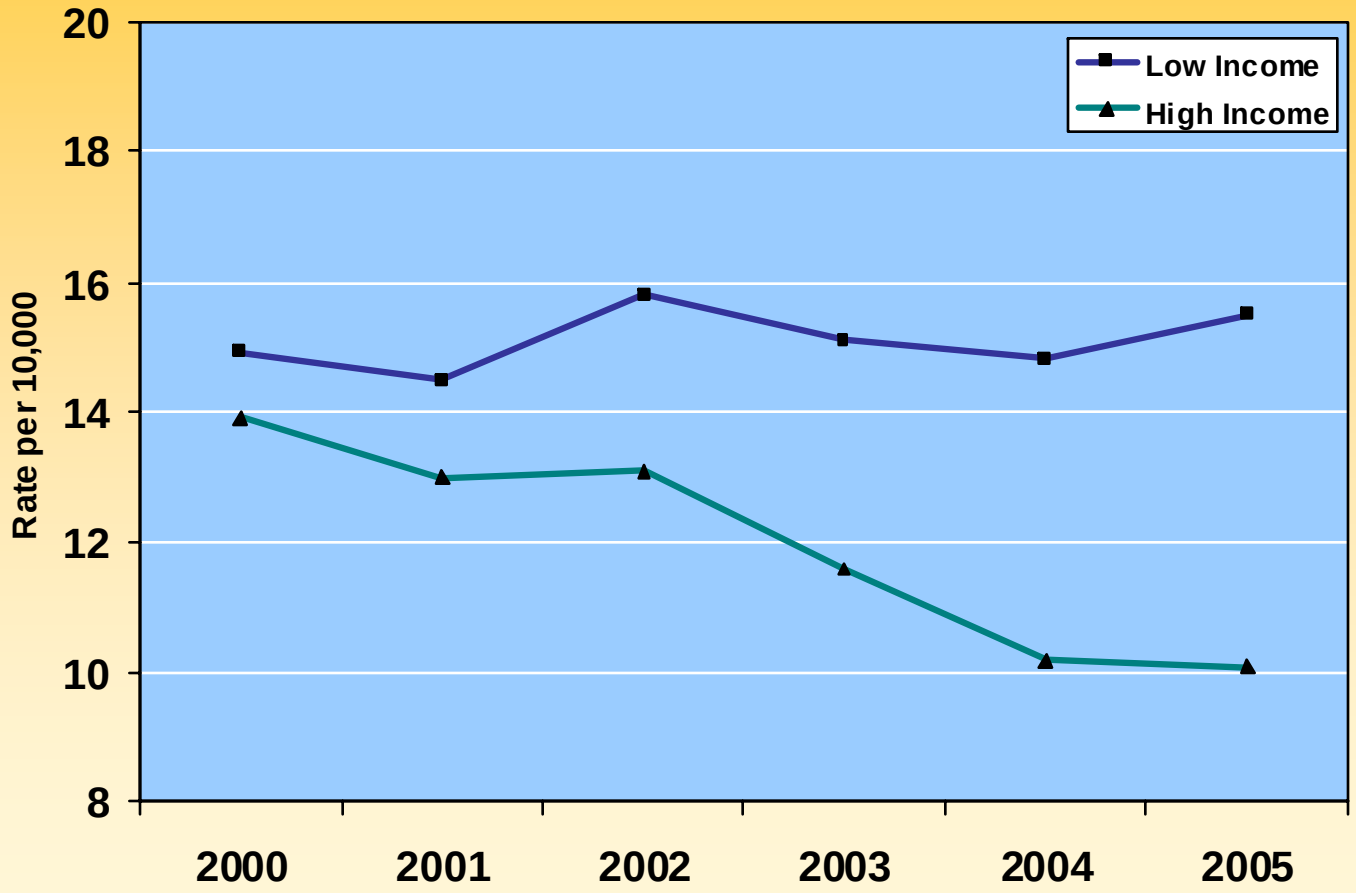



**Total Hospitalizations**

- ►5.4 Million
- ►330,000 (6.2%) Preventable

Center for COMMUNITY HEALTH STUDIES

# Trends in ACS Hospitalizations




Center for
COMMUNITY
HEALTH STUDIES

# Impacts on ACS Hospitalizations (Rate Ratios)

| *Variable* | Income Category *Low* | *P* | *High* | *P* | *P (Diff.)* |
|---|---|---|---|---|---|
| **HK Implementation*** | 0.81 | 0.0011 | 0.99 | 0.93 | 0.0334 |
| **Effect of Time**** | 1.04 | 0.0291 | 0.93 | 0.0001 | <0.0001 |
| **County+** | | <0.0001 | | <0.0001 | >0.08 |
| Kern | 1.18 | | 1.46 | | |
| Los Angeles | 1.40 | | 1.36 | | |
| Riverside | 1.49 | | 1.52 | | |
| San Bernardino | 1.69 | | 1.66 | | |
| San Francisco | 1.15 | | 1.26 | | |
| San Joaquin | 1.68 | | 1.57 | | |
| San Mateo | 0.83 | | 0.79 | | |
| Santa Clara | 1.16 | | 1.12 | | |
| Santa Cruz | - | | - | | |

Center for COMMUNITY HEALTH STUDIES

# Estimated Impact

- We estimate that approximately **6,300 ACSC** hospitalizations have been prevented by the implementation of Healthy Kids.

- If Healthy Kids had been operational during all county-quarters, we estimate that **12,500 ACSC** hospitalizations might have been prevented.

Center for
COMMUNITY
HEALTH STUDIES

# Limitations

- Not all “preventable hospitalizations” are actually inappropriate admissions.
- Some inaccuracy in denominators based on census estimations on alternate years.
- Estimated savings assumes counties are comparable pre and post Healthy Kids.

Center for
COMMUNITY
HEALTH STUDIES

# Policy Implications

- Expansion of health insurance coverage to children currently ineligible for existing public programs may have significant impacts on health and costs.

- Existing county-based programs, however, are not sustainable in the long-term and will require state investment to maintain the benefits accruing to children.

Center for
COMMUNITY
HEALTH STUDIES

# Thank You

*The California Endowment and First 5 California.*

Center for
COMMUNITY
HEALTH STUDIES