

PREVENTABLE HOSPITALIZATIONS AMONG CHILDREN IN LOS ANGELES COUNTY AND THE IMPACT OF THE CHI

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It is widely known that improving access to ambulatory care helps prevent hospitalizations for certain conditions, deemed ambulatory care sensitive conditions. These include chronic common conditions such as asthma, diabetes and ailments such as pneumonia, urinary tract infections, and gastroenteritis. The Children's Health Initiative of Greater Los Angeles (CHI) formed in order to improve children's access to primary care by increasing enrollment into Medi-Cal and Healthy Families, and expanding coverage via the locally funded Healthy Kids programs which is designed to provide coverage for low-income uninsured children ineligible for other programs.

Previous reports showed that the Children's Health Initiatives reduced the overall rate of preventable hospitalizations in low-income children.¹ In this study we ask: Did the CHI in Los Angeles similarly reduce preventable hospitalizations for low income children in Los Angeles County? We analyzed hospitalization rates overall in Los Angeles for lower income compared to higher income children. We similarly calculated rates for hospitalizations for ambulatory care sensitive conditions.

❖ Hospitalization rates in Los Angeles County are low compared to national averages.

Hospitalizations for children are infrequent events. National data show hospitalization rates of 378 hospitalizations per 10,000 children.² Hospitalizations are less common in Los Angeles County, which are on average of 200 per 10,000 children are hospitalized each year. The rate has been declining steadily as seen between 2000 and 2007, the rates changed from 209 to 199 per 10,000 (Table 1). Hospitalization rates are declining for children in high income groups while there was generally little or no change among lower income children. Overall, rates of hospitalization are approximately 10 percent higher among poor children, compared to higher income children.

Table 1: Rates of Hospitalizations (per 10,000) among children in Los Angeles County, 2000-2007

	Total Hospitalizations					
	Total		High Income		Low Income	
	Number	Rates per 10,000	Number	Rates per 10,000	Number	Rates per 10,000
2000	223231	209.1	98196	223.6	125035	199.0
2001	219515	205.0	93173	209.0	126342	202.2
2003	218850	203.8	89650	198.1	129200	208.0
2003	216916	201.8	87129	190.6	129787	210.2
2004	212494	198.3	83269	180.7	129225	211.6
2005	211059	198.6	83045	180.9	128014	211.9
2006	209343	199.4	82781	184.7	126562	210.5
2007	206040	199.1	81259	186.3	124781	208.4

❖ Preventable hospitalizations in Los Angeles County are steadily declining.

Table 2 shows the rates of preventable hospitalizations (e.g. 2000 had a rate of 14 per 10,000 and 2007 had a rate of 11 per 10,000). Overall, rates steadily declined for high income children; for low income children, we note some fluctuation in the rate. The rate was 16 per 10,000 in 2003, and dropped to 12.5 per 10,000 in 2007; four years after its initial implementation of the Children's Health Initiative of Greater Los Angeles (CHI) and the Healthy Kids program.

Table 2: Rates of Preventable Hospitalizations (per 10,000) among children in Los Angeles County, 2000-2007.

	Preventable Hospitalizations					
	Total		High Income		Low Income	
	Number	Rates per 10,000	Number	Rates per 10,000	Number	Rates per 10,000
2000	15418	14.4	6298	14.3	9120	14.5
2001	14783	13.8	5965	13.4	8818	14.1
2002	16017	14.9	6063	13.4	9954	16.0
2003	14341	13.3	5139	11.2	9202	14.9
2004	13878	13.0	4809	10.4	9069	14.9
2005	13980	13.2	4767	10.4	9213	15.3
2006	13324	12.7	4629	10.3	8695	14.5
2007	11179	10.8	3702	8.5	7477	12.5

- ❖ **Hospitalizations among children in the Healthy Kids program are low.** Data from the Healthy Kids program in Los Angeles shows that very few enrolled children are hospitalized in Los Angeles. Over the last six years of the program, fewer than 1,000 children have been hospitalized generating a total of 3,100 inpatient days (Table 3). Hospitalization rates range from a low of 32.7 per 10,000 in 2003 to nearly 69 per 10,000 in 2007.

Table 3: Hospitalizations for children enrolled in the Los Angeles Healthy Kids program, Age 0-18.

	Number of hospitalizations	Patient Days	Hospitalizations rates per 10,000
2003	4	8	32.7
2004	51	108	40.8
2005	263	848	64.4
2006	244	826	58.8
2007	255	728	68.6
2008	195	612	59.4

These rates per 10,000 are about 10% of the national average of 378 hospitalizations per 10,000. One reason for the low rate could be the method of paying for hospitalizations for Healthy Kids members under the Emergency Medi-Cal (EMC) or limited scope Medi-Cal. When families are temporarily insured under both programs, it is probable that costs are assigned to either or both programs. Therefore, resulting in under counting of the actual hospitalization experience of the Healthy Kids enrollees.

- ❖ **Rates of preventable hospitalizations have decreased after the implementation of the Healthy Kids Program in Los Angeles County.** Table 4 compares the rate of preventable hospitalizations among low and high income children in the period before and after the CHI. Rates declined for high income children from 13.9 to 11.9 per 10,000 children, and among low income children, rates dropped from 15.5 to 13.7. Although these changes are not statistically significant, the data shows a general downward trend in ACSC rates among all children.

Table 4. Los Angeles yearly ACSC hospitalization rates (per 10,000 children) overall and by income category.

<i>Data Used</i>	<u>All Children</u>			<u>High Income</u>			<u>Low Income</u>		
	<i>Pre-CHI</i>	<i>Post-CHI</i>	<i>P-Diff</i>	<i>Pre-CHI</i>	<i>Post-CHI</i>	<i>P-Diff</i>	<i>Pre-CHI</i>	<i>Post-CHI</i>	<i>P-Diff</i>
2002-2007	13.9	11.9	0.11	11.74	9.5	0.15	15.5	13.7	0.29

Uses a CHI cutoff of 2nd Qtr 2005

METHODS

In this analysis, hospital discharge data are analyzed for pediatric hospitalizations in Los Angeles County obtained from the Office of Statewide Health Planning and Development (OSHPD) for 2000 to 2007. In addition, we calculate rates of total hospitalizations, and preventable hospitalizations based on inpatient stays for ambulatory care sensitive conditions. The definitions of preventable hospitalizations were developed by the federal Agency for Healthcare Research and Quality and are based on ICD-9-CM codes for principal and secondary diagnoses. Rates of hospitalizations were developed using county-level census data. Rates are calculated based on population sizes for low income children (less than 200% of the FPL) and high income children (incomes over 200% FPL). Analyses were limited to children 18 years of age and under.

➤ CONCLUSIONS

Overall, this analysis shows that pediatric hospitalization rates are low both nationally and in Los Angeles County as in comparison to adult hospitalization rates. Pediatric hospitalization rates have been declining gradually since 2000. The downward trend shows the impact of broad changes in the health care system that is increasingly emphasizing ambulatory care and prevention over inpatient care for all children. In addition, ACSC hospitalization rates decreased in Los Angeles, for both low and high income groups in the period after the CHI was implemented (February 2003) compared to the period before implementation. While small numbers may in part account for lack of statistical significance in these comparisons, the modest decline among low income families is suggestive that the expansion of access to primary care through Healthy Kids and other public programs is extending the benefits of improved access to lower income families. Although, the rate of preventable hospitalizations is higher for low income children compared to the high income children in the county. Thus indicating that disparities remain and more work is needed to help close the gap in access to care for low income families in Los Angeles.

¹ Cousineau, M.J., Stevens, G.D., Pickering, T.A. Preventable Hospitalizations among Children in California Counties after Children's Health Insurance Expansion Initiatives. Medical Care. 2008;46:142-147.

² National Health Statistics Reports Number 5 - July 30, 2008.