

# OUTCOMES FROM CHILDREN'S HEALTH INITIATIVES IN CALIFORNIA

Submitted to

First 5 California  
The California Endowment

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*Center for*  
**COMMUNITY**  
**HEALTH STUDIES**

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*March 2007*

## **ACKNOWLEDGMENTS**

We greatly appreciate the Children Health Initiative and health plan representatives that participated in our interviews, assembled the quality indicator reports, and enthusiastically provided follow-up inquiries. We would also like to thank Kyoko Rice for facilitating the data requests and communication.

## **INTRODUCTION**

Approximately one-third of uninsured children in California do not qualify for existing federal and state health insurance programs due to higher family incomes or undocumented immigration status. Recognizing this gap in coverage for many children, a growing number of California counties have formed coalitions known as Children's Health Initiatives (CHIs) and designed new, locally-funded and operated health insurance programs known as *Healthy Kids* for such otherwise ineligible children. As of January 2007, Healthy Kids programs were in operation in 22 of California's most populous counties (including Los Angeles County), and have collectively covered more than 88,000 children.

The earliest CHIs launched their Healthy Kids programs in 2001-2002 (beginning with Santa Clara and San Francisco), and these served as models for seven other counties to launch similar programs in late 2002 through 2004. Three other CHIs initiated programs in 2005 with the remaining thirteen programs (including two regional Healthy Kids programs) beginning in 2006. As these programs spread from county to county, they were supported by an increasing number of organizations including a range of California philanthropies. Two of these agencies—the California Endowment and First 5 California—commissioned a multi-component evaluation to assess, in part, the contribution of the Healthy Kids programs to improving access to high quality health care for children.

With further expansion of Healthy Kids programs likely and major health care reform proposals garnering much attention in the California legislature, knowing whether Healthy Kids programs deliver high quality health care to children will be essential to selecting the most appropriate policy options for improving vulnerable children's access to care. We are also looking at a comparison of quality indicators and data reporting between Healthy Kids and the more established Medi-Cal and Healthy Families Programs. The purpose of this study is to implement a process for monitoring the performance of all Healthy Kids programs with regard to appropriate health care utilization and quality of care. This report describes the process of selecting the utilization and quality indicators and presents the first round of data provided by the nine CHIs that were operational for the full 2005 calendar year (Table 1). We conclude with recommendations regarding the ongoing process of monitoring utilization and quality in the Healthy Kids programs.

**Table 1.** Healthy Kids Enrollees in Nine CHIs as of December, 2005

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<b>CHI</b>	<b>Start Date (Quarter/Year)</b>	<b>Total Enrolled Children</b>
Kern	Q4, 2004	463
Los Angeles	Q3, 2003	42,613
Riverside	Q3, 2002	6,968
San Bernardino	Q3, 2003	3,220
San Francisco	Q1, 2002	4,088
San Joaquin	Q4, 2003	2,146
San Mateo	Q1, 2003	5,877
Santa Clara	Q1, 2001	13,471
Santa Cruz	Q3, 2004	1,696
<b>TOTAL</b>	--	<b>80,542</b>

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## **METHODS**

The selection of indicators used to assess utilization, access and quality was based on a balance of three aims: (1) to address priorities identified by the California Endowment and First 5 California, (2) to allow for comparisons between the Healthy Kids program and others, specifically Medi-Cal and Healthy Families, and (3) to increase the response rate by maximizing the CHI programs' collective ability to report individual indicators.

### **Selection of Quality Indicators for the Study**

An initial list of 25 indicators was compiled through investigating the literature and resources for performance evaluation, including the indicators used for Medi-Cal and Healthy Families evaluations.<sup>i</sup> The proposed list was discussed with funding agencies and

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<sup>i</sup> Forum for Health Care Quality Measurement & Reporting, Advisory Council on Health Care Quality, American Medical Association's Physician Performance Measurement Set, Centers for Medicare & Medicaid Services' Doctor's Office Quality Project, National Committee on Quality Assurance (HEDIS and other), Agency for Healthcare Research and Quality (child health toolboxes, national quality measures clearinghouse, pediatric prevention quality indicators), Child Health and

children's health experts, and was further refined. As encouraged by performance measure experts, we aimed for population-based process measures instead of medical outcomes because the latter are prone to reliability, validity, and bias problems.<sup>1, 2</sup> One drawback to using process measures is they still need calibration to determine what a percent change in measure means in terms of percent change in outcome. Process measures are also influenced by patient compliance, reimbursement, and access and typically should not be used when there is high likelihood of these confounders. The Healthy Kids reports will have to be interpreted in light of these limitations. The set of potential indicators included several indicators from the Health Employer Data and Information Set (HEDIS®).<sup>ii</sup> CHIs were asked to provide input and information on the feasibility of reporting these potential indicators.

Semi-structured interviews were completed by telephone with the health plan partners of twenty-two CHIs during May 2006. The purpose was to understand and then streamline data collection practices for health plans that service Healthy Kids, with particular emphasis on gaining a better understanding of indicators that reflect children's health care utilization, access and quality. The interviews explored the ability of the health plans to report a variety of indicators for the Healthy Kids enrollees (for more detail, see Appendix A). The interviews also investigated the plans' ability to report comparison information for Medi-Cal and Healthy Families. Information from the interviews was summarized and then reviewed by both the interviewers and respondents for accuracy (72% of respondents provided feedback). Whenever possible, additional respondents from the county were contacted to fill gaps of knowledge. The feasibility results were taken back to the funding agencies and a subset of indicators was selected for CHI reports.

## **Quality Reports**

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Disability Prevention Program, Asthma Quality Improvement Projects in California, National Developmental Screening Projects, and the Medicaid literature.

<sup>ii</sup> HEDIS is a registered trademark of the National Committee for Quality Assurance (NCQA). HEDIS measures used by Medi-Cal Managed Care are audited by certified NCQA auditors. There was no audit for this Healthy Kids evaluation.

Seven required indicators and three test indicators were selected for inclusion in the 2006 year end report (Table 2). The required indicators were judged to be the most feasible for CHIs to report, while the test indicators represented areas of interest, but questionable feasibility. The purpose of including test indicators was to collect information that would guide the next round of evaluations.

**Table 2.** Evaluation Indicators

**REQUIRED INDICATORS - UTILIZATION**

Indicator	Eligible Population	Measurement
WELL-CHILD VISIT IN PAST YEAR: CHILDREN AGES 3-6 YEARS	Children 3-6 years of age as of December 31, 2005, enrolled as of December 31, 2005, who have been enrolled in the health plan for 1 year with no more than a 45 day gap.	Follow the HEDIS 2006 hybrid specification* for <i>Well Child Visits in the Third, Fourth, Fifth, and Sixth Years of Life</i> . *but report only two categories: all (6+ visits) and none (0)
WELL-ADOLESCENT VISIT IN PAST YEAR: ADOLESCENTS AGES 12-21 YEARS	Adolescents 12-21 years of age as of December 31, 2005, enrolled as of December 31, 2005, who have been enrolled in the health plan for 1 year with no more than a 45 day gap.	Follow the HEDIS 2006 hybrid specification for <i>Adolescent Well-Care Visits</i> .
EMERGENCY DEPARTMENT VISITS IN PAST YEAR: AGES 0-19 YEARS	Children 0-5 and 6-18 years of age as of December 31, 2005, enrolled as of December 31, 2005, who have been enrolled in the health plan for 1 year with no more than a 45 day gap.	For the numerator, count the number of children in the age group with at least one emergency room visit from January 1, 2005 through December 31, 2005. The denominator is equal to the eligible population.

**REQUIRED INDICATORS - ACCESS**

Indicator	Eligible Population	Measurement
PRIMARY CARE PHYSICIAN VISIT	Children 1-6 years of age as of December 31, 2005, enrolled as of December 31, 2005, who have been enrolled in the health plan for 1 year with no more than a 45 day gap, and children 7-19 years of age as of December 31, 2005, enrolled on December 31, 2005, who have been enrolled in the health plan for 2 years with no more than a 45 day gap in each year of enrollment.	Follow the HEDIS 2006 administrative specification for <i>Children and Adolescents' Access to Primary Care Practitioners</i> .
DENTAL VISIT IN PAST YEAR: CHILDREN AGES 2-18 YEARS	Children 2-18 years of age as of December 31, 2005, enrolled as of December 31, 2005, who have been enrolled in the dental health plan for 1 year with no more than a 45 day gap	Follow the HEDIS 2006 administrative specification for <i>Annual Dental Visit</i> .

REQUIRED INDICATORS - QUALITY

Indicator	Eligible Population	Measurement
IMMUNIZATIONS, COMBINATION 2	Children 2 years of age as of December 31, 2005, enrolled as of December 31, 2005, who have been enrolled in the health plan for 1 year prior to second birthday with no more than a 45 day gap in that period.	Follow the HEDIS 2006 hybrid specification for <i>Childhood Immunization Status, Combination 2</i> .
ASTHMA MEDICATION: CHILDREN AGES 5-17* YEARS	Children 5-9 and 10-17 years as of December 31, 2005, enrolled as of December 31, 2005, who have been enrolled in the health plan for the entire report year and the year prior with no more than a 45 day gap in each year. Children must additionally meet one of four event/diagnosis criteria (refer to HEDIS 2006 specifications).	Follow the HEDIS 2006 administrative specification for <i>Use of Appropriate Medications for People with Asthma</i> . *CHIs were asked to report 0-5 for Healthy Kids as well – children 0 to 5 as of December 31, 2005 enrolled in Healthy Kids as of December 31, 2005.

TEST INDICATORS

Indicator	Eligible Population	Measurement
WELL-BABY VISITS IN FIRST 15 MONTHS OF LIFE	Children 15 months of age as of December 31, 2005, enrolled on the day they turn 15 months old*, and who have been enrolled in the health plan from age 31 days through 15 months of age with no more than a 45 day gap.  *day turning 15 months old is equal to 1 <sup>st</sup> birthday plus 90 days	Follow the HEDIS 2006 hybrid specification for <i>Well Child Visits in the First 15 Months of Life</i> .
ASTHMA PREVALENCE: CHILDREN AGES 3-18 YEARS	Children 3-5 years of age or 6-18 years of age as of December 31, 2005, enrolled in the health plan as of December 31, 2005.	Use administrative data from the health plan (claims or encounter data containing ICD-9 codes). The denominator is equal to the eligible population. For the numerator, count the number of children with visits between January 1, 2005 through December 31, 2005 with a diagnostic code of 493.X
DENTAL SCREENING IN FIRST YEAR	Use two subgroups: children 1 year of age as of December 31, 2005, enrolled in the dental health plan for 6 continuous months before their first birthday AND children 2 years of age as of December 31, 2005, enrolled in the dental health plan for 12 continuous months before their second birthday.	Use administrative data from the dental health plan. The denominator is equal to the eligible population in each subgroup. For the numerator of the first subgroup: count the number of children with dental visits by 12 months of age. For the numerator of the second subgroup: count the number of children with a visit after their first birthday and by their second birthday.

 HEDIS Measures

The report form and detailed instructions were sent to the CHIs to complete by December 15, 2006. CHIs with active enrollment in 2005, the data reporting year, were asked to respond. In order to answer questions pertaining to the report, a conference call took place on October 19, 2006 and all of the targeted CHIs participated.

For most of the indicators, there was a continuous enrollment eligibility requirement ranging from six months to two years enrollment before a particular date or event. Depending on start dates and the pace of member enrollment, CHIs may not have met eligibility requirements for all of the measures and were asked to explain this with respect to criteria outlined in the data tables. Furthermore, because of the lack of reliability with small eligible populations, we did not report rates for CHIs that had fewer than 30 eligible members for a given indicator. We provide 95% confidence intervals for rates calculated from eligible populations with between 30-99 members.

In order to provide comparison markers that visually depict achievement levels by program, the Healthy Kids indicator results are charted alongside lines representing 2005 averages for California's SCHIP called Healthy Families<sup>3</sup>, Medi-Cal Managed Care<sup>4</sup>, and/or national data for Medicaid.<sup>5,6</sup>

## **RESULTS**

Twelve CHIs responded to the request for reports, but three of those (a combined Santa Barbara/San Luis Obispo and Alameda) were not in operation for the full 2005 reporting year and did not have sufficient eligibility to report on any of the Healthy Kids Indicators. The remaining nine responders represent all CHIs eligible to report data for 2005. Eight reports were submitted. Inland Empire Health Plan, serving both the San Bernardino and Riverside CHIs, provided one report that combined the data for both counties.

### **Organization of Findings**

We present the results in three sections: (1) charts for each of the required indicators comparing Healthy Kids results for the nine CHIs (Riverside and San Bernardino combined), (2) a comparison of the seven required indicators for Healthy Kids with data for Medi-Cal and Healthy Families using a weighted mean for all CHI's that reported (data tables for each

*Outcomes from the Children's Health Initiatives in California*

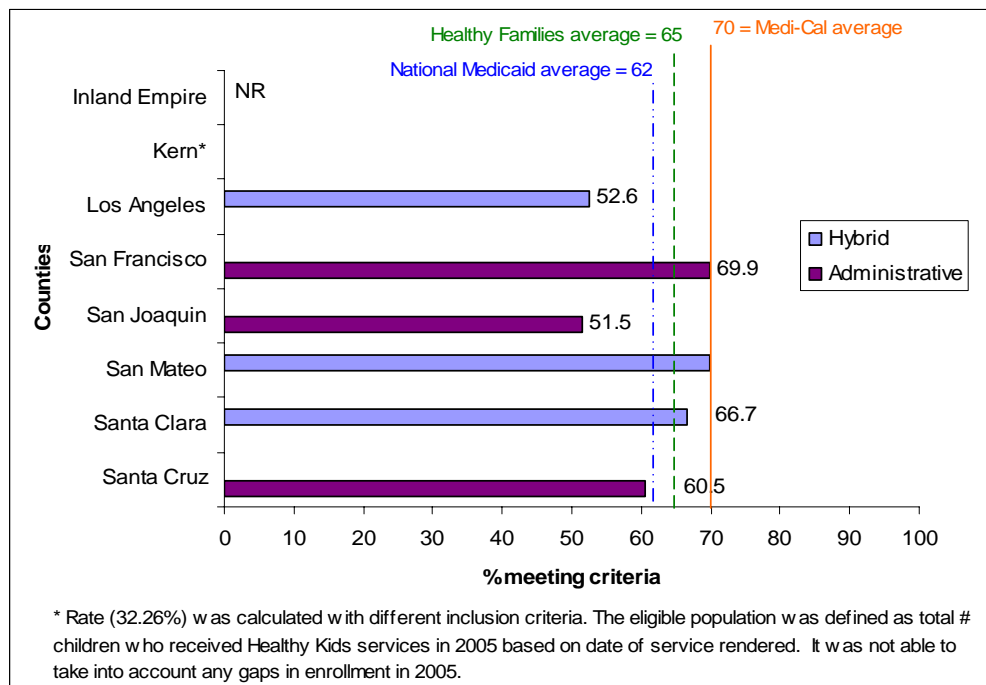
individual CHI are provided in Appendix C), and (3) a summary of information from the test indicators.

**Results by Indicator: Comparison of CHI Outcomes for Healthy Kids**

The following table identifies each CHI that is represented in this report along with the name used to represent the CHI in the following charts.

**Table 3.** CHIs Operational in 2005: Names Used for Results Charts

CHART NAME	CHIs REPRESENTED
Inland Empire	San Bernardino, Riverside
Kern	Kern
Los Angeles	Los Angeles
San Francisco	San Francisco
San Joaquin	San Joaquin
San Mateo	San Mateo
Santa Clara	Santa Clara
Santa Cruz	Santa Cruz (Monterrey is included in Medi-Cal and Healthy Families data)



**Figure 1.** Healthy Kids, 2005 HEDIS Well-Child Visits, by County: Ages 3-6 years

Results by Indicator: Comparison of CHI Outcomes for Healthy Kids

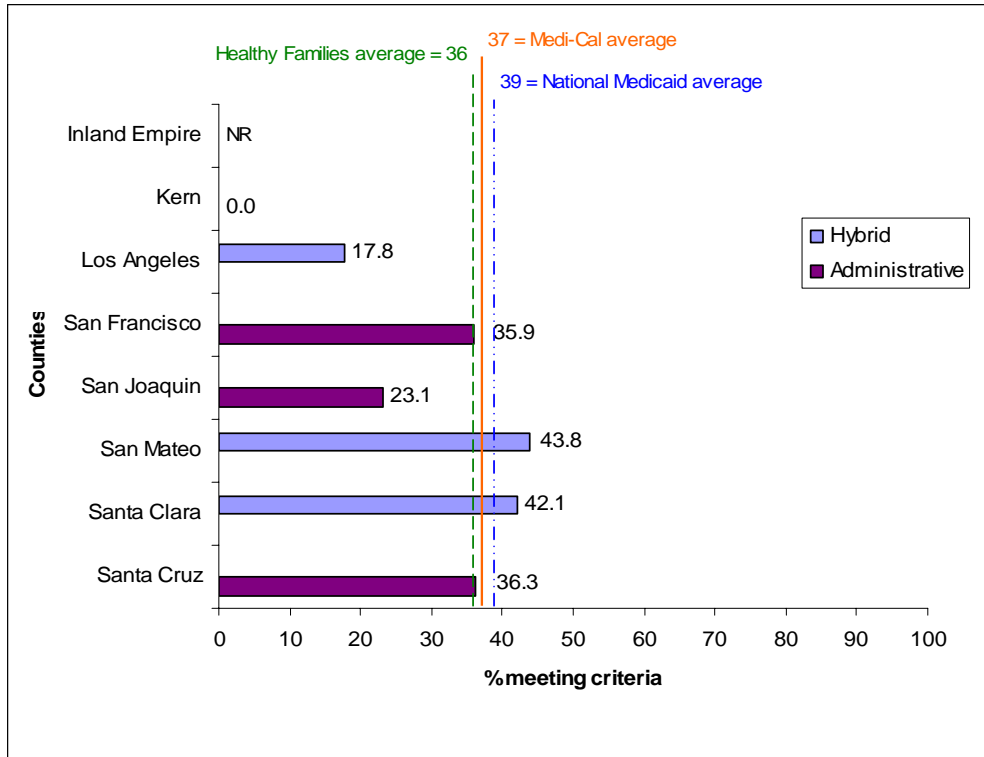


Figure 2. Healthy Kids, 2005 HEDIS Well-Adolescent Visit, by County: Ages 12-21 years

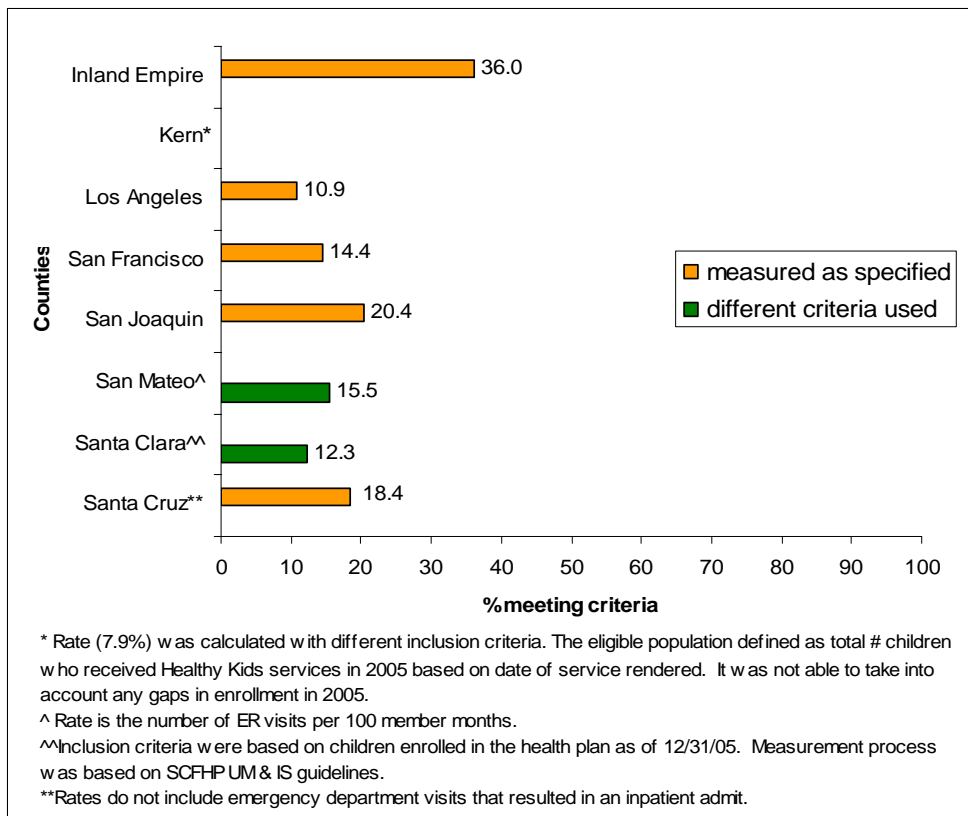


Figure 3a. Healthy Kids, 2005 Emergency Department Visit in Past Year, by County: Ages 0-5 years

Results by Indicator: Comparison of CHI Outcomes for Healthy Kids

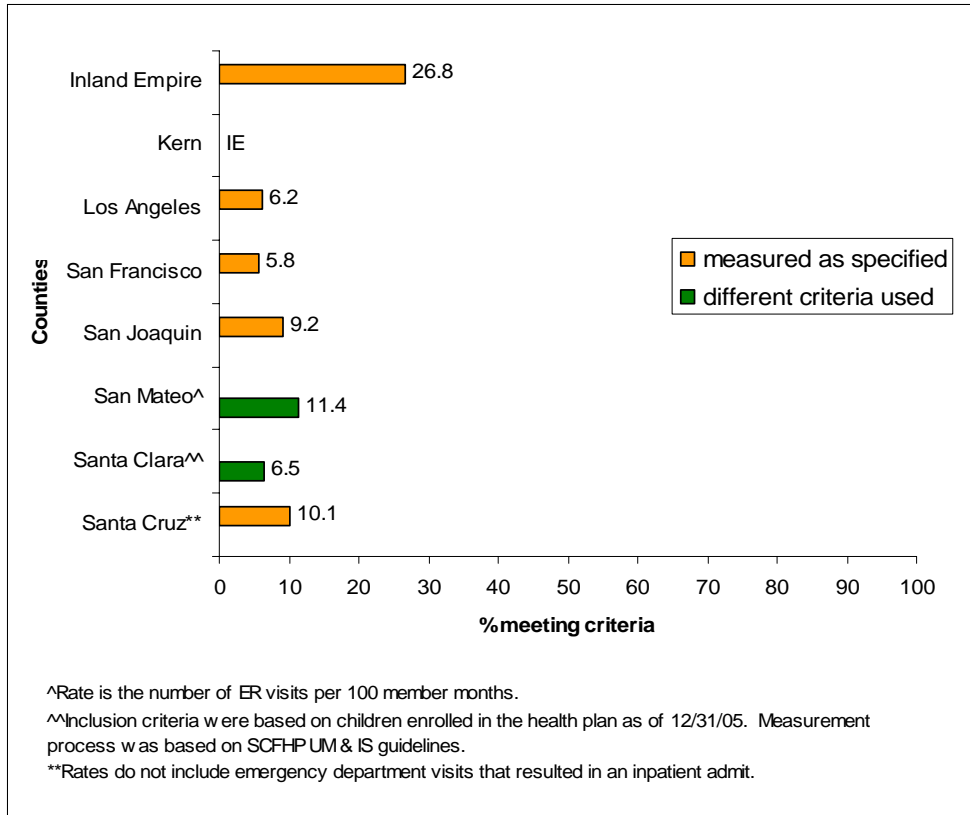


Figure 3b. Healthy Kids, 2005 Emergency Dept Visit in Past Year, by County: Ages 6-18 years

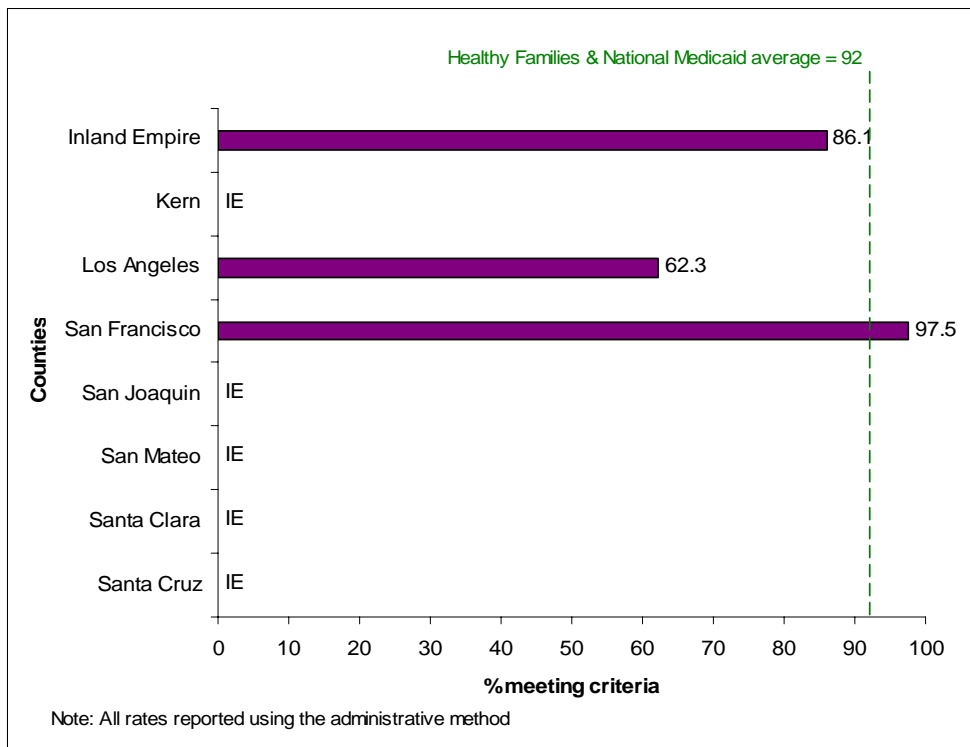


Figure 4a. Healthy Kids, 2005 Primary Care Visit, by County: Ages 12-24 months

Results by Indicator: Comparison of CHI Outcomes for Healthy Kids

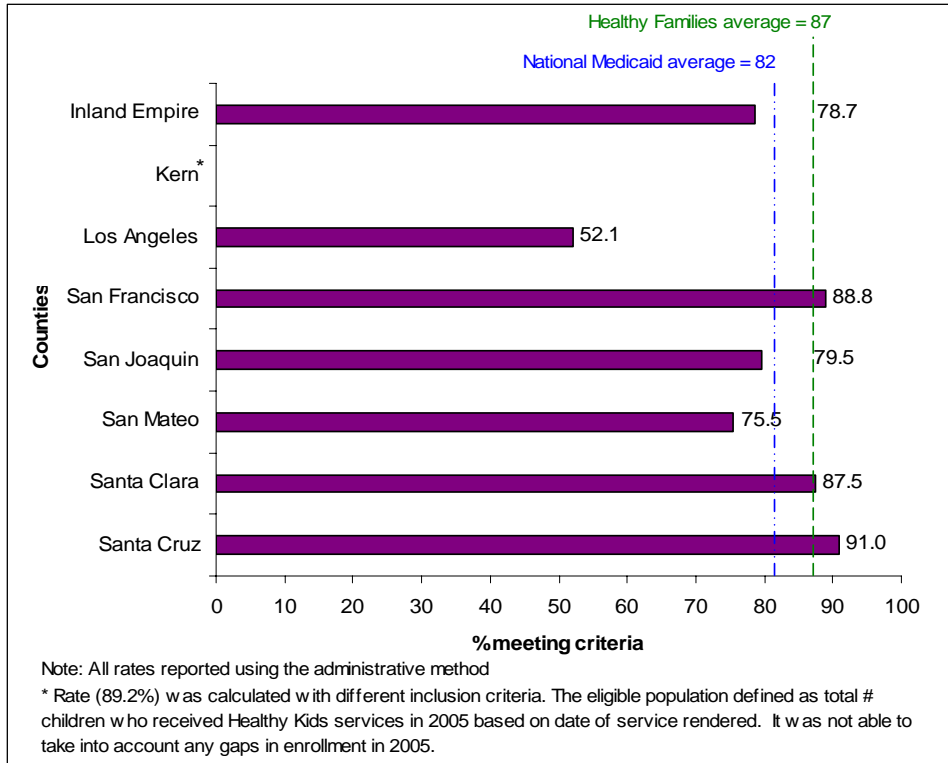


Figure 4b. Healthy Kids, 2005 Primary Care Visit, by County: Ages 25 months-6 years

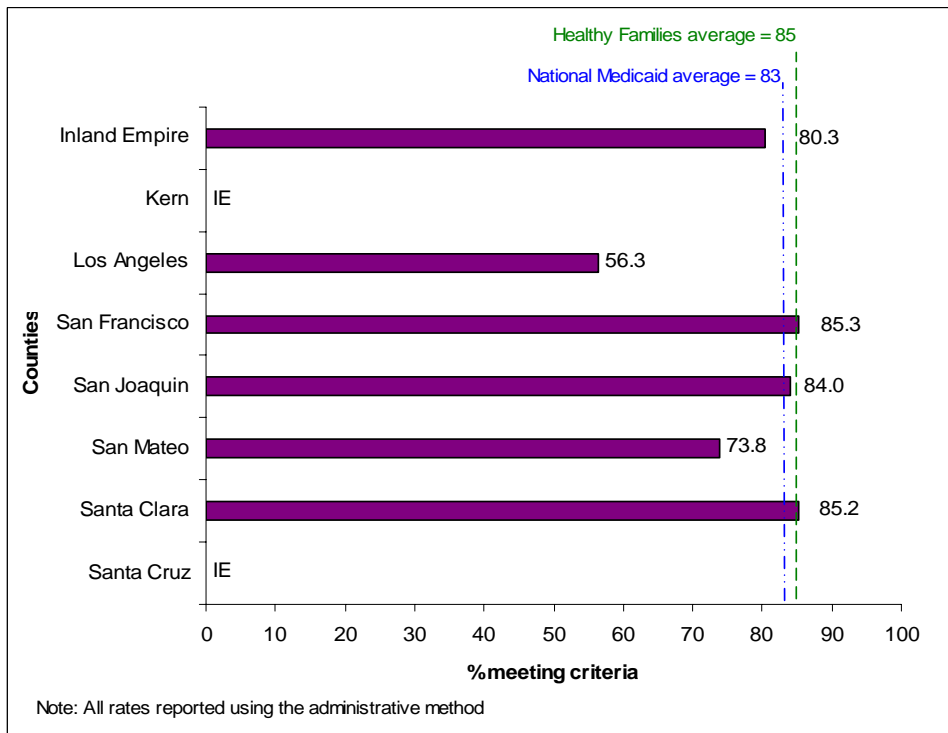


Figure 4c. Healthy Kids, 2005 Primary Care Visit, by County: Ages 7-11 years

Results by Indicator: Comparison of CHI Outcomes for Healthy Kids

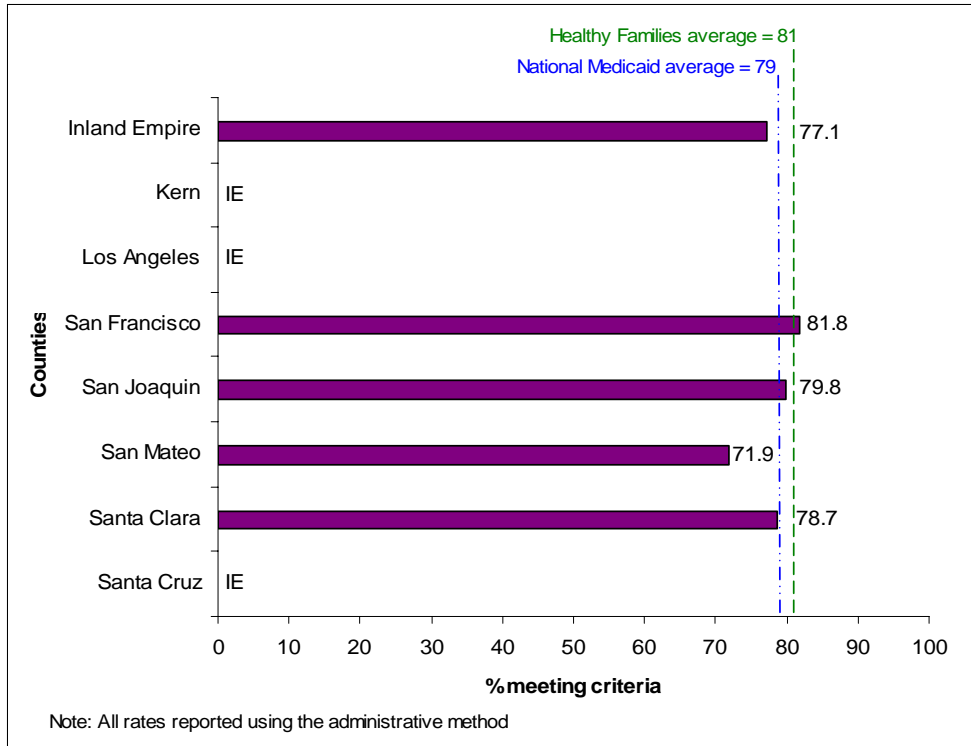


Figure 4d. Healthy Kids, 2005 Primary Care Visit, by County: Ages 12-19 years

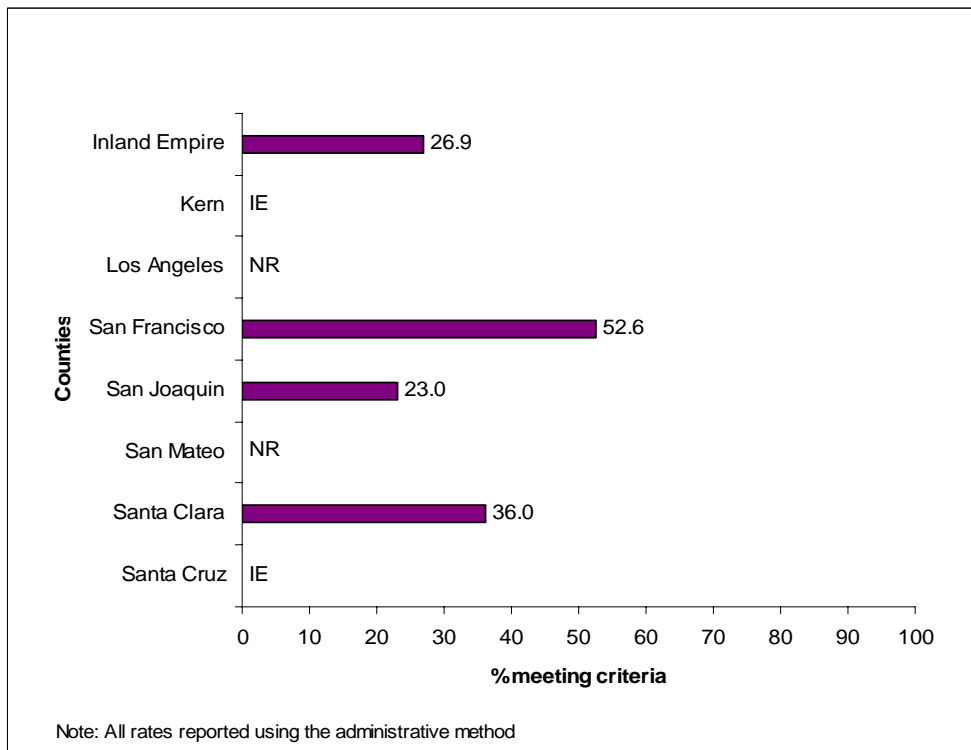


Figure 5a. Healthy Kids, 2005 Dental Visit in the Past Year, by County: Ages 2-3 years

Results by Indicator: Comparison of CHI Outcomes for Healthy Kids

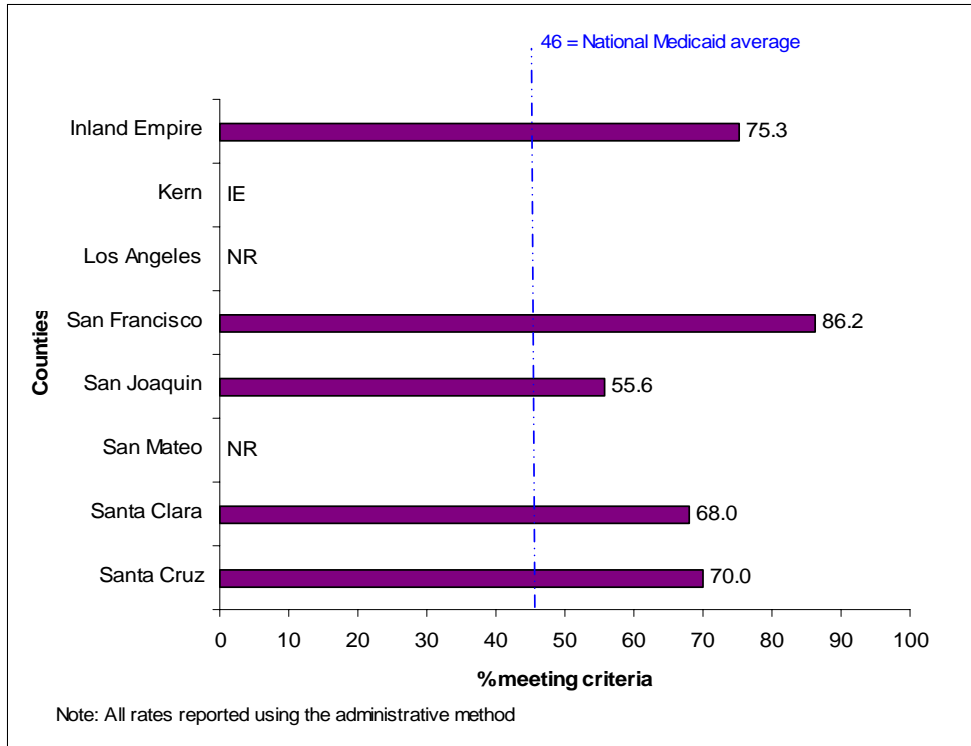


Figure 5b. Healthy Kids, 2005 Dental Visit in the Past Year, by County: Ages 4-6 years

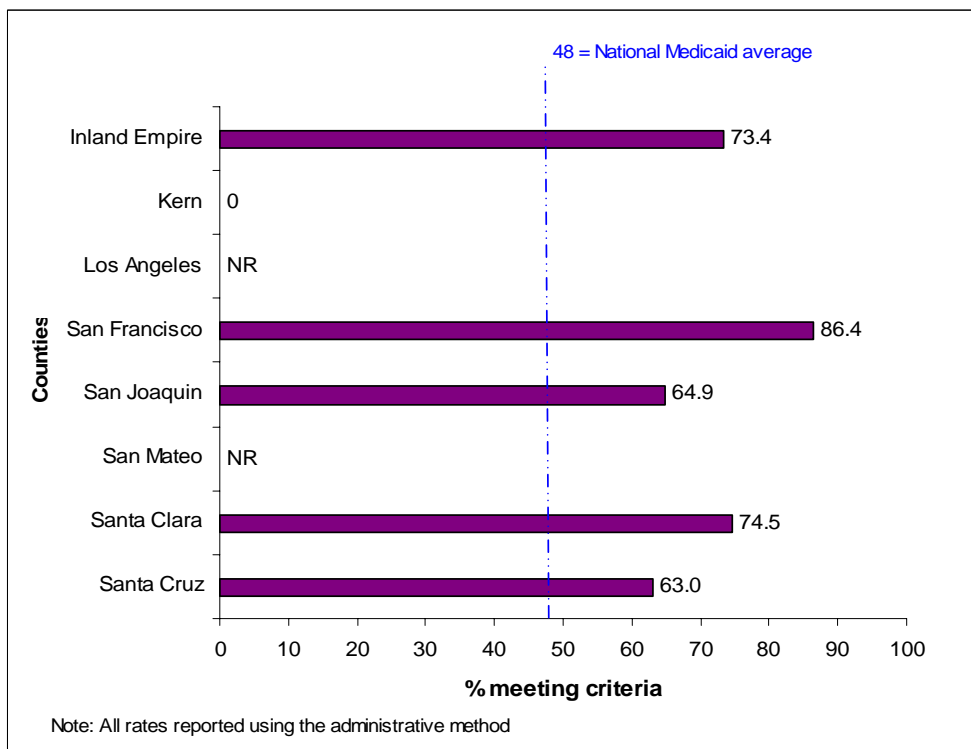


Figure 5c. Healthy Kids, 2005 Dental Visit in the Past Year, by County: Ages 7-10 years

Results by Indicator: Comparison of CHI Outcomes for Healthy Kids

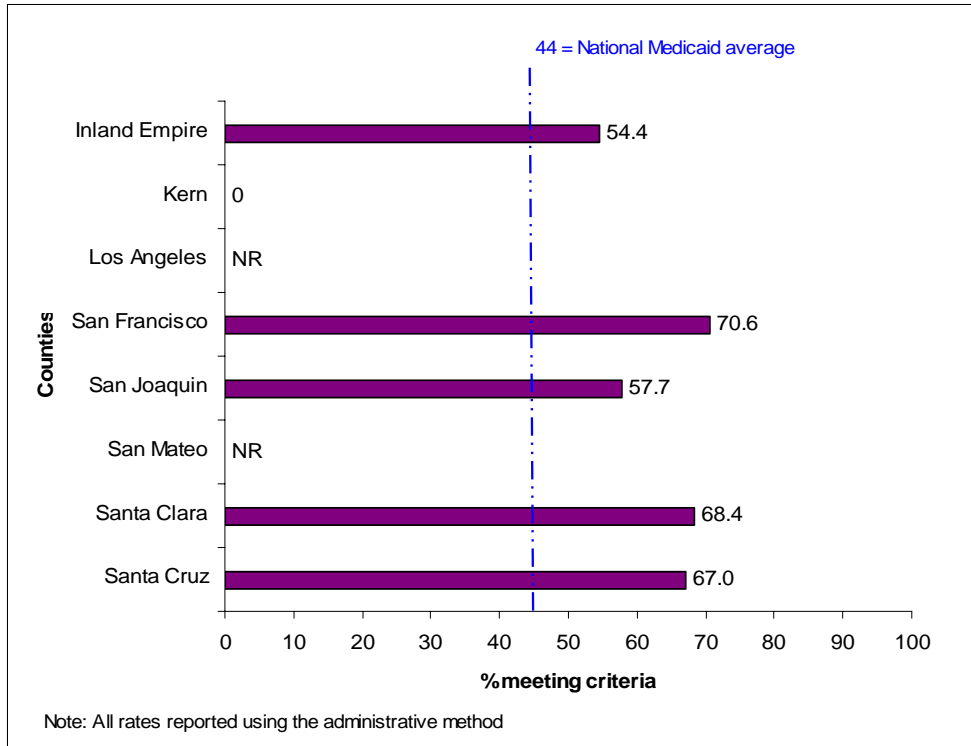


Figure 5d. Healthy Kids, 2005 Dental Visit in the Past Year, by County: Ages 11-14 years

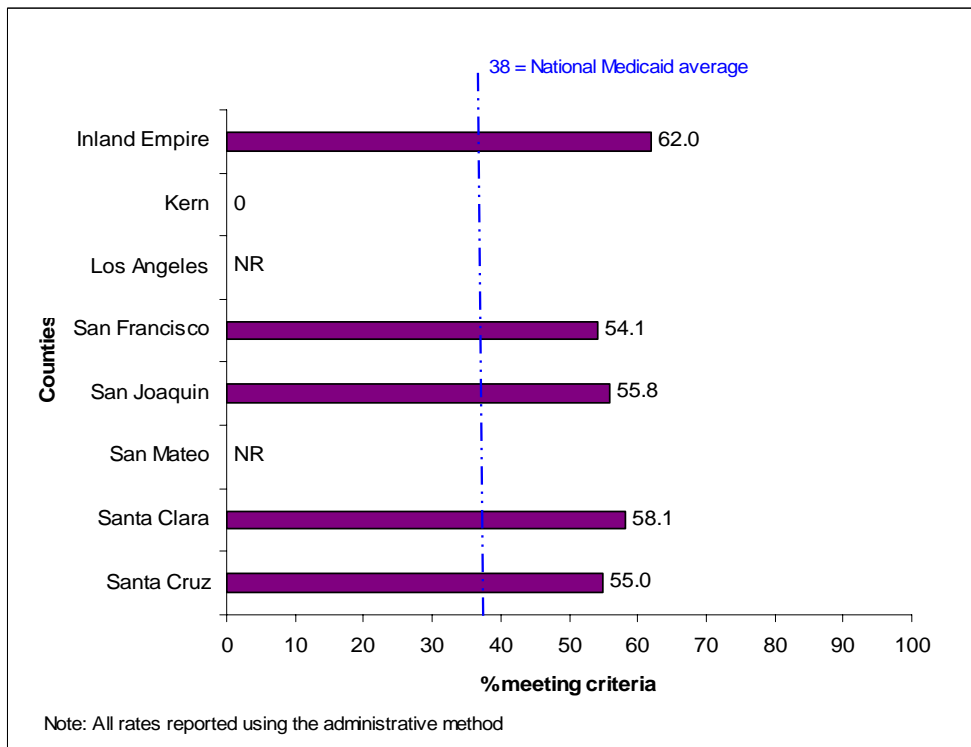


Figure 5e. Healthy Kids, 2005 Dental Visit in the Past Year, by County: Ages 15-18 years

Results by Indicator: Comparison of CHI Outcomes for Healthy Kids

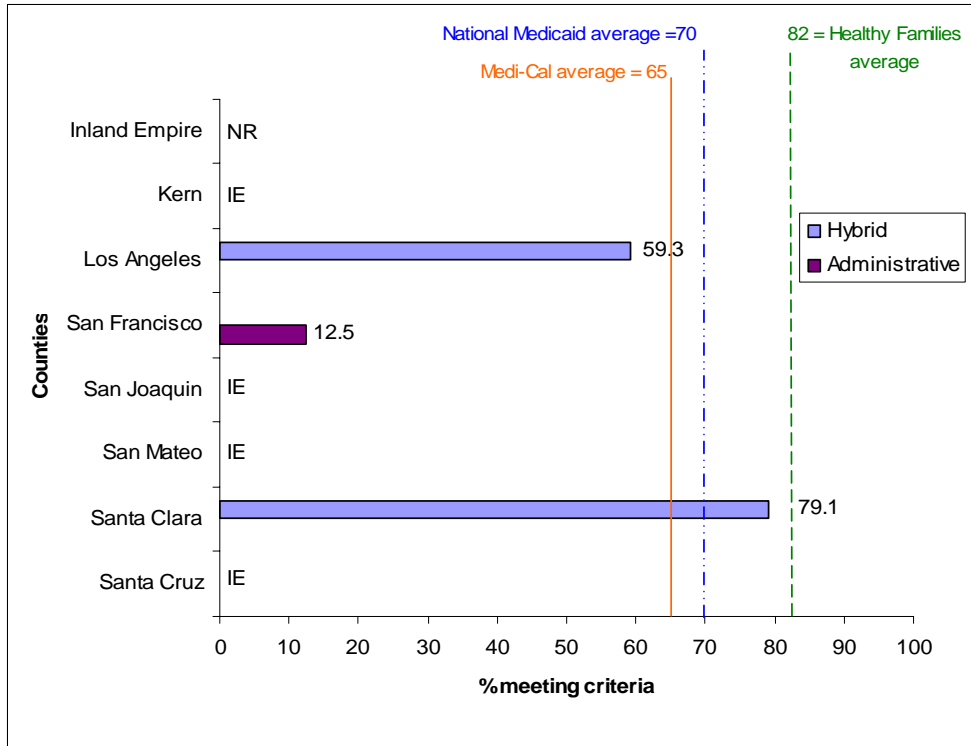


Figure 6. Healthy Kids, HEDIS 2005 Immunizations, Combination 2, by County

**Comparing Healthy Kids, Medi-Cal, and Healthy Families Data**

Table 4 presents statistics that summarize the experience of the nine CHIs that were operational in 2005 and takes into account variations in membership across them.

**Table 4.** Comparison of Programs\* (by weighted averages)

	Healthy Kids		Medi-Cal		Healthy Families	
	Rate*	# CHIs	Rate	# CHIs	Rate	# CHIs
1. well-child visit in past year: children ages 3-6 years	a: 62.25%	a: 3	a: 61.69%	a: 3	a: 52.10%	a: 3
	h: 57.30%	h: 3	h: 80.01%	h: 6	h: 78.96%	h: 5
2. well-adolescent visit in past year: adolescents ages 12-21 years	a: 28.12%	a: 3	a: 32.38%	a: 2	a: 23.72%	a: 3
	h: 25.58%	h: 3	h: 40.55%	h: 7	h: 52.18%	h: 5
3. emergency department visits in past year: ages 0-5 years	15.51%	7	38.00%	6	27.01%	6
	ages 6-18 years 9.40%	7	24.55%	6	17.77%	6
4. primary care physician visit	ages 12-24 months 69.31%	3	92.28%	6	95.31%	6
	ages 25 mo-6 years 66.85%	7	82.57%	6	87.35%	7
	ages 7-11 years 68.17%	6	80.17%	6	85.37%	7
	ages 12-19 years 77.51%	5	75.73%	6	69.69%	7
5. dental visit in past year: children	ages 2-3 years 49.49%	4	NC	0	NC	0
	ages 4-6 years 71.80%	5	NC	0	NC	0
	ages 7-10 years 74.19%	5	NC	0	NC	0
	ages 11-14 years 63.08%	5	NC	0	NC	0
	ages 15-18 years 58.56%	5	NC	0	NC	0
6. immunizations combination 2	a: 63.65%	a: 2	a: 17.36%	a: 1	a: 13.27%	a: 2
	h: 59.3%	h: 1	h: 77.12%	h: 7	h: 84.24%	h: 5
7. asthma medication: children	ages 0-5 years NC	0	--	--	--	--
	ages 5-9 years NC	0	84.91%	7	87.90%	3
	ages 10-17 years NC	0	84.34%	7	79.48%	2

\*Only CHIs that reported ≥30 beneficiaries in their eligible population were included in this analysis

NC = Not Calculated

a = used administrative method

h = used hybrid method

**Summary of Test Indicator Results**

Results were requested for three test indicators (see Table 2 for specifications).

**Test Indicator #1. WELL-BABY VISITS IN FIRST 15 MONTHS OF LIFE**

The CHIs and their respective health plan partners were concerned that they would have insufficient populations meeting eligibility criteria to report this measure. We found that to be true for six of the eight health plans responding. The remaining 2 plans (representing 3 CHIs) did not collect this information. One explained they only calculate hybrid rates every other year when they are able to conduct audits and did not want to report administrative data as it would misrepresent performance.

**Table 5. HEALTHY KIDS 2005 - Well-Baby Visits in First 15 Months of Life**

	Inland Empire	Kern	Los Angeles	San Francisco	San Joaquin	San Mateo	Santa Clara	Santa Cruz
0 visits	NR	IE	IE	IE	IE	NR	IE	IE
6+ visits	NR	IE	IE	IE	IE	NR	IE	IE

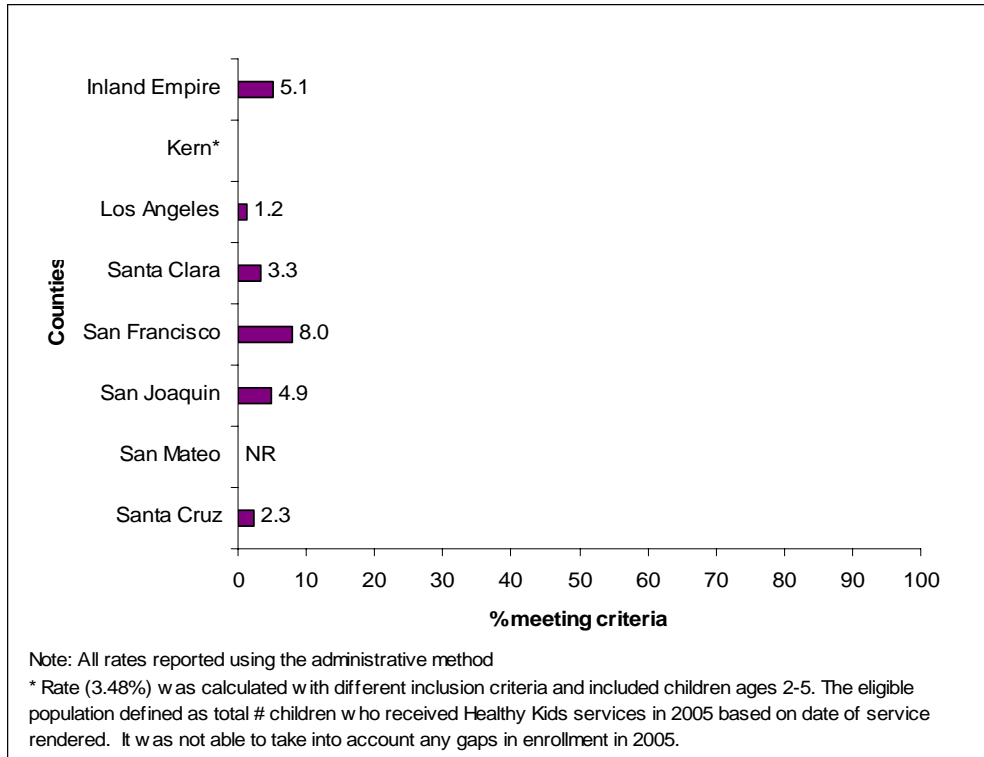
IE=insufficient eligibility, population <30.

NR=not reported

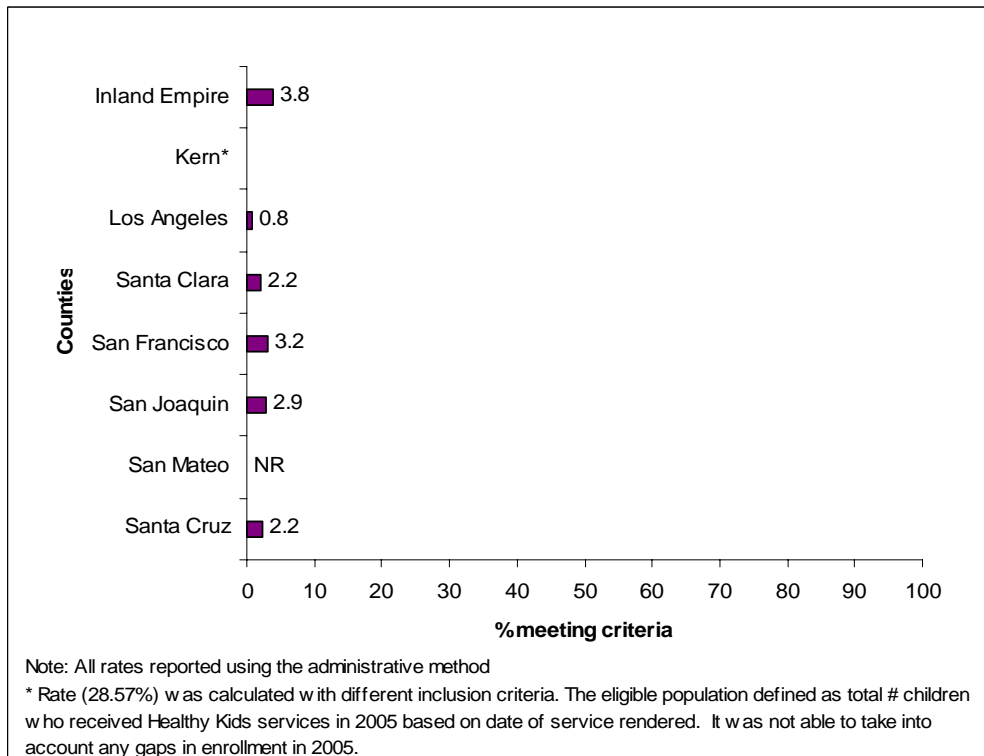
**Test Indicator #2. ASTHMA PREVALENCE: CHILDREN AGES 3-18 YEARS**

The CHIs were concerned that they would have insufficient populations to report the asthma quality indicator, particularly for the younger age groups. In order to get a rough estimate of the total possible number of children receiving asthma treatment, we requested this test measure of prevalence. The measure is more inclusive than the algorithm used by HEDIS to identify moderate to severe asthma. We found that among the six health plans responding, asthma prevalence ranged from 1.2 to 8% in the Healthy Kids members 3-5 years old and from 0.8 to 3.8% in members 6-18 years old (Figure 2). In 2005, 16.1% of children, 1-17 years old, were reported to have ever been diagnosed with asthma (i.e., lifetime prevalence).<sup>7</sup> The cases identified through administrative data within a 12 month period by the health plans represent 5-50% of lifetime prevalence. The prevalence appears higher in the younger age groups, though one would expect that a smaller proportion of these children would meet qualifications for moderate to severe chronic asthma.

Results of Test Indicators



**Figure 7a.** Healthy Kids, 2005 Asthma Prevalence, by County: Ages 3-5 years



**Figure 7b.** Healthy Kids, 2005 Asthma Prevalence, by County: Ages 6-18 years

Test Indicator #3. DENTAL SCREENING IN FIRST YEAR

The American Academy of Pediatric Dentistry recommends that “An initial oral evaluation visit should occur within 6 months of the eruption of the first primary tooth and no later than 12 months of age.” The test indicator expanded on this recommendation to measure visits that occurred following the first birthday and before the second. As with the required dental indicator, we encountered some problems with CHIs accessing dental information and some with populations too small to calculate rates. For the remaining, we found that for two CHIs, approximately 8% of children had dentals visits by their first birthday (Table 6). The number with visits in the second year was highest in San Francisco (almost half) and more moderate in Santa Clara (just over one-eighth). The Inland Empire Health Plan, representing San Bernardino and Riverside CHIs, reported rates of 0% for these age groups, with utilization increasing in children 2 and older (range 27-75%, refer to Appendix C).

**Table 6.** HEALTHY KIDS 2005 - Dental Screening in the First Year

	Inland Empire	Kern	Los Angeles	San Francisco	San Joaquin	San Mateo	Santa Clara	Central Coast
Ages 0-12m	0.0	0.0	IE	8.1	IE	NR	8.0	NR
Ages 13-24m	0.0	0.0	NR	48.5	IE	NR	13.8	NR

IE = Insufficient Eligibility, if population <30

NR = Not Reported

## **DISCUSSION**

CHIs throughout California have recognized the importance of health insurance for improving children's health care access and health outcomes.<sup>8</sup> The Healthy Kids programs conduct their own local quality monitoring programs, and for the first time, those in operation during 2005 participated in reporting common indicators of utilization, access, and quality. Likewise, this is the first time such measures have been collected to assess the quality of expansion coverage offered at the county-level for children who do not qualify for other state programs.

Our ability to summarize information is impacted by two factors: 1) different capacity levels of health plans to analyze utilization data and report the requested measures and 2) availability of data submitted to us from the CHIs. Albeit one of the aims of this evaluation being to compare Healthy Kids outcomes to other state insurance programs (Medi-Cal and Healthy Families), our ability is similarly impacted by the CHIs capacity to report data to us.

For each indicator we delineated a preferred method for reporting (i.e., administrative or hybrid). However, CHIs were given the option to report an alternative specification of the measure if they could not report the preferred one. The alternative specification may have been calculated using different inclusion criteria, measurement criteria, or with different eligibility criteria. With each alternative rate reported, CHIs were asked to describe how the rate deviated from the preferred method. Table 7 summarizes the ability of the CHIs to report the preferred method for each of the required and test indicators. Table 8 provides detail on the ability of each CHI to report data for the three insurance programs of interest: Healthy Kids, Medi-Cal, and Healthy Families.

**Table 7.** Summary of Ability to Report Rates by the Preferred Method

Indicator	# reported*			% of respondents reporting data for all three programs
	HK	MC	HF	
1. Well-child visit	3	6	5	25%
2. Well-adolescent visit	3	7	5	25%
3. Emergency visits	4	4	4	50%
4. PCP visit	8	6	7	63%
5. Dental visit, 2-18 yrs	5	0	1	0%
6. Immunization, combo 2	2	7	5	13%
7. Asthma meds, 5-17 yrs	0	7	3	0%
T1. Well-baby visit	0	6	1	0%
T2. Asthma prevalence 3-18 yrs	6	5	5	63%
T3. Dental visit, 1 yr	4	0	1	0%

\* Represents the number of health plans reporting the preferred specification and with eligible populations  $\geq 30$ . For indicators with subgroups (i.e., for age), the number represents a count of CHIs with a rate reported for at least one of the subcategories.

**Table 8.** Summary on the Ability to Report Data by County and Program

	Inland Empire <sup>1</sup>	Kern	Los Angeles	San Francisco	San Joaquin	San Mateo	Santa Clara	Santa Cruz <sup>2</sup>
1. Well-child visit	HK ○ MC ● HF ●	HK ⊙ MC ⊙ HF ⊙	HK ● MC ● HF ○	HK ⊙ MC ⊙ HF ⊙	HK ⊙ MC ● HF ●	HK ● MC ● HF ●	HK ● MC ● HF ●	HK ⊙ MC ● HF ●
2. Well-adolescent visit	HK ○ MC ● HF ●	HK ⊙ MC ● HF ⊙	HK ● MC ● HF ○	HK ⊙ MC ⊙ HF ⊙	HK ⊙ MC ● HF ●	HK ● MC ● HF ●	HK ● MC ● HF ●	HK ⊙ MC ● HF ●
3. Emergency visits	HK ● MC ● HF ●	HK ⊙ MC ○ HF ○	HK ● MC ● HF ●	HK ● MC ● HF ●	HK ● MC ● HF ●	HK ○ MC ○ HF ○	HK ⊙ MC ⊙ HF ⊙	HK ⊙ MC ○ HF ○
4. Primary care visit	HK ● MC ● HF ●	HK ○ MC ○ HF ●	HK ● MC ● HF ○	HK ● MC ● HF ●	HK ● MC ● HF ●	HK ● MC ○ HF ●	HK ● MC ● HF ●	HK ● MC ● HF ●
5. Dental visit, 2-18 yrs	HK ● MC ○ HF ●	HK ⊙ MC ○ HF ○	HK ⊙ MC ○ HF ○	HK ● MC ○ HF ○	HK ● MC ○ HF ○	HK ○ MC ○ HF ○	HK ● MC ○ HF ○	HK ● MC ○ HF ○
6. Immunization, combo 2	HK ○ MC ● HF ●	HK ○ MC ● HF ⊙	HK ● MC ● HF ○	HK ⊙ MC ⊙ HF ⊙	HK ○ MC ● HF ●	HK ○ MC ● HF ●	HK ● MC ● HF ●	HK ○ MC ● HF ●
7. Asthma meds, 5-17 yrs	HK ○ MC ● HF ●	HK ○ MC ○ HF ●	HK ○ MC ● HF ○	HK ○ MC ● HF ○	HK ○ MC ● HF ○	HK ○ MC ● HF ○	HK ○ MC ● HF ●	HK ○ MC ● HF ○
T1. Well-baby visit	HK ○ MC ● HF ●	HK ○ MC ○ HF ○	HK ○ MC ● HF ○	HK ○ MC ⊙ HF ○	HK ○ MC ● HF ○	HK ○ MC ● HF ○	HK ○ MC ● HF ○	HK ○ MC ● HF ○
T2. Asthma prevalence, 3-18 yrs	HK ● MC ● HF ●	HK ○ MC ○ HF ○	HK ● MC ● HF ●	HK ● MC ● HF ●	HK ● MC ● HF ●	HK ○ MC ○ HF ○	HK ● MC ● HF ●	HK ● MC ○ HF ○
T3. Dental visit, 1 yr	HK ● MC ○ HF ●	HK ● MC ○ HF ○	HK ○ MC ○ HF ○	HK ● MC ○ HF ○	HK ○ MC ○ HF ○	HK ○ MC ○ HF ○	HK ● MC ○ HF ○	HK ○ MC ○ HF ○

○ Not reported or insufficient eligibility

⊙ Reported with qualifications (alternate method, partial data)

● Reported rates using preferred method for at least one subcategory of the indicator

<sup>1</sup> Includes data for two counties (2 CHIs)

<sup>2</sup> Medi-Cal and Healthy Families rates included data for two counties

Among CHIs using comparable reporting methods (See Charts, pages 9-16), performance was fairly similar. Exceptions would include: 1) emergency department utilization was higher among of Inland Empire plan enrollees, 2) Los Angeles reported lower primary care visit rates, and 3) San Francisco achieved higher dental visit rates in children up to 10 years of age. Half of the CHIs reporting Healthy Kids data exceeded comparison rates for Healthy Families in California, Managed Medi-Cal in California, or Medicaid nationally for well-child and well-adolescent visits. All but Los Angeles were close to or exceeded comparison markers for Healthy Families in California and Medicaid nationally for primary

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care visits for all Healthy Kids age subgroups. The Healthy Kids dental visit rates far exceeded the national comparison for Medicaid for all reporting CHIs. Healthy Kids immunization rates in Santa Clara exceeded California Managed Medi-Cal and National Medicaid comparison rates and are close to the California Healthy Families rate.

When rates were aggregated for Healthy Kids, Medi-Cal, and Healthy Families across the CHIs (See Table 4, page 17), a few trends are notable. Differences between programs, illustrated by the weighted averages, were greater for those reporting hybrid rates than for those using administrative methods (for well-child and well-adolescent visits, and immunizations). Rank order between programs changed by method as well. For instance, for CHIs reporting administrative rates, the well-child visits were greatest for Healthy Kids when compared to Medi-Cal and Healthy Families. Among the CHIs reporting hybrid rates, averaged utilization rates appeared much higher in the Medi-Cal and Healthy Families programs. Utilization of emergency departments (ER visits) appeared to be highest in the Medi-Cal population and lowest in Healthy Kids in both of the age groups studied (0-5 and 6-18 years). Primary care visit rates were highest in Healthy Families and lowest in Healthy Kids, with the exception of the oldest age group. For children 12-19 years old, primary care visit rates were highest in Healthy Kids and lowest in Healthy Families. Dental visit data could not be compared because the CHIs did not have dental rates for Medi-Cal or Healthy Families. The appropriateness of asthma medication could not be compared because the CHIs did not have sufficient eligibility in the Healthy Kids population to report rates. The trends noted here could not be assessed for statistical significance.

Where comparisons could be made by CHI (See Tables in Appendix C) among programs (Healthy Kids, Medi-Cal and Healthy Families), ER use was lower among Healthy Kids members than same aged Medi-Cal and Healthy Families members. For the other two utilization measures, well-child, and well-adolescent visits, the more common trend was highest utilization in Healthy Families, followed by Medi-Cal then Healthy Kids. A few counties noted, however, that in the start-up year for Healthy Kids, the number of well child exams may not accurately reflect the number of kids who actually had one. Often, children are referred to Healthy Kids through the Children's Health and Disease Prevention (CHDP) Gateway so that they enrolled in the Healthy Kids program just after having received their well child physical.

Regarding the two Access measures, we could not compare data on dental visits. For primary care visits, there was no pattern ranking one program over another. The finding above, that the aggregated primary care rate was lower in Healthy Kids than other programs is due to the large weight given the Los Angeles CHI which had low utilization, but a very large population. Other CHIs did not follow this pattern. For the two quality measures (asthma medications and immunizations) CHIs typically had insufficient populations to report a rate (see evaluation issues below).

Caution should be used when comparing quality outcomes across counties. This report is unable to account for the differences in populations, hospital contracts, provider resources, and environments that would also influence quality outcomes. Gaps in available data may also result in rates that misrepresent the actual performance. The following list is a summary of additional evaluation issues concerning data collection, analysis, and interpretation of Healthy Kids data.

1. **Control over Data:** Several plans and CHIs use independent consulting firms or auditors to analyze data and calculate outcome rates. CHIs are limited in their ability to act when clarifications about methods or changes in measures are needed.
2. **Race/Ethnicity:** The ability to report race/ethnicity was found to be variable in the feasibility study (e.g., the largest county lacked the data, small counties would have insufficient eligibility to report subgroups). Consequently, this report does not include information on race/ethnicity.
3. **Hybrid Methods:** For 2005 reports, we were not able to get rates calculated using hybrid methods delineated by HEDIS 2006 specifications from all plans. The hybrid method was preferred for indicators 1 (well-child), 2 (well-adolescent) and 6 (immunizations, combination 2). Since CHIs did not plan on reporting hybrid rates for Healthy Kids populations, they had not done, and could not do, chart audits. Audits, or medical record reviews, are feasible only when funding and resources have been set aside. Therefore, for the indicators in which hybrid methods were preferred, half of the reporting CHIs provided administrative rates instead.
4. **Administrative Methods:** Health plans voiced a preference for administrative methods during feasibility interviews as these require less intensive and less expensive data collection methods. On the other hand, they note that outcomes from

- using administrative rates are unreliable given gaps in encounter and claims data. Their reluctance to report any rates when hybrid methods were not possible made it necessary to do individual follow-up with CHIs to request administrative rates.
5. **Alternative Measures:** This reporting form used to collect data allowed for variations in method for data collection, categorization by age, definition of denominators, etc. Some of the variation may not have been outlined on the reporting form and, if known, may account for differences in outcomes. For instance, one CHI reported total number of ER visits instead of the requested number of children who had an ER visit. Subsequent follow-up revealed this discrepancy and a correction was made.
  6. **HEDIS Audits:** HEDIS® measures for Medi-Cal managed care and Healthy Families evaluations are independently audited by an externally contracted agency certified as a HEDIS auditor. The Healthy Kids evaluation did not require these audits.
  7. **Sample Size** (huge variance between counties): Small counties have eligible populations that are too small to report for many measures. Continuous enrollment requirements make it necessary for some counties to wait 1-2 years before accumulating an adequate sample to evaluate certain measures. Two of the CHIs had just begun enrollment into the Healthy Kids program in the latter part of 2004; four had started enrollment in 2003; two CHIs started enrollment in 2002 and one CHI began enrolling children in 2001. Therefore sample size was impacted by both the size of eligible populations as well as the start year for enrollment into the program.
  8. **Continuous enrollment:** A bias is introduced into the reports by using continuous enrollment criteria. These eliminate evaluation information for high risk children who are enrolled in Healthy Kids in different counties during the year or just for shorter periods than a full year due to logistical reasons (e.g., family moves out of the county, parents do not keep up with enrollment paperwork, change in health plan contracts).
  9. **Aggregated Counties:** Health plans serving multiple counties combined the data for separate CHIs preventing true comparisons at the county level. Medi-Cal reports by contract which often matches county boundaries; Healthy Families reports by health plan.

- 10. Emergency Room Visits:** The counties were divided in their concerns about reporting emergency room visits as specified or preferring to use HEDIS or other methods. This report requested a simple rate of visits by membership for age groups 0-5 and 6-18 years. The request did not specify, as the HEDIS measure does, that visits resulting in an inpatient hospital admission be excluded. A few counties reported back they could only supply the HEDIS measure excluding visits resulting in inpatient admissions or using HEDIS age groups or reporting an eligible population by member months. One wrote “We’ve researched the ED measure extensively, and we are not comfortable with the robustness of our rates to share for comparison purposes.” It is uncertain whether the ER rates reported by all other CHIs included visits resulting in admits. Another CHI noted that they could only report this measure with the specifications outlined by the health plan’s utilization management and information systems teams. The variation in reporting depended upon health plan contracts with hospitals, the way data is pulled or maintained by health plans, the CHI agreement with the health plan, or independent consultants evaluating available data. Medi-Cal requires ER information from their contractors using HEDIS data, but this measure was not audited in the past, so it was not included in Medi-Cal reports. They anticipate it will be included in 2008.
- 11. Dental Visits:** Four of eight CHIs were unable to report dental indicators. One of the four were able to report utilization by age subgroup, but did not have the corresponding denominators to show the eligible populations and calculate a rate. Another CHI reported that they did not maintain data on dental services as utilization was tracked only by the dental HMO. A third CHI stated that dental services were not a covered benefit and could not report data.
- 12. Immunizations in Two Year Olds:** Only 3 CHIs had sufficient populations to report this measure (Los Angeles, San Francisco, and Santa Clara). One reason for low utilization rates maybe that children are able to get vaccinations through other means (i.e., school, free clinics) and hence there is no documentation of their receiving immunizations from a Healthy Kids provider.
- 13. Asthma Medications:** None of the CHIs were able to report rates for asthma medications for the age subgroups due to insufficient eligibility. The largest county

provided no data saying the sample was too small. The test indicator for prevalence reveals that only limited populations are picked up in administrative data.

## **RECOMMENDATIONS**

In order to improve the state's ability to assess the contribution of the Healthy Kids programs to improving children's health care access, utilization, and outcomes, our global recommendation is to synchronize ongoing quality monitoring efforts in the Medi-Cal, Healthy Families, and Healthy Kids program through a public-private collaboration. Health plans that participated in our study were indeed strongly in favor of consistency in program reporting parameters across programs in order to reduce the administrative burden associated with responding to multiple quality monitoring efforts.

In the meantime, we recommend the following specific actions to improve the quality monitoring within the CHIs:

- Send 2007 reporting requirements to the CHIs and the partner health plans using, if possible, the same schedule as Medi-Cal and MRMIB. Medi-Cal and MRMIB both inform their contractors in October about reporting requirements for the coming year's report. Plans then normally devote time between November and February to collecting data. Reminders are sent by Medi-Cal and Healthy Families in January, audits occur January through March, and reports are due in June. We expect that with improved scheduling, the variations in reporting we received (i.e., HEDIS hybrid vs. administrative specifications, etc) will be less.
- Clarify the role of the funding agencies in communicating evaluation requirements. A letter could state expectations and address the financial burden to CHIs to collect, review and/or audit, analyze, and report evaluation data.
- Funders could provide evaluators with notices of contract changes with any specific county CHI (i.e., contract changes that would fund chart audits for specific reporting years).
- Review the difficulties reporting the emergency visit indicator and decide whether there should be changes with the measure for the next years' reports. Many plans prefer to use HEDIS technical specifications but the tighter age strata may result in insufficient eligibility.

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- Continue to work with CHIs to improve their ability to report dental rates. We may need central support from CHIs or dental HMOs to get these reported. We will need to investigate other mechanisms for getting rates if we want comparison groups. For example, we may encourage that Counties build into their dental carve-outs a requirement for getting data for Healthy Kids and Healthy Families. Healthy Families is currently looking at new measures to assess Dental coverage quality.
- Since dental utilization services are highly accessed services, and will be required in the upcoming years for school enrollment, include Denti-Cal services in the evaluation to compare with Healthy Kids utilization rates
- Consider strategies to deal with insufficient eligibility. For example, we might group some of the sub-categories or collapse Healthy Families and Healthy Kids populations to what is normally required for HEDIS reporting. For the Immunization and Asthma Quality indicators, we could consider a statewide sample or use only an aggregated measure. A statewide sample would require a central group to conduct a chart review on a sample pulled across counties. The aggregate measure would require each county to report numerators and denominators even when their total population is less than 30. Individual numbers would not be published and would be used only to calculate a weighted “state” rate. If aggregation still results in small populations, we need to question the value of the indicator as a stand alone assessment of quality. Each solution to insufficient population sizes has benefits and drawbacks that must be taken into account.
- Health Plans that represent multiple counties might be asked to additionally report separate results for each CHI it serves. There are differences in provider capacity across counties that may impact access and utilization, but are masked within the aggregate reports. Requiring plans to report by CHI, however, would not only become more cumbersome for the plans, but may also result in plans having insufficient populations to report. Neither Medi-Cal nor Healthy Families report separated county-level data for health plans representing more than one CHI.

## REFERENCES

1. McAuliffe WE. Measuring the quality of medical care: process versus outcome. *Health & Society*. 1979;57(1).
2. Eddy DD. Performance Measurement: Problems and Solutions. *Health Aff*. July/August 1998;July/August:7-25.
3. Healthy Families. *Health Plan Quality Measurement Report For Services Provided in 2005* December 20 2006.
4. Delmarva Foundation. *Report of the 2005 Performance Measures for Medi-Cal Managed Care Members*. Sacramento, CA: California Department of Health Services, Medi-Cal Managed Care Division; August 2005.
5. National Committee for Quality Assurance. HEDIS® 2005 Means, Percentiles & Ratios. <http://www.ncqa.org/Programs/hedis/audit/2005MPR.htm>, 2007.
6. National Committee for Quality Assurance. The State of Health Care Quality 2006. 1-84. Available at: [http://www.ncqa.org/Communications/SOHC2006/SOHC\\_2006.pdf](http://www.ncqa.org/Communications/SOHC2006/SOHC_2006.pdf).
7. Babey SH, Grant D, Brown ER. *Adult Smoking Rate Declines, While Asthma, Diabetes and Obesity Rates Rise*. Los Angeles, CA: UCLA; November 2006.
8. Stevens GD, Seid M, Halfon N. Enrolling vulnerable, uninsured but eligible children in public health insurance: An estimation of the effect on their health status and primary care access. *Pediatrics*. In Press.
9. Duchon L, Smith V. *Quality Performance Measurement in Medicaid and SCHIP: Results of a 2006 National Survey of State Officials*. Los Angeles, CA: Health Management Associates; August 2006.

**Appendix A**  
Feasibility Study of Ability to Report Outcome Indicators  
Methods Detail

Two researchers conducted 11 in-depth telephone interviews with health plans in May – June 2006. The health plans that were interviewed represented 22 counties active in the Healthy Kids program. Each interview lasted approximately two hours, and included at least one evaluator and at least one member of the health plans quality improvement team. Following each telephone interview, evaluators typed all notes into an electronic document which was sent to the interviewee for review and follow up. We received feedback from 72% of the interviewees. We created templates to summarize findings by indicator. Table A1 summarizes the feasibility of each indicator using codes to identify the counties that are collecting, are planning or potentially can collect, or not planning on collecting each of the 25 potential indicators.

The findings suggested that no single indicator was collected by all of the counties. No more than eight indicators had potential for collection/reporting by a majority of programs. One, initial health assessment, was discarded based on feedback from the plans questioning the interpretation in this population; the other seven were selected for reports. There was limited potential for required reporting of three more indicators, and at most, an opportunity to set up pilot projects with regard to three additional indicators (developmental screening, overweight referrals, and ambulatory care sensitive condition hospitalizations). The remaining indicators appeared very unlikely to be reported in a consistent manner by health plans in the near future. Reports by race/ethnicity would also not be feasible.

Discussions with the funders resulted in the following strategies for the first evaluation report:

1. to request reports on a set of required indicators and some test indicators
2. to specify a preferred method but allow programs to report a variation of an indicator if they could not collect data or analyze as specified,
3. to require an explanation of any variations, and
4. to request comparison results for Medi-Cal and Healthy Families, if the data was available.

Table A1: Summary Table by County: Feasibility to Report Proposed Indicators

	Alameda	Colusa	El Dorado	Yuba	Sacramento	Kern	Fresno	Tulare	Santa Cruz	Sta. Barbara	S. L. Obispo	Los Angeles	Santa Clara	S. Bernardino	Riverside	S. Francisco	Solano	Sonoma	Napa	Yolo	San Joaquin	San Mateo	
1a well baby visit	●	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	●	●	⊙	●	●	●	●	●	⊙	⊙
1b well child visit	●	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	●	●	●	●	●	●	●	●	●	●	●	●	⊙	●
2 well adolescent visit	●	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	●	●	●	●	●	●	●	●	●	●	●	●	⊙	●
3a develop. screening	○	○	○	○	○	○	○	○	○	○	○	?	⊙	?	?	○	○	○	○	○	○	○	○
3b dev delay referral	○	○	○	○	○	○	○	○	○	○	○	?	⊙	?	?	○	○	○	○	○	○	○	○
3c dev delay treatment	○	○	○	○	○	○	○	○	○	○	○	?	⊙	?	?	○	○	○	○	○	○	○	○
4a IZ combo 1	●	○	○	○	○	○	○	○	⊙	●	●	●	●	●	●	⊙	●	●	●	●	●	●	●
4b IZ combo 2	●	○	○	○	○	?	○	○	○	●	●	●	●	●	●	⊙	●	●	●	●	●	⊙	●
5a dental visit 1 yr	⊙	?	?	?	?	?	?	?	○	⊙	⊙	○	○	?	?	○	○	○	○	○	○	⊙	⊙
5b dental visit 4-18 yrs	⊙	?	?	?	?	?	?	?	●	●	●	⊙	○	?	?	○	●	●	●	●	●	⊙	⊙
6 initial PCP visit	●	●	●	●	●	●	●	●	●	○	○	●	●	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	●
7 PCP visit	⊙	●	●	●	●	●	●	●	●	⊙	⊙	●	●	⊙	⊙	●	●	●	●	●	●	○	●
8 ACSC hospitalization	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	○	○	○	○	?	?	○	○	○	○	○	○	○	○
9 emergency visits	●	⊙	⊙	⊙	⊙	⊙	⊙	⊙	●	●	●	●	●	⊙	⊙	⊙	●	●	●	●	●	●	●
10a asthma prev. 0-5	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	○	○	⊙	⊙	?	?	○	○	○	○	○	○	⊙	⊙
10b asthma prev. older	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	●	●	?	?	●	○	○	○	○	○	⊙	●
11a asthma meds 0-5	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	○	○	○	⊙	○	?	?	○	○	○	○	○	○	⊙	⊙
11b asthma meds 5-17	●	⊙	⊙	⊙	⊙	⊙	⊙	⊙	●	●	●	●	●	?	?	●	●	●	●	●	●	●	●
12 asthma ed	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	○	○	?	⊙	?	?	⊙	⊙	⊙	⊙	⊙	⊙	⊙	○
13 asthma care plan	○	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	?	?	○	○	○	○	○	○	⊙	○
14 asthma care	○	○	○	○	○	○	○	○	○	⊙	⊙	⊙	⊙	?	?	○	○	○	○	○	○	○	○
15 overweight screening	⊙	○	○	○	○	○	○	○	○	○	○	○	⊙	?	?	○	○	○	○	○	○	○	○
16 overweight referral	⊙	○	○	○	○	○	○	○	⊙	○	○	●	⊙	?	?	○	○	○	○	○	○	⊙	○
17 overweight treatment	⊙	○	○	○	○	○	○	○	○	○	○	●	⊙	?	?	○	○	○	○	○	○	○	○
18 overweight care	⊙	○	○	○	○	○	○	○	⊙	⊙	⊙	⊙	○	⊙	⊙	○	○	○	○	○	○	○	○

○ no                      ⊙ some potential, or can report a variation                      ● yes

**Appendix B**  
Outcome Indicators Report  
Methods Detail

**Data Collection**

For each indicator, there was a preferred method for reporting. For HEDIS measures, the preferred method was the hybrid specification if one exists. The report form allowed plans to report HEDIS measures using the administrative method if it was not feasible to use the hybrid specifications (most plans had completed data collection earlier in the year and would not have been able to add chart reviews if these had not already been done). Plans could also elect to report an indicator with other variations in specification (e.g., different age group cut-offs) if this was the only way they could report. The following table summarizes the variations in reporting by indicator.

**Addendum: CHI Ability to Report data**

Quality Indicator	Requested	Responses from 8 health plans, representing 9 CHIs
1. Well-Child Visit	Hybrid	<ul style="list-style-type: none"> <li>• 3 Hybrid</li> <li>• 3 Admin</li> <li>• 2 no data: a plan without hybrid data did not want to release admin rates because it would be based on encounter data and inaccurately low. The plan noted it would report in the years they conduct audits on their data.</li> <li>• 1 reported visits with different inclusion criteria for the eligible population, defined in their calculation as the total # children who had Healthy Kids services rendered in 2005, but was not able to take into account any gaps in services</li> </ul>
2. Well-Adolescent Visit	Hybrid	<ul style="list-style-type: none"> <li>• 3 Hybrid</li> <li>• 3 Admin</li> <li>• 1 no data: a plan without hybrid data did not want to release admin rates because it would be based on encounter data and inaccurately low. The plan noted it would report in the years they conduct audits on their data.</li> <li>• 1 reported the number of eligible enrollees, but no rate of utilization since program enrollment began late in 2005</li> <li>• Requested age range for indicator was 12-21</li> </ul>

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		years, however all health plans noted their rates excluded visits for 19-21 year olds
3. Emergency Department Visits	Specified inclusion and measurement criteria	<ul style="list-style-type: none"> <li>• 4 reported with specified inclusion criteria</li> <li>• 4 reported using different inclusion criteria <ul style="list-style-type: none"> <li>○ 1 reported using HEDIS inclusion criteria and that set by their health plan's utilization management team</li> <li>○ 1 reported the number of ER visits, identifying enrollees by a service rendered in 2005 but were unable to account for gaps in enrollment</li> <li>○ 1 reported according to HEDIS technical specifications and excluded visits that resulted in an inpatient admission</li> <li>○ 1 reported rates calculated from member months which resulted in a rate per 100 member months</li> </ul> </li> <li>• Three counties expressed that this was a cumbersome measure and would prefer reporting the rates according to the HEDIS technical specifications in the future.</li> </ul>
4. Primary Care Physician Visit	Admin	<ul style="list-style-type: none"> <li>• 7 Admin</li> <li>• 1 health plan reported the number of visits identifying enrollees by a service rendered in 2005 but were unable to account for gaps in enrollment</li> </ul>
5. Dental Visits	Admin	<ul style="list-style-type: none"> <li>• 5 Admin</li> <li>• 1 reported utilization numbers by age group, but could not produce the corresponding number of eligible children in each age group</li> <li>• 1 reported the number of eligible kids for 2 age groupings, however the numbers were too small for rate calculation or there were no dental visits</li> <li>• 1 no data: health plan noted they needed more time to pull the data for accurate reporting</li> </ul>
6. Immunizations in Two Year Olds	Hybrid	<ul style="list-style-type: none"> <li>• 3 Hybrid</li> <li>• 3 Admin</li> <li>• 2 no data</li> <li>• For 3 health plans no rates could be calculated due to insufficient eligibility (n&lt;30)</li> </ul>
7. Asthma Medications	Admin	<ul style="list-style-type: none"> <li>• 6 Admin: no rates could be calculated due to insufficient eligibility (n&lt;30)</li> <li>• 2 no data: the largest county had no data saying the sample was too small</li> </ul>
Test 1. Well-Baby	Hybrid	<ul style="list-style-type: none"> <li>• 3 Hybrid: no rates could be calculated due to</li> </ul>

*Outcomes from the Children's Health Initiatives in California*

Visits in First 15 months		<p>insufficient eligibility</p> <ul style="list-style-type: none"> <li>• 3 Admin: no rates could be calculated due to insufficient eligibility (N&lt;30)</li> <li>• 2 no data: data is not collected; 1 health plan had only administrative data but felt it was too unreliable to report. Hybrid reporting is possible every other year.</li> <li>• Counties expressed this measure is not reflective of the actual number of well-baby visits conducted since the checks are often conducted in conjunction with another visits but not documented in encounter data</li> </ul>
Test 2. Asthma Prevalence	Admin	<ul style="list-style-type: none"> <li>• 6 Admin: the rate for 1 county was artificially low as they included only members with two or more visits for asthma</li> <li>• 2 no data</li> </ul>
Test 3. Dental Visit in First Year	Admin	<ul style="list-style-type: none"> <li>• 3 Admin</li> <li>• 5 no data</li> </ul>

**Analysis**

This report is mostly descriptive and involved only two calculations: confidence intervals and aggregate rates.

- Confidence intervals: calculated according to HEDIS specifications.
- Aggregate rates: In order to summarize the quality of care delivered to Healthy Kids, Medi-Cal and Healthy Families enrollees across counties, results were weighted and averaged according to total child enrollment size for each program in each county health plan. For example, to estimate the weighted average for indicator 1 (well-child visit) for Healthy Kids enrollees, the percentage meeting the indicator criteria was multiplied by the total enrollment size for each county (e.g., 52.55% x 42,613 enrollees for Los Angeles), summed across counties, and divided by the total Healthy Kids enrollments across all nine counties. The weighted estimates for the indicators for Medi-Cal and Healthy Families enrollees was calculated in a similar way except using a sum of the total eligible population reported in indicators 1 and 2 as a proxy for total enrollment counts, since actual enrollment counts could not be immediately confirmed for each health plan. Weighted averages are reported separately for counties using hybrid methods and those using administrative data. Although their

*Outcomes from the Children's Health Initiatives in California*

data was combined, San Bernardino and Riverside were each counted in the “# of CHIs” column.

**Appendix C**

Individual CHI Results: Healthy Kids, Medi-Cal, and Healthy Families Data

Inland Empire

Kern

Los Angeles

San Francisco

San Joaquin

San Mateo

Santa Clara

Santa Cruz

**Table C1: Inland Empire Health Plan (San Bernardino & Riverside CHIs)**

	Healthy Kids		Medi-Cal		Healthy Families	
	Rate [95%CI]	# eligible	rate	# eligible	Rate [95%CI]	# eligible
1. well-child visit in past year: children ages 3-6 years	NR*	NR*	81.76% <sup>1</sup>	30,458	85.19% <sup>1</sup>	5,065
2. well-adolescent visit in past year: adolescents ages 12-21 years	NR*	NR*	59.26% <sup>1</sup>	44,245	58.8% <sup>1</sup>	9,274
3. emergency department visits in past year:						
ages 0-5 years	36.03%	2,881	63.81%	58,716	35.12%	5,964
ages 6-18 years	26.76%	5,935	55.19%	80,957	26.94%	16,825
4. primary care physician visit						
ages 12-24 months	86.11% [62.58-100]	36	96.34%	7,836	98.53%	341
ages 25 mo-6 years	78.65%	1,831	87.38%	37,989	91.35%	5,893
ages 7-11 years	80.31%	1,478	80.24%	25,103	86.65%	5,399
ages 12-19 years	77.09%	1,545	77.84%	32,128	84.20%	6,404
5. dental visit in past year: children						
ages 2-3 years	26.92%	807	NR**	NR**	0%	2,492
ages 4-6 years	75.26%	2,802	NR**	NR**	0%	3,942
ages 7-10 years	73.43%	2,022	NR**	NR**	0%	5,879
ages 11-14 years	54.42%	1,633	NR**	NR**	0.09%	5,360
ages 15-18 years	62.04%	1,313	NR**	NR**	0.14%	4,255
6. immunizations combination 2	NR*	NR*	77.44% <sup>1</sup>	8,448	83.56% <sup>1</sup>	506
7. asthma medication: children						
ages 0-5 years	IE	1	--	--	--	--
ages 5-9 years					80.77% [62.99-98.55]	
ages 10-17 years	IE	11	90.31%	640	77.32% [60.47-94.17]	78
	IE	2	86.65%	839		97

<sup>1</sup> Hybrid, if # eligible > 411, the rate was calculated based on a sample of the eligible population

NR = Not Reported

IE = Insufficient Eligibility (Rate not calculated if # eligible < 30)

[95% CI] = 95% confidence interval, calculated for population sizes 30-99.

\*IEHP only has this data in the years they conduct audits on encounter data from providers. Not done for this reporting year.

\*\*Data not reported. Plan states this is "not a covered benefit"

**Table C2: Kern**

	Healthy Kids		Medi-Cal		Healthy Families	
	rate*	# eligible	rate	# eligible	rate	# eligible
1. well-child visit in past year: children ages 3-6 years	32.26%	93	50.56%	2,504	50.61%	14,866
2. well-adolescent visit in past year: adolescents ages 12-21 years	0%	0	15.44% <sup>^</sup>	4,527	21.01%	28,421
3. emergency department visits in past year:						
ages 0-5 years	7.94%	126	NR	NR	NR	NR
ages 6-18 years	IE	7	NR	NR	NR	NR
4. primary care physician visit						
ages 12-24 months	IE	7	NR	NR	94.79%	1,094
ages 25 mo-6 years	89.17%	120	NR	NR	86.86%	16,952
ages 7-11 years	IE	2	NR	NR	85.21%	16,584
ages 12-19 years	0%	0	NR	NR	61.14%	20,776
5. dental visit in past year: children						
ages 2-3 years	IE	10	NR	NR	NR	NR
ages 4-6 years	IE	11	NR	NR	NR	NR
ages 7-10 years	0%	0	NR	NR	NR	NR
ages 11-14 years	0%	0	NR	NR	NR	NR
ages 15-18 years	0%	0	NR	NR	NR	NR
6. immunizations combination 2	IE	27	25.79% <sup>^</sup>	349	13.13%	1,477
7. asthma medication: children						
ages 0-5 years	3.97%	126	--	--	--	--
ages 5-9 years	IE	7	NR	NR	89.37%	348
ages 10-17 years	IE	1	NR	NR	89.98%	409

<sup>1</sup>Hybrid, if # eligible > 411, the rate was calculated based on a sample of the eligible population

NR = Not Reported

IE = Insufficient Eligibility (Rate not calculated if # eligible<30)

\*The eligible population was adjusted to be defined as total # children who received Healthy Kids services in 2005 based on date of service rendered. It was not able to take into account any gaps in enrollment in 2005

\*\*numerator given does not represent individual children

\*\*\*Kern provided #eligible for different age groups (0-5 yrs and 6-18 yrs only), from HealthNet HK utilization report

\*\*\*For dental data, Kern indicated they were told USC would get the info. From Delta dental directly

<sup>^</sup>Rates reported included a note that they were calculated using both admin & hybrid methods.

**Table C3: Los Angeles**

	Healthy Kids		Medi-Cal		Healthy Families	
	Rate	# eligible	Rate	# eligible	Rate	# eligible
1. well-child visit in past year: children ages 3-6 years	52.55% <sup>1</sup>	5,222	72.95% <sup>1</sup>	108,253	NR <sup>^</sup>	NR <sup>^</sup>
2. well-adolescent visit in past year: adolescents ages 12-21 years	17.76% <sup>1</sup>	12,154	36.96% <sup>1</sup>	154,437	NR <sup>^</sup>	NR <sup>^</sup>
3. emergency department visits in past year:						
ages 0-5 years	10.90%	3,476	32.56%	130,726	24.38%	406
ages 6-18 years	6.15%	22,062	17.76%	269,493	12.25%	2,130
4. primary care physician visit						
ages 12-24 months	62.30%	122	90.25%	26,653	NR <sup>^</sup>	NR <sup>^</sup>
ages 25 mo-6 years	52.11%	5,548	80.76%	134,384	NR <sup>^</sup>	NR <sup>^</sup>
ages 7-11 years	56.30%	508	80.59%	97,033	NR <sup>^</sup>	NR <sup>^</sup>
ages 12-19 years	IE	4	75.08%	119,276	NR <sup>^</sup>	NR <sup>^</sup>
5. dental visit in past year: children		42,691*				
ages 2-3 years	[N=96]**	unknown	NR	NR	NR <sup>^</sup>	NR <sup>^</sup>
ages 4-6 years	[N=1,495]	unknown	NR	NR	NR <sup>^</sup>	NR <sup>^</sup>
ages 7-10 years	[N=1,236]	unknown	NR	NR	NR <sup>^</sup>	NR <sup>^</sup>
ages 11-14 years	[N=1,033]	unknown	NR	NR	NR <sup>^</sup>	NR <sup>^</sup>
ages 15-18 years	[N=342]	unknown	NR	NR	NR <sup>^</sup>	NR <sup>^</sup>
6. immunizations combination 2	59.3% <sup>1</sup>	173	77.24% <sup>1</sup>	31,329	NR <sup>^</sup>	NR <sup>^</sup>
7. asthma medication: children						
ages 0-5 years	IE	NR	--	--	--	--
ages 5-9 years	IE	NR	82.15%	3,249	NR <sup>^</sup>	NR <sup>^</sup>
ages 10-17 years	IE	NR	83.80%	3,098	NR <sup>^</sup>	NR <sup>^</sup>

<sup>1</sup>Hybrid, if # eligible > 411, the rate was calculated based on a sample of the eligible population

NR = Not Reported

IE = Insufficient Eligibility (Rate not calculated if # eligible<30)

\*Total eligible population for all ages reported.

\*\*Denominators were not available by age group, so raw utilization numbers are reported here rather than rates.

<sup>^</sup>LA Care did not hold the subcontract to maintain Healthy Families data for all of 2005

**Table C4: San Francisco**

	Healthy Kids		Medi-Cal		Healthy Families	
	Rate [95%CI]	# eligible	rate	# eligible	Rate [95%CI]	# eligible
1. well-child visit in past year: children ages 3-6 years	69.86%	491	70.49%	3,745	76.01%	717
2. well-adolescent visit in past year: adolescents ages 12-21 years	35.87% <sup>2</sup>	2,074	40.51%	5,616	58.74%	2,259
3. emergency department visits in past year:						
ages 0-5 years	14.39%	264	25.53%	3,424	15.35%	404
ages 6-18 years	5.75%	1,199	12.16%	5,855	4.29%	2,844
4. primary care physician visit						
ages 12-24 months	97.50% [86.77-100]	40	93.61%	1,283	100.00% [98.98-100]	49
ages 25 mo-6 years	88.83%	546	84.46%	4,814	93.61%	845
ages 7-11 years	85.33%	593	84.20%	2,950	93.35%	1,218
ages 12-19 years	81.81%	1,050	81.31%	4,018	91.55%	1,847
5. dental visit in past year: children						
ages 2-3 years	52.58% [32.59-72.57]	97	NR*	NR*	NR*	NR*
ages 4-6 years	86.15%	231	NR*	NR*	NR*	NR*
ages 7-10 years	86.40%	375	NR*	NR*	NR*	NR*
ages 11-14 years	70.60%	432	NR*	NR*	NR*	NR*
ages 15-18 years	54.09%	305	NR*	NR*	NR*	NR*
6. immunizations combination 2	12.50% [0-30.37]	56	17.36%	1,221	15.24%	105
7. asthma medication: children						
ages 0-5 years	IE	NR	--	--	--	--
ages 5-9 years	IE	11	97.87%	141	IE	20
ages 10-17 years	IE	7	92.16%	102	IE	24

<sup>1</sup> Hybrid, if # eligible > 411, the rate was calculated based on a sample of the eligible population

<sup>2</sup>Does not include 19-21 year olds

NR = Not Reported

IE = Insufficient Eligibility (Rate not calculated if # eligible<30)

[95% CI] = 95% confidence interval, calculated for population sizes 30-99.

\*SFHP states Medi-Cal & HF beneficiaries covered by Denti-Cal & data not available to SFHP

**Table C5: San Joaquin**

	Healthy Kids		Medi-Cal		Healthy Families	
	Rate [95%CI]	# eligible	rate	# eligible	Rate [95%CI]	# eligible
1. well-child visit in past year: children ages 3-6 years	51.50%	233	a: 61.45% h: 73.24% <sup>1</sup>	6,565	a: 50.21% h: 69.59% <sup>1</sup>	1,199
2. well-adolescent visit in past year: adolescents ages 12-21 years	23.09%	433 <sup>2</sup>	a: 28.32% h: 34.79% <sup>1</sup>	12,262	a: 27.34% h: 39.66% <sup>1</sup>	2,385
3. emergency department visits in past year:						
ages 0-5 years	20.40%	210	34.88%	8,691	24.90%	1,044
ages 6-18 years	9.22%	1,149	18.13%	18,774	13.12%	4,504
4. primary care physician visit						
ages 12-24 months	IE	10	94.76%	1,869	82.81% [63.91-100]	64
ages 25 mo-6 years	79.52%	249	79.96%	8,300	73.68%	1,379
ages 7-11 years	84.00%	225	71.00%	5,849	75.80%	1,345
ages 12-19 years	79.75%	237	70.56%	9,496	75.70%	1,774
5. dental visit in past year: children						
ages 2-3 years	22.95% [1.45-44.45]	61	NR*	NR*	NR*	NR*
ages 4-6 years	55.64%	257	NR*	NR*	NR*	NR*
ages 7-10 years	64.90%	442	NR*	NR*	NR*	NR*
ages 11-14 years	57.70%	367	NR*	NR*	NR*	NR*
ages 15-18 years	55.80%	224	NR*	NR*	NR*	NR*
6. immunizations combination 2	IE	12	a: 1.36% h: 71.78% <sup>1</sup>	1,914	a: 1.75% h: 85.96% <sup>1</sup>	114
7. asthma medication: children						
ages 0-5 years	IE	1	--	--	--	--
ages 5-9 years	IE	1	87.93%	116	IE	20
ages 10-17 years	IE	1	78.40%	162	IE	26

<sup>1</sup> Hybrid, if # eligible > 411, rate was calculated based on a sample of the eligible population

<sup>2</sup>Does not include 19-21 year olds

NR = Not Reported

IE = Insufficient Eligibility (Rate not calculated if # eligible<30)

[95% CI] = 95% confidence interval, calculated for population sizes 30-99.

\*Notes states "no dental utilization data" available for members for MC or HF

**Table C6: San Mateo**

	Healthy Kids		Medi-Cal		Healthy Families	
	Rate	# eligible	Rate [95%CI]	# eligible	Rate [95%CI]	# eligible
1. well-child visit in past year: children ages 3-6 years	69.89% <sup>1</sup>	352 <sup>2</sup>	66.67% <sup>1</sup>	3,791	74.15% <sup>1</sup>	426
2. well-adolescent visit in past year: adolescents ages 12-21 years	43.75% <sup>1</sup>	432	32.18% <sup>1</sup>	4,456	40.97% <sup>1</sup>	617
3. emergency department visits in past year:						
ages 0-5 years	15.45% <sup>^</sup>	900 <sup>^</sup>	36.33% <sup>^</sup>	10,924 <sup>^</sup>	24.55% <sup>^</sup>	745 <sup>^</sup>
ages 6-18 years	11.36% <sup>^</sup>	4,797 <sup>^</sup>	21.99% <sup>^</sup>	11,259 <sup>^</sup>	12.34% <sup>^</sup>	1,961 <sup>^</sup>
4. primary care physician visit						
ages 12-24 months	IE	12	NR	NR	96.67% [82.42-100]	30
ages 25 mo-6 years	75.50%	551	NR	NR	84.48%	509
ages 7-11 years	73.80%	710	NR	NR	85.15%	330
ages 12-19 years	71.86%	1,002	NR	NR	73.95%	430
5. dental visit in past year: children						
ages 2-3 years	NR*	NR*	NR	NR	NR*	NR*
ages 4-6 years	NR*	NR*	NR	NR	NR*	NR*
ages 7-10 years	NR*	NR*	NR	NR	NR*	NR*
ages 11-14 years	NR*	NR*	NR	NR	NR*	NR*
ages 15-18 years	NR*	NR*	NR	NR	NR*	NR*
6. immunizations combination 2	IE	26	78.65% <sup>1</sup>	1,325	85.11% <sup>1</sup> [64.1-100]	47
7. asthma medication: children						
ages 0-5 years	IE	6	--	--	--	--
ages 5-9 years	IE	10	89.74% [75.9-100]	78	IE	12
ages 10-17 years	IE	9	80.26% [62.06-98.46]	76	IE	9

<sup>1</sup>Hybrid, if # eligible > 411, the rate was calculated based on a sample of the eligible population

<sup>2</sup>Does not include 19-21 year olds

NR = Not Reported

IE = Insufficient Eligibility (Rate not calculated if # eligible<30)

[95% CI] = 95% confidence interval, calculated for population sizes 30-99.

\*Pending analysis from Health Plan

<sup>^</sup>Number eligible calculated from # eligible member months. Rate is the number of ER visits per 100 member months.

**Table C7: Santa Clara**

	Healthy Kids		Medi-Cal		Healthy Families	
	rate	# eligible	rate	# eligible	Rate [95% CI]	# eligible
1. well-child visit in past year: children ages 3-6 years	66.67% <sup>1</sup>	1,942	69.44% <sup>1</sup>	10,032	69.44% <sup>1</sup>	2,220
2. well-adolescent visit in past year: adolescents ages 12-21 years	42.13% <sup>1</sup>	4,665	34.95% <sup>1</sup>	11,480	45.37% <sup>1</sup>	3,110
3. emergency department visits in past year:						
ages 0-5 years	12.32% <sup>2</sup>	2,826	23.57% <sup>2</sup>	28,671	14.87% <sup>2</sup>	4,508
ages 6-18 years	6.48% <sup>2</sup>	12,855	13.03% <sup>2</sup>	32,689	7.46% <sup>2</sup>	11,509
4. primary care physician visit						
ages 12-24 months	IE	5	95.60%	3,175	96.40%	139
ages 25 mo-6 years	87.50%	1,257	84.50%	12,739	86.40%	2,590
ages 7-11 years	85.20%	2,851	80.70%	7,191	85%	2,135
ages 12-19 years	78.70%	3,915	75.30%	8,499	80.40%	2,238
5. dental visit in past year: children						
ages 2-3 years	36.04%	444	NR*	NR*	NR*	NR*
ages 4-6 years	67.97%	1,664	NR*	NR*	NR*	NR*
ages 7-10 years	74.54%	2,690	NR*	NR*	NR*	NR*
ages 11-14 years	68.38%	2,852	NR*	NR*	NR*	NR*
ages 15-18 years	58.10%	2,506	NR*	NR*	NR*	NR*
6. immunizations combination 2	79.07% <sup>1</sup>	130	86.81% <sup>1</sup>	3,205	83.27% <sup>1</sup>	245
7. asthma medication: children						
ages 0-5 years	IE	N R	--	--	--	--
ages 5-9 years	IE	28	86.60%	150	95.10% [80.93-100]	41
ages 10-17 years	IE	12	83.60%	159	IE	27

<sup>1</sup> Hybrid, if # eligible > 411, the rate was calculated based on a sample of the eligible population

<sup>2</sup>Inclusion criteria was based on children enrolled in the health plan as of 12/31/05. Measurement process was based on SCFHP Utilization Management & Info. System guidelines.

NR = Not Reported

IE = Insufficient Eligibility (Rate not calculated if # eligible<30)

[95% CI] = 95% confidence interval, calculated for population sizes 30-99.

\*CHI report note says these measures were "carved out"

**Table C8: Santa Cruz**

	Healthy Kids*		Medi-Cal*		Healthy Families*	
	rate	# eligible	rate	# eligible	rate	# eligible
1. well-child visit in past year: children ages 3-6 years	60.51%	157	74.94% <sup>1</sup>	8,835	78.98% <sup>1</sup>	333
2. well-adolescent visit in past year: adolescents ages 12-21 years	36.34%	333 <sup>2</sup>	41.61% <sup>1</sup>	10,801 <sup>2</sup>	49.39% <sup>1</sup>	411 <sup>2</sup>
3. emergency department visits in past year:						
ages 0-5 years	18.44% <sup>3</sup>	450	NR\$	NR\$	NR\$	NR\$
ages 6-18 years	10.11% <sup>3</sup>	1,592	NR\$	NR\$	NR\$	NR\$
4. primary care physician visit						
ages 12-24 months	IE	3	97.36%	3,670	NR	46
ages 25 mo-6 years	90.96%	166	87.87%	11,470	90.38%	395
ages 7-11 years	IE	0	80.48%	6,392	86.73%	294
ages 12-19 years	IE	0	79.21%	7,945	88.08%	344
5. dental visit in past year: children						
ages 2-3 years	IE	28	NR^	NR^	NR^	NR^
ages 4-6 years	70.00%	139	NR^	NR^	NR^	NR^
ages 7-10 years	63.00%	232	NR^	NR^	NR^	NR^
ages 11-14 years	67.00%	197	NR^	NR^	NR^	NR^
ages 15-18 years	55.00%	182	NR^	NR^	NR^	NR^
6. immunizations combination 2	IE	2	86.62% <sup>1</sup>	3,072	94.87% <sup>1</sup> [80.02-100]	39
7. asthma medication: children						
ages 0-5 years	IE	NR	--	--	--	--
ages 5-9 years	IE	NR	88.30%	188	IE	11
ages 10-17 years	IE	NR	87.21%	219	IE	11

<sup>1</sup>If # eligible > 411, the rate was calculated based on a sample of the eligible population

<sup>2</sup>HK does not include 19-21 year olds, MC includes ages 12-21, HF includes ages 12-19

<sup>3</sup>ER visits that resulted in an inpatient admission are not included in the rate

NR = Not Reported

IE = Insufficient Eligibility (Rate not calculated if # eligible<30)

[95% CI] = 95% confidence interval, calculated for population sizes 30-99.

\*CHI is only active in Santa Cruz, however Medi-Cal and Healthy Families data includes both Santa Cruz & Monterey  
\$For MC & HF only data available is in using HEDIS technical specifications (per 1000 member months) and does not correspond to these age groupings

^MC dental data only available from Denti-Cal; HF dental data available through DeltaDental