Dental services accessed by California's vulnerable children: utilization and policy implications

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BACKGROUND

- As of December 2006, twenty-two CA counties had established a Children's Health Initiative (CHI)
- CHIs provide health care coverage to over 83,000 children
  - CHIs function as local programs, created to ensure that all children have comprehensive health care coverage, including medical, dental, and vision.
- CHIs serve children up to 300% of FPL who are not eligible for Medi-Cal or Healthy Families.
- CHIs provide coverage through the Healthy Kids program.

RESEARCH AIMS

For children enrolled in a Healthy Kids program, this study investigates:

1. The rate of dental care utilization for members,
2. How Healthy Kids utilization compares to Medi-Cal and Healthy Families programs,
3. The types of dental services being used.

LIMITATIONS

- *Why* differences in utilization exist cannot be determined, i.e., practice styles (e.g. extractions vs. restorations), availability of services (e.g. for oral surgery), severity of dental disease in enrollees in different counties, billing practices of providers at school-based screening or sealant programs
- Identical years of Medi-Cal & Healthy Families data were not available for a more comparable analysis

REFERENCES

1. Copyright (c) 2002-2003 by SAS Institute Inc., Cary, NC, USA.
2. CDT codes are a standardized coding system used to record information about dental treatment procedures and services, and to provide data to agencies involved in adjudicating insurance claims (http://www.ada.org/ada/prod/catalog/cdt/index.asp)
3. HEDIS is the health plan performance measurement of the National Committee for Quality Assurance, which establishes standardized measures for health plan quality. The only measure for dental plan quality is based upon whether an enrollee had a visit in the past year.
4. Healthy Families data are not directly comparable to the data collected for Healthy Kids, since the Healthy Families measure calculates the percentage of enrolled members, ages 4 through 18, who were continuously enrolled during the measurement year and who had a least one dental visit during the measurement year. "Dental Plan Quality Measurement Report for Services Provided in 2004"
5. Savage MF, Lee JY, Kotch JB, Vann WF. Early Preventive Dental Visits: Effects on Subsequent Utilization and Costs. Pediatrics, 114(4). October 2004.

METHODS

DATA SOURCES

- This study was approved by the Institutional Review Board at the University of Southern California.
- Electronic utilization data for Healthy Kids enrollees between January 1 – December 31, 2006 were provided by Delta Dental of California.
- Enrollment data were provided by the Children's Health Initiatives in each study county.

DATA ANALYSIS

- SAS 9.1.2[1] software was used to determine the number of children who received any service, preventive service, and restorative services by age and county.
- Types of services were identified using Current Dental Terminology (CDT)[2] from the American Dental Association's Code on Dental Procedures and Nomenclature.
- Eligibility and rates were determined based on the national standard developed for HEDIS[3] measures.

RESULTS

Figure 1. Healthy Kids Children With at Least One Dental Service[a]

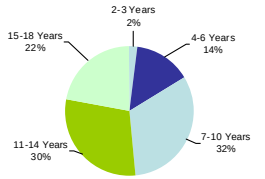
Plan	2-3 Years	4-6 Years	7-10 Years	11-14 Years	15-18 Years	Total: 2-18 Years
Alameda	57.1%	65.2%	69.7%	59.8%	63.1%	63.9%
Kern	38.3%	37.2%	65.7%	65.0%	30.4%	42.1%
Partnership Health Plan [b]	50.0%	66.7%	65.0%	66.7%	33.3%	60.3%
San Francisco [c]	29.9%	65.5%	72.1%	67.6%	53.6%	63.2%
San Joaquin	26.9%	60.1%	71.2%	63.5%	53.2%	62.5%
San Luis Obispo	41.4%	52.0%	64.3%	49.1%	34.8%	51.4%
San Mateo	44.7%	75.3%	78.6%	69.7%	61.1%	69.5%
Santa Barbara	0.0%	72.2%	79.4%	73.1%	72.7%	73.6%
Santa Clara	41.1%	70.3%	77.5%	69.2%	60.2%	68.3%
Santa Cruz	57.1%	75.3%	75.2%	68.0%	60.1%	68.8%
Total	**40.1%**	**67.5%**	**75.9%**	**68.1%**	**58.7%**	**66.7%**

[a] Rates include children enrolled from 1/1/2006-12/31/2006 with no more than a 45 day break in coverage. Children who turned 19 during the study period are included in the sample although Healthy Kids programs offer dental coverage only for ages 0-18. Age in years is as of 12/31/2006. [b] Partnership Health Plan encompasses Napa, Solano, Sonoma and Yolo counties. [c] San Francisco provides coverage up to age 25. Data for members > 18 years was not included here.

Specific Aim 1: Rate of dental care utilization:

- An average of 66.7% of children ages 2-18 years enrolled in Healthy Kids received at least one dental service (Figure 1).
- Children ages 2-3 years had the lowest average rate (40%) of having received at least one dental service (range: 27% in San Joaquin County to 57% in Alameda and Santa Cruz).
- Children ages 7-10 years had the greatest average rate of utilization (76%) (range: 64% in San Luis Obispo to 79% in Santa Barbara and San Mateo).
- Only 2% of the children who received dental care were < 3 years of age, 16% of services were provided to children < 6, and 84% of services went to children 7 to 18 years of age (Figure 2).

Figure 2. Age Distribution of Healthy Kids Children Who Received At Least One Dental Service



Specific Aim 2: Comparing Healthy Kids to Medi-Cal and Healthy Families:

- For children ages 2-5, average Healthy Kids (HK) dental service utilization was much higher when compared to 2005 Medi-Cal (MC): San Francisco HK 58% and MC 37%, Kern HK 37% and MC 39%, San Joaquin HK 55% and MC 26%, Santa Clara HK 64% and MC 36%, Santa Cruz HK 72% and MC 42%.
- Healthy Families[4] (HF) rates appear lower than those reported for HK for the same age groups. Of children ages 4-18 in HF, 54% had an annual visit in 2004; 68% of HK ages 4-18 had a visit in 2006.

Specific Aim 3: Types of dental services used:

- Dental sealants are a proven method for the prevention of decay on the chewing surfaces of molars. Of HK enrollees ages 6+ years *who received dental care*, only 27% received preventive dental sealants (range: 19% in San Francisco to 49% in San Luis Obispo) (Figure 3). However, only 18% of enrollees age 6+ received sealants.

Figure 3. Healthy Kids Enrollees With a Dental Visit Who Received Sealants or Fluoride

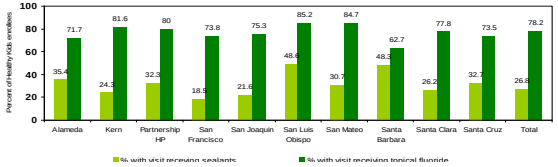


Figure 4. Healthy Kids Enrollees With Any Diagnostic, Preventive, and/or Restorative Care

Plan	Diagnostic	Preventive	Restorative	Endodontics	Oral Surgery	Adjunctive General
Alameda	62.3%	61.0%	33.9%	8.4%	9.7%	7.1%
Kern	39.7%	36.0%	26.6%	7.4%	9.1%	9.4%
Partnership Health Plan	56.9%	55.2%	36.2%	0.0%	12.1%	5.2%
San Francisco	61.5%	60.5%	26.9%	3.5%	11.6%	4.9%
San Joaquin	60.2%	56.8%	31.8%	6.1%	13.9%	3.6%
San Luis Obispo	47.7%	47.2%	30.2%	8.4%	13.0%	23.6%
San Mateo	66.0%	65.9%	38.5%	6.6%	12.6%	4.6%
Santa Clara	66.5%	65.3%	35.6%	5.9%	15.1%	5.5%
Santa Barbara	70.3%	69.2%	37.4%	8.8%	11.0%	16.5%
Santa Cruz	63.3%	61.9%	38.3%	7.4%	12.0%	16.5%
Total	**64.4%**	**63.2%**	**34.6%**	**5.9%**	**13.7%**	**6.2%**

- Topical fluoride is another proven method for preventing tooth decay. *Of the children who received dental care*, 79% received a preventive fluoride treatment (range: 63% in Santa Barbara to 85% in San Luis Obispo). Only 52% of all enrollees received fluoride.
- Figure 4 shows that 64%, 63%, and 35% of enrollees received diagnostic, preventive or restorative dental care (e.g., fillings), respectively.
- The percentage of children who had oral surgery (predominately extractions) ranged from 9% in Kern to 14% in Santa Clara (average ~14%). This suggests a high level of severe disease that required tooth extractions versus restorations.

CONCLUSIONS

- Many children had teeth extractions (indicating severe dental disease) while about half received preventive care services (e.g., dental sealants or fluoride).
  - The high rate of restorative treatments indicates the need for preventive dental services among these primarily low-income, undocumented, children.
  - Need for restorative care may explain the slightly higher dental utilization rates compared to Medi-Cal and Healthy Families.
- Keeping costs low is crucial for program sustainability.
  - Children with their first preventive dental visit before age 1 are more likely to have subsequent preventive visits and less likely to have restorative or emergency visits.
  - Delaying the first preventive visit from age 1 to 3, increases the need for subsequent preventive, restorative & emergency visits, and the average cost for dental care before age 5 from $262 to $449.
  - Delaying the first preventive visit to age 5 raises the average costs to $546[4].
- Less than 2% of Healthy Kids enrollees who received dental care were under 3 years of age. Encouraging parents and caregivers to bring children in for dental visits earlier may help counties limit the growth in dental care costs and/or premiums.
- Since most Healthy Kids enrollees would be considered high risk for dental carries, efforts should be made to increase the application of dental sealants and topical fluoride, proven methods for the prevention of decay.
  - 52% of Healthy Kids enrollees received a fluoride treatment
  - 18% of Healthy Kids enrollees received sealants.

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