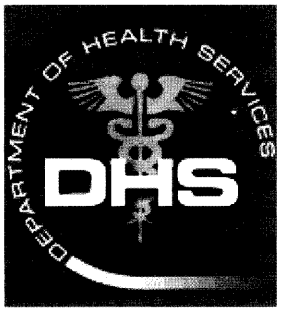
California Department of Health Services

Medi-Cal Managed Care Health Plans

Results of the HEDIS® 1999 Performance Measures for Medi-Cal Members

Review Period
January to December 1998

December 2001



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EXECUTIVE SUMMARY

As part of its oversight responsibility for the Medi-Cal Managed Care Program, the California Department of Health Services (DHS) contracted with the External Quality Review Organization (EQRO), Health Services Advisory Group, Inc. (HSAG), to perform quality of care studies for Medi-Cal health plans. Two baseline focused clinical quality of care studies were performed in 1997-98 by the EQRO to provide baseline measurements of the quality of care provided to Medi-Cal beneficiaries. HSAG utilized collection and measurement specifications developed by the National Committee for Quality Assurance (NCQA).

The EQRO Baseline Quality of Care Studies identified opportunities to improve care and numerous quality improvement measures were initiated by DHS and its health plans. One such initiative was the establishment of the Quality Improvement Workgroup with representation from DHS, the various health plans and the EQRO. It was through the formation of this workgroup that the DHS Accountability Set for Medi-Cal health plans was selected. The DHS Accountability Set included eight measures representing the areas of clinical quality that are appropriate to the Medi-Cal population. Four of these measures evaluate effectiveness of care provided to Medi-Cal beneficiaries, three measures assess the utilization of services, and the access to or availability of care is measured by the rate of Initiation of Prenatal Care. The measures fall into three HEDIS domains: Effectiveness of Care, Access/Availability of Care and the Use of Services.

In 1999, the health plans collected and reported performance measurement results in accordance with Health Plan Employer Data and Information Set (HEDIS) 1999 specifications, developed by the NCQA. NCQA specifications are the most widely used performance measurement among managed care organizations. The HEDIS measures incorporate administrative data (including claims, encounters, pharmacy, laboratory, etc.) for all measures and a combination of administrative and medical record review data (referred to as the hybrid method) to report various rates and percentages intended to measure the quality of care administered by a health plan. HSAG, as a licensed NCQA auditing firm, conducted independent audits to assure reliability of the results.

The main purpose of this report is to present a summary of the eight measures included in the DHS Accountability Set for the Medi-Cal health plans. Each health plan received their own audit report, which provided information regarding reliability of the health plan's HEDIS results. It also detailed findings related to their information systems capabilities, reporting methods, medical record abstraction tools and processes and the calculation of the measures. Wherever warranted, each health plan-specific audit report identified information system areas requiring improvement. In contrast, this summary report is intended to compare quality measures among the audited health plans to identify best performance and trend improvement. This report uses the results of the eight measures to compare a health plan's performance in delivering quality healthcare services to Medi-Cal beneficiaries. The health plan-specific and health plan model type comparisons will assist both DHS and the health plans in identifying areas for improvement and appropriate intervention strategies.

While the HEDIS Compliance Audits were conducted using a rigorous and scientifically sound methodology, the results must be interpreted with a clear understanding of certain caveats and study limitations. All aspects that may have affected the results need to be carefully considered in drawing valid conclusions. Common issues identified throughout the audit process are presented here for a full perspective of Medi-Cal HEDIS results. Some issues will resolve themselves over time (e.g., health plan maturity, improved information systems), while others are unique and specific to particular health plans or plan model types.

In the area of perinatal care, the audit evaluated three measures: Prenatal Care in the First Trimester, Initiation of Prenatal Care and Check-Ups After Delivery. The results indicated that on average, 57.0 percent of the Medicaid-enrolled pregnant women received Prenatal Care in the First Trimester. The Medi-Cal average for Initiation of Prenatal Care was 69.0 percent. For Check-Ups After Delivery (for a postpartum visit occurring between 21 and 56 days after delivery) the average was 46.2 percent.

Under the umbrella of Pediatric Preventive Care, measures were divided into Childhood Immunization Status and Well-Child Visits. Childhood Immunizations utilized the HEDIS Combination 1 and 2, which defines the immunization series given before a child's second birthday. The Medi-Cal average for Combination 1 is 51.8 percent, and the average for Combination 2 is 50.0 percent.

Well-Child Visits are divided into three specific age groups with different service levels: birth to 15 months – six or more visits, three to six years of age – one annual visit, and adolescent children 12 through 21 years of age – one annual visit. Among children 15 months of age, the Medi-Cal average for six or more Well-Child Visits was 26.0 percent. Eighteen of the 24 health plans had reportable results for Well-Child Visits in the Third, Fourth, Fifth and Sixth Years of Life. The average rate for this measure was 51.7 percent. The lowest rates were within the adolescent population with an overall Medi-Cal average of 21.2 percent.

The County Operated Health Services (COHS) Plans were exempted from Well-Child Visits in the Third, Fourth, Fifth and Sixth Years of Life in order to more appropriately focus on their adult population. Unlike other Medi-Cal plan model types, the five COHS have a greater proportion of members with chronic illness. Consequently, the DHS and the COHS Plans agreed to collect data and report a measure that better represented their Medi-Cal membership. In place of the pediatric preventive care measure, Eye Exams for People with Diabetes was chosen. These five health plans had a 41.3 percent overall average.

As 1999 was the first year the reporting measures utilized NCQA methodology, the health plans will continue to undergo HEDIS Compliance Audits in their ongoing effort to continue to improve services for Medi-Cal beneficiaries.

OVERVIEW

Background

Since 1997, the California Department of Health Services (DHS), as part of its oversight responsibility for the Medi-Cal Managed Care Program has contracted with Health Services Advisory Group, Inc. (HSAG). HSAG is an External Quality Review Organization (EQRO) which provides independent quality assessment services. In 1997-1998, the EQRO conducted two baseline focused clinical quality of care studies of Medi-Cal managed care health plans. These studies established baseline measurements of the quality of care provided to Medi-Cal beneficiaries. In 1999, the health plans collected and reported performance measurement results in accordance with Health Plan Employer Data and Information Set (HEDIS) 1999 specifications. HSAG, as an NCQA licensed auditing firm, conducted independent audits to assure reliability of the results.

The EQRO Baseline Quality of Care Studies identified opportunities to improve care. Numerous quality improvement measures were initiated by DHS and its health plans. One such initiative was the establishment of the Quality Improvement Workgroup (QIWG) with representation from DHS, the various health plans and the EQRO. It was through the formation of this workgroup, that the DHS Accountability Set was selected. This set of eight HEDIS measures represents the quality of care provided to Medi-Cal beneficiaries in three HEDIS domains: Effectiveness of Care, Access/Availability of Care and the Use of Services. The HEDIS 1999 Compliance Audits provided a detailed review of this select set of measures and the capabilities of health plans' information systems to collect and process the data required for these measures.

Audited 1999 HEDIS Measures

HEDIS Domain	DHS Accountability Set
Effectiveness of Care	Childhood Immunization Status
	Check-ups After Delivery
	Prenatal Care in the First Trimester
	Eye Exams for People with Diabetes*
Access/ Availability of Care	Initiation of Prenatal Care
Use of Services	Well-Child Visits in the First 15 Months of Life
	Well-Child Visits in the Third, Fourth, Fifth, Sixth Year of Life*
	Adolescent Well-Care Visits

*Eye Exams for People with Diabetes was reported only by the County Organized Health Systems (COHS), as a substitute for the Well-Child Visits in the Third, Fourth, Fifth and Sixth Year of Life Measure. This was done to better reflect the large number of health plan members with chronic illness in the population served by the five COHS health plans.

Purpose

The main purpose of this report is to provide reliable information, enabling DHS to compare health plans, trends, and areas in need of improvement. The report presents a summary of the eight measures included in the DHS Accountability Set for the Medi-Cal health plans. This summary report is intended to compare quality measures among the audited health plans to identify best performance and trend improvement. This report uses the results of the eight measures to compare health plans' performance in delivering healthcare services to Medi-Cal beneficiaries. The health plan-specific and health plan model type comparisons will assist both DHS and the health plans in identifying areas for improvement and appropriate intervention strategies.

Methodology

Health plans collected their specific results for all HEDIS measures in the DHS Accountability Set. They followed the HEDIS 1999 specifications using either administrative (claims, encounters, pharmacy, laboratory, etc.) or hybrid (a combination of administrative and medical record review data) methodology.

HSAG, as an NCQA licensed auditing firm, conducted the audits using methodology specified in 1999 NCQA *HEDIS Compliance Audit Standards, Policies and Procedures, HEDIS Volume 5*. The 1999 HEDIS Compliance Audits of the Medi-Cal Managed Care health plans included two main components:

- A detailed assessment of health plans' information systems capabilities for collecting, analyzing and reporting HEDIS information.

- A review of the specific reporting methods used for HEDIS measures. This included computer programming and query logic used to access and manipulate data, and to calculate measures; databases and files used to store HEDIS information; medical record abstraction tools and abstraction procedures used; and any manual processes employed in 1999 HEDIS data production and reporting.

The audits also included any data collection and reporting processes supplied by vendors, contractors or third parties, as well as the health plans' oversight of outsourced functions.

HSAG used a number of different methods and information sources to conduct the audits. A convenient mode of communication was through teleconference calls with health plan personnel and vendor representatives. These teleconferences were scheduled on an as-needed basis and served to clarify the scope of the audit, as well as set time frames for the various activities. Each health plan was required to submit a completed response to the Baseline Assessment Tool (BAT) published by NCQA as *Appendix B to HEDIS Volume 5*. This document provides detailed information regarding the health plans' systems and processes in place.

Preparatory teleconferences and review of the BAT laid the foundation for subsequent on-site meetings in the offices of the respective health plans. Each on-site audit review extended over a period of two days and covered a wide range of activities and functions. The various methods used to assess systems and procedures included relevant staff interviews, documentation review and primary source verification.

While HSAG's on-site reviews formed an important part of the audits, it needs to be emphasized that many of the review functions extended beyond the on-site visits. One such function was the evaluation of computer programming used to access administrative data sets, manipulate abstracted medical record information and calculate HEDIS measures. Re-abstraction of a sample of medical records selected by the auditors and its comparison to health plan results was another important function.

Other important aspects of the audit process were requests for corrective actions to the health plans' HEDIS data collection, reporting processes and data samples. HSAG verified that the requested corrective actions were undertaken. Additionally, all final HEDIS rates, as presented by the health plans using the NCQA-published *Data Submission Tool-1999,* were checked rigorously for accuracy. Each of the audited health plans was responsible for the preparation and provision of the Performance Report. The HSAG auditors then provided an opinion on the Performance Report in accordance with NCQA Compliance Audit Standards, Policies and Procedures. The examination process included procedures to obtain reasonable assurance that the Performance Reports presented results that were in accordance with *HEDIS 1999 Technical Specifications*.

The final step in the audit process was the provision of a detailed specific report to each health plan outlining the audit findings, reliability of the HEDIS results, and the assessment and recommendations made by the HSAG auditors. The report also included findings related to their information systems capabilities, reporting methods, medical record abstraction tools and processes, and the calculation of the measures. Wherever warranted, each health plan's audit report identified information system areas requiring improvement.

Four Medi-Cal health plans chose NCQA-licensed auditing firms other than HSAG. These four health plans had previously established a relationship with an auditing firm and were allowed to maintain this continuity. Nonetheless, their audited results are included in this report and all were reviewed with the same rigor required by NCQA.

A more detailed section on the audit methodology is included in Appendix A.

CAVEATS AND LIMITATIONS

While the HEDIS Compliance Audits were conducted using a rigorous and scientifically sound methodology, the results must be interpreted with a clear understanding of certain caveats and study limitations. All aspects that may have affected the results need to be carefully considered in drawing valid conclusions. Common issues identified throughout the audit process are presented here for a full perspective of Medi-Cal HEDIS results. Some issues will resolve themselves over time (e.g., health plan maturity, improved information systems), while others are unique and specific to particular health plans or health plan model types.

Limitations for Medical Record Retrieval

- Medi-Cal beneficiaries are a mobile population. Disruption in Medi-Cal eligibility, open monthly enrollment and disenrollment from health plans, and members that frequently change Primary Care Physicians (PCPs) lead to fragmented medical records. The result is often incomplete or missing medical records rather than a lack of care.

- Services may have been provided in the physician's office but were not documented in the medical record.

- Care may have been rendered outside of the health plan's provider network and not recorded at the physician's office. (i.e., health fairs, local health departments, schools, and other sites).

- The period of time allotted to health plans and practitioners for medical record retrieval may limit the quality and quantity of data collected.

Administrative Data Limitations

- Some health plans chose not to, or were unable to, use their administrative data due to issues related to data capture and accuracy.

- The Data Submission Tool (DST) was limited in its ability to separate the lack of services provided from lack of documented care (i.e., missing medical records).

Information Systems Limitations

- Incorrect provider files or the inability to link sample cases with their appropriate providers may preclude the location of the required medical record documentation.

- Inability to perform system integration between administrative data and medical record review may have adversely affected data collection and abstraction processes for hybrid measures.

- Member enrollment data may contain erroneous information that may invalidate selected sample cases or place a sample case in the study that was not appropriate for the quality indicator.

HEDIS Criteria

- The HEDIS definition of a provided service for some measures (e.g., well-child visit, prenatal care visit) requires more documentation for medical record review than for administrative data.

- HEDIS criteria for 1999 do not allow health plans to exclude certain members from samples. These are members with certain eligibility issues or lack of information on out-of-network services (e.g., retro-eligibility, dual eligibles in Medicare and Medicaid). Health plans often have limited ability to influence the care of these members or to capture information about their care.

HEALTH PLAN PROFILES

This report is a summary of 24 plan-county specific reports—representing 20 health plans, 18 counties and over two million Medi-Cal managed care beneficiaries. The Medi-Cal health plans are categorized under three health plan model types: Geographic Managed Care (GMC), County Organized Health System (COHS), and the Two-plan Model, which includes Local Initiatives (LI) and Commercial Plans (CP). A brief description of each health plan model type is essential to a correct understanding of the results of the reviews as they relate to the different health plan model types.

Geographic Managed Care (GMC):

Under this system, the DHS contracts with Geographic Managed Care (GMC) health plans to cover the entire Temporary Assistance to Needy Families (TANF) linked population in the county on a mandatory enrollment basis. The beneficiaries are given the option of choosing from among multiple commercial managed care organizations for health care services. The initial GMC was implemented in Sacramento County in 1994. A second GMC program was implemented in San Diego County in 1998. The Sacramento GMC program has six health plans while the San Diego GMC has seven health plans. The San Diego GMC health plans were not required to report for 1999 since they had not been operational under the Medi-Cal contract for a full 12 months.

Geographic Managed Care (GMC)

Start of Operation	Medi-Cal Health Plan	Counties Covered
04/94	Blue Cross of California – Sacramento*	Sacramento
04/96	Heath Net – Sacramento	Sacramento
04/94	Kaiser Foundation Health Plan*†	Sacramento
04/94	Maxicare – Sacramento	Sacramento
04/94	OMNI Healthcare, Inc. – Sacramento	Sacramento
05/97	Western Health Advantage	Sacramento

*Medi-Cal health plans that were audited by an independent NCQA-licensed auditing firm other than HSAG.

† Kaiser submitted HEDIS data but received a "non-report" because the data did not meet DHS' auditing requirements.

County Organized Health System (COHS):

A COHS is an agency organized and operated by the county with representation from providers, beneficiaries, local government and other interested parties. It contracts with the Medi-Cal Program to cover virtually all the beneficiaries within the county. Beneficiaries have a wide choice of managed care providers but do not have the option of obtaining services under the fee-for-service system unless authorized by the COHS. At the time of this audit, there were five COHS health plans operating in six counties: San Mateo, Santa Barbara, Orange, Santa Cruz, Solano and Napa.

County Organized Health System (COHS)

Start of Operation	Medi-Cal Health Plan	Counties Covered
10/95	CalOPTIMA	Orange
01/96	Central Coast Alliance for Health	Santa Cruz
12/87	Health Plan of San Mateo	San Mateo
05/94	Partnership Health Plan of California	Napa, Solano
09/83	Santa Barbara Health Initiative	Santa Barbara

Two-plan Model:

This is the principal model for the expansion of Medi-Cal managed care in California. In each county designated for this model, two health plans cover the entire TANF-linked population in the county on a mandatory enrollment basis. DHS contracts with one locally developed comprehensive managed care system called a Local Initiative (LI) and one Commercial Plan (CP), selected through a competitive bidding process. The LI is a Knox-Keene licensed health plan developed by the local stakeholders who had significant flexibility in designing a health plan that best meets the needs of the community it serves.

Two-plan Models (CP & LI)

Start of Operation	Medi-Cal Health Plan	Model Type	Counties Covered
02/96	Blue Cross of California*	CP	Alameda, Contra Costa, Fresno, Kern, San Francisco, Santa Clara
07/97	Heath Net	CP	Los Angeles, Fresno
03/99	Molina Medical Centers*	CP	Riverside, San Bernardino
02/97	OMNI Healthcare, Inc.	CP	San Joaquin, Stanislaus
01/96	Alameda Alliance for Health	LI	Alameda
10/97	Blue Cross of California*	LI	Stanislaus
02/97	Contra Costa Health Plan*	LI	Contra Costa
02/96	Health Plan of San Joaquin	LI	San Joaquin
09/96	Inland Empire Health Plan	LI	Riverside, San Bernardino
07/96	Kern Family Health Care	LI	Kern
04/97	L.A. Care Health Plan	LI	Los Angeles
01/97	San Francisco Health Plan	LI	San Francisco
02/97	Santa Clara Family Health Plan	LI	Santa Clara

*Medi-Cal health plans that were audited by an independent NCQA-licensed auditing firm other than HSAG.

The CP is also a Knox-Keene licensed health plan. The presence of the CP is to ensure that the beneficiaries have the option of selecting a health plan that also provides care to privately insured individuals. This is consistent with the expressed intent of the California legislature.

UTILIZATION OF ADMINISTRATIVE DATA TO COLLECT HEDIS MEASURES

Many HEDIS measures were intended to be reported using administrative data. The use of administrative data has definite advantages to health plans allowing for faster, easier, less expensive and less burdensome collection of information. In view of this, there has been a gradual trend for health plans to rely more on their administrative data instead of traditional medical record review.

The graph on page 12 shows the overall distribution of positive numerator events for the eight audited HEDIS measures, as defined by administrative data compared to medical record review. The source of the information is the DST submitted by the health plans and audited by HSAG. The measures (shown from left to right on the graph) are: Prenatal Care in the First Trimester; Initiation of Prenatal Care; Check-Ups After Delivery; Childhood Immunization – 4:3:1:2:2 Series; Well-Child Visits In The First 15 Months Of Life; Well-Child Visits In The Third, Fourth, Fifth and Sixth Year Of Life; Adolescent Well Care Visits; and Eye Exams For People With Diabetes.

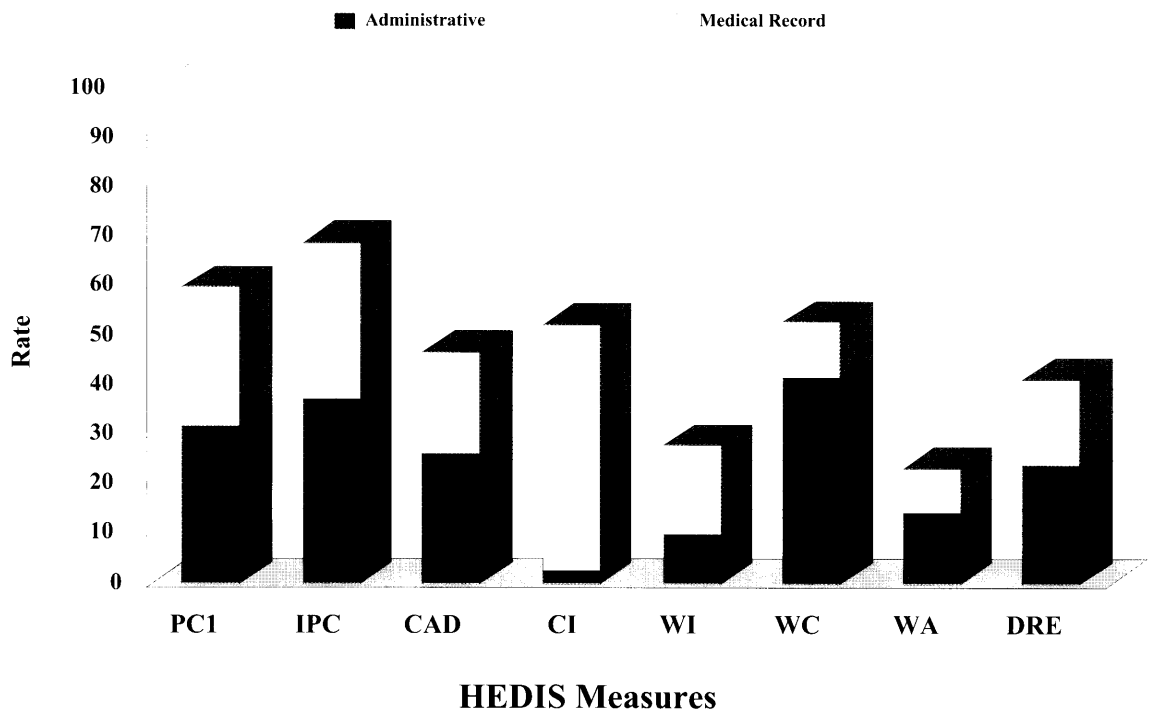
In general, the numerator positives for measures that consisted of multiple numerators (i.e., Childhood Immunizations and Well-Child Visits In The First 15 Months Of Life) were more likely to come from medical record reviews. Measures that required a single service date and code (e.g., International Classification of Disease-9th Revision-Clinical Modification (ICD-9-CM) or Current Procedural Terminology (CPT)) had approximately half (52 percent) of the numerator positives identified through administrative data only.

Caution should be exercised when interpreting the graph on the following page. It should be noted that the design of the DST might cause over- or under-reporting of administrative data versus medical record review for Childhood Immunizations and Well-Child Visits In The First 15 Months Of Life. For example, a child that received three well-child visits administratively and three well-child visits by medical record review would be recorded in the six or more visits column under medical record review, and therefore, the actual occurrence of administrative data for this measure would be underestimated. Additional information that could cause over- or under-reporting of administrative data can be found in the limitations and caveats section of this report.

UTILIZATION OF ADMINISTRATIVE DATA TO COLLECT HEDIS MEASURES

Data Collection Methods Among Eight HEDIS Measures

(Column Height Equals Medi-Cal Rate For Each Measure.)



Note: Reported Rates from health plans that were based on Administrative Data only and had more than 411 eligible cases were restricted to 411cases for comparison.

PC1 - Prenatal Care in the First Trimester
IPC - Initiation of Prenatal Care
CAD - Check-Ups After Delivery
CI - Childhood Immunization – 4:3:1:2:2 Series
WI - Well-Child Visits In The First 15 Months Of Life
WC - Well-Child Visits In The Third, Fourth, Fifth and Sixth Years of Life
WA - Adolescent Well Care Visits
DRE - Eye Exams For People With Diabetes

HEALTH PLAN RESULTS

The eight HEDIS measures that constitute the DHS Accountability Set were selected to represent the areas of clinical quality that are appropriate to the Medi-Cal population. Four of these measures evaluate the effectiveness of care provided to Medi-Cal beneficiaries while three measures assess the utilization of services. The access to or availability of care is measured by the rate of Initiation of Prenatal Care. The measures fall into three areas of clinical interest, namely Perinatal Care, Pediatric Preventive Care and Chronic Disease Management. The latter area of evaluation was undertaken for the first time by the five COHS to better represent the larger number of health plan members with chronic illness. The measure selected for this area was Eye Examinations for Persons with Diabetes.

Wherever available, the HEDIS 1999 National Medicaid Benchmark Rates (50th Percentile) have been displayed. An explanation of the use of the 50th Percentile is provided in the following example: For the Childhood Immunization – Combination 2 Rate (4:3:1:2:3 series), the 50th Percentile of the HEDIS 1999 National Medicaid Benchmark is 54 percent. This means half of the health plans with reported results recorded rates lower than this value (54 percent) and half of the Medicaid health plans across the nation recorded rates above the value. In statistical terms, this rate is referred to as median value.

The purpose of the series of tables (A1-A5 on pages 15-20, B1-B3 on pages 22-24, and C1 on page 26) is to present the health plan comparisons of the HEDIS results reported in 1999. The results measure performance for the calendar year 1998. All sampling and data collection processes met the NCQA HEDIS technical specifications. The tables also present the 95 percent confidence intervals for the results of each of the health plans evaluated. This enables appropriate comparisons between health plans and also allows for a statistical ranking of health plans based on the results. The health plans are divided into three categories: those performing significantly above the Medi-Cal average, those performing significantly below the Medi-Cal average, and those health plans whose rates do not significantly differ from the average.

For several measures in the DHS Accountability Set, there were certain health plans for which data were unavailable. Based on HEDIS reporting methodologies, the results for these health plans have been identified in the footnotes as either Not Reported (NR) or Not Applicable (NA). The interpretation of these identifiers is provided in the following table:

Audit Measure Designations

Reporting Category	Interpretation
Report (R)	1. Health plan followed the specifications and produced a reportable rate for the measures.
Not Reported (NR)	2. Health plan calculated the measure but chose not to report the result. 3. Health plan calculated the measure but the results were materially biased.
Not Applicable (NA)	4. Measure is not applicable to the particular population. 5. The managed care organization (MCO) had an insufficient denominator population to support a reported rate. 6. Health plan does not offer benefit to the population.

Source: *1999 NCQA HEDIS Compliance Audit Standards™, Policies and Procedures, HEDIS Volume 5.*

Pediatric Preventive Care

The evaluation of Pediatric Preventive Care Services consisted of an assessment of Childhood Immunization Status, a measure of effectiveness of care, and Well-Child Care Visits in three different age-groups, which are indicators of utilization of healthcare services. Age-appropriate childhood immunization is one of the foremost indicators of quality of health care and a prime goal of prevention. Diphtheria, tetanus, pertussis, polio, measles, mumps, rubella, H. influenza Type B, and hepatitis B can be easily prevented provided children receive the requisite vaccinations.

In addition to immunizations, there are other services that are a component of pediatric preventive care. The most effective mechanism by which the preventive services can be provided is regular and comprehensive well-child visits. These visits are essential to the prevention, recognition and treatment of health conditions that could have significant developmental consequences for individuals under 21 years of age.

Clinical Guidelines and Standards

The Childhood Immunization Status measure is based on the 1998 standards set forth by the Advisory Committee on Immunization Practices (ACIP) and the immunization schedule recommended by the Centers for Disease Control and Prevention (CDC). The measures selected for well-child care are based on the standards set forth by the American Academy of Pediatrics (AAP).

Analysis and Interpretation

Childhood Immunization Status

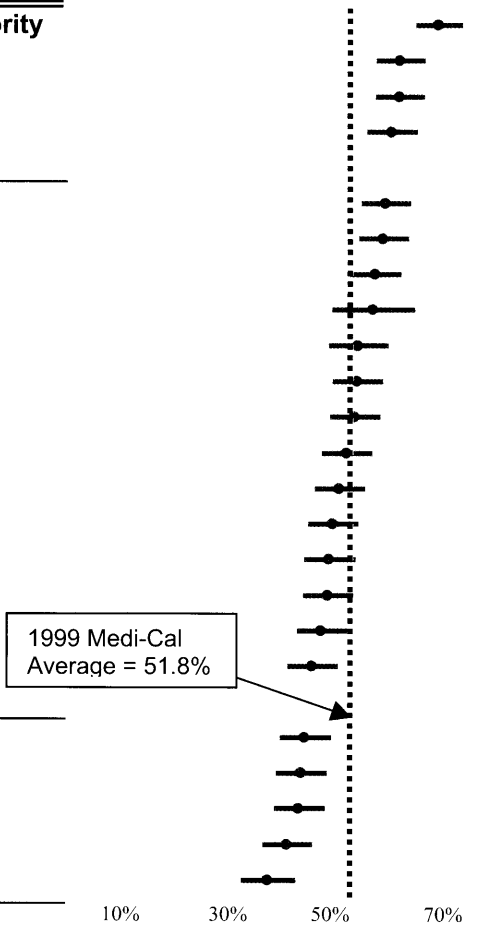
The first measure that is included in the domain of effectiveness of care is Childhood Immunization Status (HEDIS Combination 1 – 4:3:1:2:2 series). The reported combination rate comprises four doses of diphtheria, tetanus, pertussis (DTP), three doses of oral polio vaccine (OPV), one dose of measles, mumps, rubella (MMR), two doses of H. influenza Type B vaccine (HIB), and two doses of hepatitis B vaccine (HBV). All of these must have been administered before the child's second birthday. The Medi-Cal average for this rate was 51.8 percent, with four health plans having rates significantly higher than this value (Table A1, page 15). There were five health plans with rates that were significantly lower than the Medi-Cal average. There is no available HEDIS 1999 National Medicaid Benchmark for this measure.

A second combination rate (HEDIS Combination 2 – 4:3:1:2:3 series) is also presented in this report in Table A2 (page 16). This combination rate comprises four doses of DTP, three doses of OPV, one dose of MMR, two doses of HIB and three doses of HBV. The Medi-Cal average for this rate was 50.0 percent, with four health plans having rates significantly higher than this value. There were four health plans with rates that were significantly lower than the Medi-Cal average. The overall Medi-Cal average rate of 50 percent is lower than the 50th percentile HEDIS 1999 National Medicaid Benchmark of 54 percent.

Table A1: Childhood Immunization Status - HEDIS Combination 1 - 4:3:1:2:2 Series

Description: The percentage of Medicaid enrolled members who turned two years old during the 12 month study period, who were continuously enrolled in the health plan for 12 months immediately preceding their second birthday, (with no more than a one- month gap in coverage), and who received the following immunizations - 4 doses of DTP, 3 doses of OPV, 1 dose of MMR, 2 doses of HIB and 2 doses of HBV by their second birthday.

Health Plan Name	95% Confidence Interval	Cases Reviewed	Rate	Rank
Santa Barbara Regional Health Authority		430	69.3%	▲
Kern Family Health Care		431	62.0%	▲
Partnership Health Plan of California		430	61.9%	▲
Contra Costa Health Plan		411	60.3%	▲
Blue Cross of California – GMC		431	59.2%	❍
Blue Cross of California – CP		431	58.7%	❍
Inland Empire Health Plan		411	57.2%	❍
Blue Cross of California – LI		162	56.8%	❍
Maxicare – GMC		308	53.9%	❍
Health Plan of San Mateo		428	53.7%	❍
CalOPTIMA		432	53.2%	❍
San Francisco Health Plan		431	51.7%	❍
Alameda Alliance for Health		431	50.3%	❍
OMNI HealthCare – GMC		432	49.1%	❍
Santa Clara Family Health Plan		411	48.4%	❍
OMNI HealthCare – CP		432	48.2%	❍
Health Plan of San Joaquin		435	46.9%	❍
Health Net – CP		430	45.1%	❍
Central Coast Alliance for Health		411	43.8%	▼
Molina Medical Centers – CP		411	43.1%	▼
L.A. Care Health Plan		415	42.7%	▼
Health Net – GMC		431	40.4%	▼
Western Health Advantage – GMC		346	36.7%	▼
Kaiser Foundation Health Plan			NR**	



Statistical Rating:
▲ - Rate is significantly higher ($p < 0.05$) than the Medi-Cal Average.
❍ - Rate does not significantly differ from the Medi-Cal Average.
▼ - Rate is significantly lower ($p < 0.05$) than the Medi-Cal Average.

**NR means that health plans calculated the measure but chose not to report the result or that the results were materially biased.

Table A2: Childhood Immunization Status - HEDIS Combination 2 - 4:3:1:2:3 Series

Description: The percentage of Medicaid enrolled members who turned two years during the 12 month study period, who were continuously enrolled in the health plan for 12 months immediately preceding their second birthday (with no more than one- month gap in coverage), and who received the following immunizations - 4 doses of DTP, 3 doses of OPV, 1 dose of MMR, 2 doses of HIB and 3 doses of HBV by their second birthday.

Plan Name	95% Confidence Intervals	Cases Reviewed	Rate	Rank
Santa Barbara Regional Health Authority		430	68.8%	▲
Partnership Health Plan of California		430	59.8%	▲
Contra Costa Health Plan		411	58.9%	▲
Blue Cross of California - GMC		431	58.5%	▲
Blue Cross of California - CP		431	56.4%	❍
Kern Family Health Care		431	55.9%	❍
Inland Empire Health Plan		411	55.7%	❍
Blue Cross of California - LI		162	55.6%	❍
Maxicare – GMC		308	53.6%	❍
CalOPTIMA		432	52.6%	❍
Health Plan of San Mateo		428	51.9%	❍
San Francisco Health Plan		431	50.8%	❍
OMNI HealthCare – CP		432	47.7%	❍
Santa Clara Health Plan		411	46.7%	❍
OMNI HealthCare - GMC		432	46.5%	❍
Health Plan of San Joaquin		435	45.8%	❍
Alameda Alliance for Health		431	45.7%	❍
Health Net - CP		430	44.2%	❍
L.A. Care Health Plan		415	42.2%	❍
Molina Medical Centers - CP		110	39.9%	▼
Central Coast Alliance for Health		411	38.7%	▼
Health Net - GMC		431	38.5%	▼
Western Health Advantage - GMC		346	35.8%	▼
Kaiser Foundation Health Plan - GMC			NR**	
HEDIS 1999 National Medicaid Benchmark (50th Percentile)			***54%***	

Statistical Rating: ▲ - Rate is significantly higher ($p < 0.05$) than the Medi-Cal Average.
❍ - Rate does not significantly differ from the Medi-Cal Average.
▼ - Rate is significantly lower ($p < 0.05$) than the Medi-Cal Average.

**NR means that health plans calculated the measure but chose not to report the result or that the results were materially biased.

Well-Child Visits

In the analysis of Well-Child Care Visits, it is important to remember that the expected number of services varies in the three specific age groups. During the first 15 months of life, children should have six or more well-child visits. In the remaining two age groups (three to six years of age and adolescent children, 12 through 21 years of age), a single annual visit is acceptable for adequate well-child care.

- Among children 15 months of age, the Medi-Cal average for six or more Well-Child Visits was 26.0 percent, with four health plans performing significantly better than the average (Table A3, page 18). There were four health plans with rates significantly lower than the Medi-Cal average. The Medi-Cal average is slightly below the HEDIS 1999 National Medicaid Benchmark of 28 percent.
- Eighteen of the 24 health plans had reportable results for the Well-Child Visits in the Third, Fourth, Fifth and Sixth Years of Life measure. The Medi-Cal average for this measure was 51.7 percent, with three health plans significantly above and three health plans significantly below this rate (Table A4, page 19). It is nearly identical with the HEDIS 1999 National Medicaid Benchmark of 52 percent.
- Out of the three age groups, the lowest rates were among the adolescent population, with an overall Medi-Cal average of 21.2 percent (Table A5, page 20). Four health plans were significantly above and four health plans were below the Medi-Cal average. The Medi-Cal average is lower than the HEDIS 1999 National Medicaid Benchmark of 26 percent.

Unlike the other health plan model types, the five COHS have a greater proportion of members with chronic illness. Consequently, DHS and the COHS agreed to collect and report a HEDIS measure that better represented this segment of their Medi-Cal membership. The HEDIS measure Eye Exams for People with Diabetes was chosen to replace Well-Child Visits in the Third, Fourth, Fifth and Sixth Year of Life for the COHS.

Table A3: Well-Child Visits in the First 15 Months of Life

Description: The percentage of Medicaid enrolled members who turned 15 months old during the 12 month study period, who were continuously enrolled in the health plan from 31 days of age (with no more than a one- month gap in coverage), and who received zero to two, three to five, or six or more well-child visits with a primary care practitioner during their first 15 months of life.

Health Plan Name	Sample Cases	0 - 2 Visits Rate (%)	3 - 5 Visits Rate (%)	6 or More Visits Rate (%)	6 or More Visits Rank
Partnership Health Plan of California*	411	13.0%	34.9%	52.0%	▲
San Francisco Health Plan	115	13.0%	38.3%	48.7%	▲
Santa Barbara Regional Health Authority	431	16.9%	40.1%	42.9%	▲
Health Plan of San Mateo	428	26.6%	33.4%	40.0%	▲
Santa Clara Family Health Plan	411	27.7%	34.1%	38.2%	❍
Kern Family Health Care	297	18.2%	51.2%	30.6%	❍
Health Net - GMC	237	23.2%	46.8%	30.0%	❍
Alameda Alliance for Health	303	41.3%	32.7%	26.1%	❍
OMNI HealthCare - CP	54	11.1%	63.0%	25.9%	❍
CalOPTIMA	432	32.6%	43.5%	23.8%	❍
OMNI HealthCare - GMC	68	13.2%	66.2%	20.6%	❍
Central Coast Alliance for Health	412	18.7%	61.4%	19.9%	❍
Inland Empire Health Plan	178	33.1%	50.6%	16.3%	❍
Health Net - CP	431	57.6%	26.2%	16.2%	❍
Western Health Advantage - GMC	31	22.6%	64.5%	12.9%	▼
Blue Cross of California - CP*	411	39.5%	53.8%	6.7%	▼
Blue Cross of California - GMC	308	33.8%	59.7%	6.5%	▼
Molina Medical Centers - CP	411	83.7%	14.8%	1.5%	▼
Health Plan of San Joaquin					
Kaiser Foundation Health Plan					
L.A. Care Health Plan			NR**		
Medi-Cal Average		**32.8%**	**41.2%**	**26.0%**	
HEDIS 1999 National Medicaid Benchmark (50th Percentile)				***28%***	

Statistical Rating: ▲ - Rate is significantly higher ($p < 0.05$) than the Medi-Cal Average.
❍ - Rate does not significantly differ from the Medi-Cal Average.
▼ - Rate is significantly lower ($p < 0.05$) than the Medi-Cal Average.

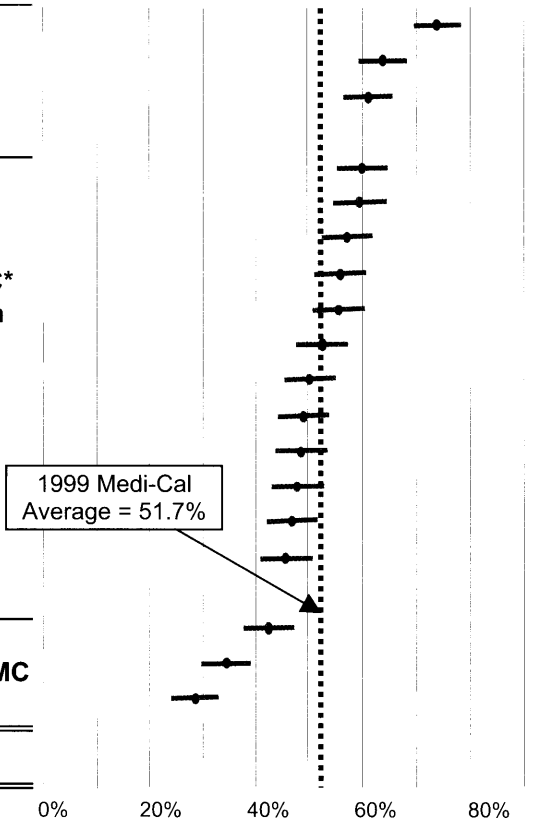
*These health plans submitted only Administrative Data and a proportionate sample of 411 cases was used in calculating the Medi-Cal Average.

**NR means that health plans calculated the measure but chose not to report the result or that the results were materially biased.

Table A4: Well-Child Visits in the Third, Fourth, Fifth & Sixth Years of Life

Description: The percentage of Medicaid enrolled members who were three, four, five or six years old during the 12-month study period who were continuously enrolled during that period (with no more than a one- month gap in coverage) and who received one or more well-child visit(s) with a primary care practitioner during the study year.

Health Plan Name	95% Confidence Interval	Cases Reviewed	Rate	Rank
Contra Costa Health Plan*		411	74.0%	▲
San Francisco Health Plan		431	63.8%	▲
Kern Family Health Care		431	61.0%	▲
Blue Cross of California - CP*		411	59.8%	❍
Health Net - GMC		365	59.4%	❍
OMNI HealthCare - GMC		432	56.9%	❍
Blue Cross of California - GMC*		411	55.7%	❍
Santa Clara Family Health Plan		411	55.5%	❍
Health Plan of San Joaquin*		411	52.4%	❍
OMNI HealthCare - CP		432	50.0%	❍
Alameda Alliance for Health		432	48.8%	❍
Molina Medical Centers - CP		411	48.4%	❍
Blue Cross of California - LI*		411	47.7%	❍
Maxicare - GMC		433	46.7%	❍
Inland Empire Health Plan		411	45.5%	❍
Health Net - CP		432	42.4%	▼
Western Health Advantage- GMC		411	34.3%	▼
L.A. Care Health Plan		416	28.6%	▼
Kaiser Foundation HP – GMC			NR**	



HEDIS 1999 National Medicaid Benchmark (50th Percentile) ***52%***

Statistical Rating: ▲ - Rate is significantly higher ($p < 0.05$) than the Medi-Cal Average.
❍ - Rate does not significantly differ from the Medi-Cal Average.
▼ - Rate is significantly lower ($p < 0.05$) than the Medi-Cal Average.

*These health plans submitted only Administrative Data and a proportionate sample of 411 cases was used in calculating the Medi-Cal Average.

**NR means that health plans calculated the measure but chose not to report the result or that the results were materially biased.

Note: In order to represent their adult members, the five COHS health plans measured Eye Exams for People with Diabetes in place of Well-Child Visits for children three to six years of age.

Table A5: Adolescent Well-Care Visits

Description: The percentage of Medicaid enrolled members between the age of 12 and 21 years, who were continuously enrolled in the health plan for the 12- month study period, (with no more than a one month gap in coverage) and who received one or more well-care visit(s) with a primary care practitioner during the study period.

Plan Name	Cases Reviewed	Rate	Rank
Health Net - GMC	432	32.4%	▲
Partnership Health Plan of California	431	29.9%	▲
San Francisco Health Plan	431	29.7%	▲
Santa Barbara Regional Health Authority	431	28.8%	▲
OMNI HealthCare - GMC	432	26.2%	❍
Health Plan of San Mateo	431	26.0%	❍
OMNI HealthCare - CP	432	24.3%	❍
Alameda Alliance for Health	432	23.6%	❍
Inland Empire Health Plan	411	23.1%	❍
CalOPTIMA	432	22.7%	❍
Contra Costa Health Plan	411	21.5%	❍
Molina Medical Centers - CP	411	20.2%	❍
Blue Cross of California – CP*	411*	20.1%	❍
Santa Clara Family Health Plan	411	20.0%	❍
Kern Family Health Care	432	19.2%	❍
Central Coast Alliance for Health*	411*	19.0%	❍
Blue Cross of California – GMC*	411*	17.8%	❍
Blue Cross of California – LI*	411*	17.5%	❍
Health Net - CP	432	16.9%	❍
Maxicare – GMC	439	14.4%	▼
Health Plan of San Joaquin*	411*	12.9%	▼
Western Health Advantage – GMC	411	12.7%	▼
L.A. Care Health Plan	41	8.2%	▼
Kaiser Foundation Health Plan – GMC		NR**	

95% Confidence Interval

10% 20% 30% 40%

1999 Medi-Cal Average = 21.2%

HEDIS 1999 National Medicaid Benchmark (50th Percentile) ***26%***

Statistical Rating: ▲ - Rate is significantly higher ($p < 0.05$) than the Medi-Cal Average.
❍ - Rate does not significantly differ from the Medi-Cal Average.
▼ - Rate is significantly lower ($p < 0.05$) than the Medi-Cal Average.

*These health plans submitted only Administrative Data and a proportionate sample of 411 cases was used in calculating the Medi-Cal Average.

**NR means that health plans calculated the measure but chose not to report the result or that the results were materially biased.

Perinatal Care

The care provided women before and after childbirth is of utmost importance for any Medicaid program. No single indicator is a measure of exemplary prenatal care. Greater adherence to the national perinatal care guidelines that form the basis for the HEDIS quality indicators increases the possibility for a better pregnancy outcome. The three HEDIS measures that have been evaluated across the Medi-Cal health plans are Prenatal Care in the First Trimester, Initiation of Prenatal Care and Check-Ups after Delivery. The results of these indicators provide a view of the care given to the Medi-Cal childbearing population in managed care.

Clinical Guidelines and Standards

Most prenatal care studies suggest that the earlier a patient enrolls with her physician, the better the pregnancy outcomes for both the mother and child. Based on these findings, the American College of Obstetricians and Gynecologists (ACOG) has set forth clinical standards that constitute the minimum level of appropriate care during pregnancy. Additionally, the Medi-Cal managed care guidelines for obstetrical care have also been utilized in selecting the measures to assess the quality of care provided. The three measures selected have been rigorously evaluated against these current clinical standards for appropriateness of care.

Analysis and Interpretation

The results indicate that on average, 57.0 percent of the Medicaid-enrolled pregnant women received Prenatal Care in the First Trimester of Pregnancy (Table B1, page 22). There were three health plans that recorded rates significantly higher than the Medi-Cal average for this measure with the highest rate being 76.7 percent. Five health plans had rates significantly lower than the average. The Medi-Cal average is four percentage points lower than the HEDIS 1999 National Medicaid Benchmark of 61 percent.

The Medi-Cal average for Initiation of Prenatal Care (Table B2, page 23), which measures the accessibility or availability to care, was 69.0 percent, with three health plans significantly higher than the average. Four health plans had rates significantly lower than the average. The HEDIS 1999 National Medicaid Benchmark (50th Percentile) was 68 percent.

The HEDIS 1999 specification requires that a postpartum visit occur on or between 21 and 56 days after delivery. This is a more rigorous measure than the specification used previously, where a postpartum visit was counted if it occurred at anytime on or before 56 days after delivery. The Medi-Cal average for this measure was 46.2 percent with two health plans having rates significantly higher than the average (Table B3, page 24). There were three health plans that registered rates significantly lower than the Medi-Cal average. The Medi-Cal average is lower than the HEDIS 1999 National Medicaid Benchmark of 48 percent.

Table B1: Prenatal Care in the First Trimester

Description: The percentage of Medicaid enrolled women who delivered a live birth during the 12 month study period, who were continuously enrolled for 280 days prior to delivery and who had a prenatal care visit(s) on or between 176 to 280 days prior to delivery. Members who have had no more than one gap in enrollment of up to 45 days anytime on or between the day of delivery and 175 days prior to delivery were included in this measure.

Health Plan Name	Cases Reviewed	Rate	Rank
Blue Cross of California - LI	60	76.7%	▲
Santa Barbara Regional Health Authority	368	74.2%	▲
Blue Cross of California - GMC	430	74.0%	▲
Central Coast Alliance for Health	130	71.5%	❍
Alameda Alliance for Health	429	70.9%	❍
Blue Cross of California - CP	432	70.6%	❍
OMNI HealthCare - GMC	183	67.8%	❍
OMNI HealthCare - CP	284	66.2%	❍
Health Plan of San Mateo	360	64.7%	❍
L.A. Care Health Plan	411	62.0%	❍
CalOPTIMA	452	60.4%	❍
Santa Clara Family Health Plan	222	59.5%	❍
Health Plan of San Joaquin	425	57.4%	❍
Partnership Health Plan of California	438	56.8%	❍
San Francisco Health Plan	214	54.2%	❍
Health Net - CP	432	53.0%	❍
Health Net - GMC	282	48.9%	❍
Inland Empire Health Plan	411	38.7%	▼
Western Health Advantage - GMC	144	37.5%	▼
Contra Costa Health Plan*	411	33.1%	▼
Molina Medical Centers - CP	170	30.6%	▼
Kern Family Health Care*		30.5%	▼
Kaiser Foundation Health Plan - GMC		NR**	
Maxicare – GMC		NR**	
HEDIS 1999 National Medicaid Benchmark (50th Percentile)		***61%***	

95% Confidence Interval

1999 Medi-Cal Average = 57.0%

10% 30% 50% 70% 90%

Statistical Rating: ▲ - Rate is significantly higher ($p < 0.05$) than the Medi-Cal Average.
❍ - Rate does not significantly differ from the Medi-Cal Average.
▼ - Rate is significantly lower ($p < 0.05$) than the Medi-Cal Average.

*These health plans submitted only Administrative Data and a proportionate sample of 411 cases was used in calculating the Medi-Cal Average.

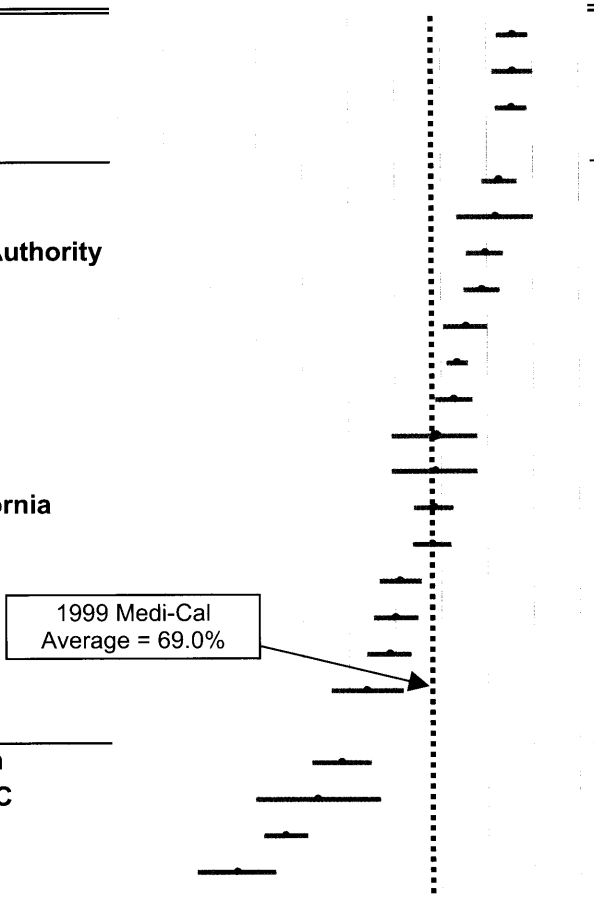
**NR means that health plans calculated the measure but chose not to report the result or that the results were materially biased.

Table B2: Initiation of Prenatal Care

Description: The percentage of Medicaid enrolled women who had (a) live birth(s) during the 12- month study period, who were enrolled in the health plan no more than 279 days but at least 43 days prior to delivery with no gaps in enrollment, and who had their first prenatal visit within 42 days of enrollment or by the end of the first trimester for those women who enroll in a health plan during the early stage of pregnancy. Women enrolled in the health plan for 42 days or less prior to delivery were not included in this measure.

Health Plan Name	Cases Reviewed	Rate	Rank
Kern Family Health Care	429	85.8%	▲
Alameda Alliance for Health	253	85.8%	▲
Blue Cross of California - GMC	407	85.5%	▲
Health Plan of San Joaquin	395	82.8%	❍
OMNI HealthCare - GMC	94	81.9%	❍
Santa Barbara Regional Health Authority	389	79.7%	❍
OMNI HealthCare - CP	430	79.1%	❍
Blue Cross of California - LI	317	75.4%	❍
Blue Cross of California - CP*	411	73.6%	❍
Health Plan of San Mateo	453	72.8%	❍
Health Net - GMC	102	68.6%	❍
San Francisco Health Plan	102	68.6%	❍
Partnership Health Plan of California	453	68.4%	❍
CalOPTIMA	466	68.0%	❍
Health Net - CP	432	61.1%	❍
L.A. Care Health Plan	413	60.0%	❍
Inland Empire Health Plan	411	58.6%	❍
Santa Clara Family Health Plan	169	53.8%	❍
Central Coast Alliance for Health	240	48.3%	▼
Western Health Advantage - GMC	58	43.1%	▼
Contra Costa Health Plan	398	36.1%	▼
Molina Medical Centers - CP	110	25.5%	▼
Kaiser Foundation Health Plan - GMC		NR**	
Maxicare - GMC		NR**	

95% Confidence Interval



HEDIS 1999 National Medicaid Benchmark (50th Percentile) ***68%***

Statistical Rating: ▲ - Rate is significantly higher ($p < 0.05$) than the Medi-Cal Average.
❍ - Rate does not significantly differ from the Medi-Cal Average.
▼ - Rate is significantly lower ($p < 0.05$) than the Medi-Cal Average.

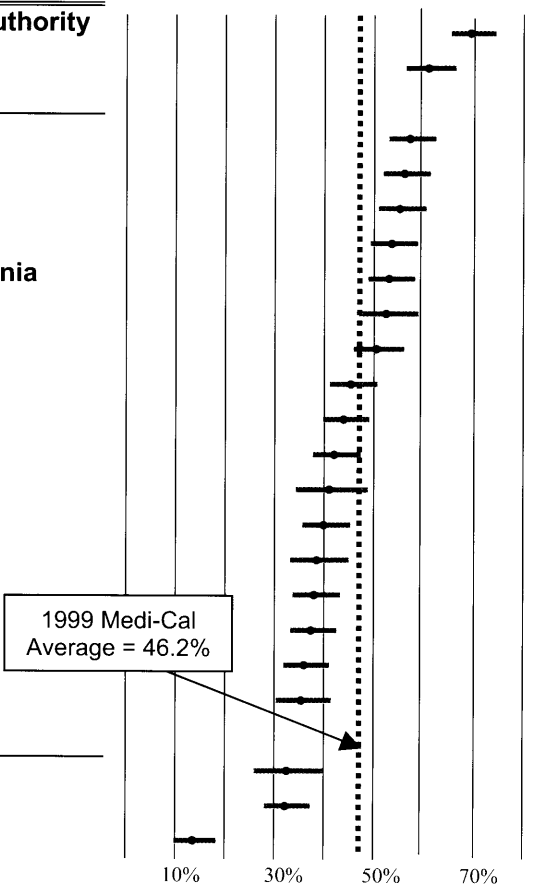
*These health plans submitted only Administrative Data and a proportionate sample of 411 cases was used in calculating the Medi-Cal Average.

**NR means that health plans calculated the measure but chose not to report the result or that the results were materially biased.

Table B3: Check-Ups After Delivery

Description: The percentage of Medicaid enrolled women who delivered (a) live birth(s) during the 12 month study period, who were continuously enrolled at least 56 days after delivery, with no breaks in enrollment, and who had a postpartum visit on or between 21 and 56 days after delivery.

Health Plan Name	95% Confidence Interval	Cases Reviewed	Rate	Rank
Santa Barbara Regional Health Authority		412	69.9%	▲
San Francisco Health Plan		378	61.4%	▲
Blue Cross of California - GMC		432	57.6%	❍
Kern Family Health Care		430	56.5%	❍
Blue Cross of California - CP		428	55.6%	❍
Health Plan of San Mateo		430	54.0%	❍
Partnership Health Plan of California		447	53.5%	❍
OMNI HealthCare - GMC		282	52.8%	❍
Blue Cross of California - LI		385	50.9%	❍
OMNI HealthCare - CP		428	45.8%	❍
CalOPTIMA		460	44.4%	❍
Health Plan of San Joaquin		419	42.5%	❍
Santa Clara Family Health Plan		188	41.5%	❍
Inland Empire Health Plan		411	40.4%	❍
Central Coast Alliance for Health		277	39.0%	❍
L.A. Care Health Plan		411	38.4%	❍
Health Net - CP		431	37.8%	❍
Alameda Alliance for Health		431	36.4%	❍
Health Net - GMC		304	35.9%	❍
Western Health Advantage - GMC		182	33.0%	▼
Contra Costa Health Plan*		411	32.6%	▼
Molina Medical Centers - CP		279	14.0%	▼
Kaiser Foundation Health Plan - GMC			NR**	
Maxicare - GMC			NR**	



HEDIS 1999 National Medicaid Benchmark (50th Percentile) ***48%***

Statistical Rating: ▲ - Rate is significantly higher ($p < 0.05$) than the Medi-Cal Average.
❍ - Rate does not significantly differ from the Medi-Cal Average.
▼ - Rate is significantly lower ($p < 0.05$) than the Medi-Cal Average.

*Contra Costa Health Plan submitted only Administrative Data and a proportionate sample of 411 cases was used in calculating the Medi-Cal Average.

**NR means that health plans calculated the measure but chose not to report the result or that the results were materially biased.

Chronic Disease Management

According to 1998 United States estimates, approximately 10.3 million individuals have been diagnosed with diabetes. The disease and its complications cost the United States approximately $98 billion annually in medical care and lost wages. Diabetes is one of the more common chronic diseases afflicting adults.

Diabetic retinopathy is one of the most common complications associated with diabetes and is the leading cause of blindness among working-age Americans. Studies such as the Diabetes Control and Complications Trial (DCCT) have established that intensive diabetes management at an early stage can prevent and delay the progression of diabetic retinopathy. Regular screening has also been proven to dramatically decrease the costs associated with the complications of diabetes.

Clinical Guidelines and Standards

Based on the DCCT and other epidemiological studies, the American Diabetes Association established clinical standards of care for diabetes and its complications. In addition to these standards, the National Diabetes Quality Improvement Project (DQIP) was initiated with the goal of developing a common core set of diabetes performance measures that allow for fair comparisons and stimulate quality improvement among health plans. This initiative sought to bring together the work of prominent leaders in the field in creating a set of diabetes-specific performance and outcome measures. NCQA has used these recommendations as the basis for the HEDIS measure, 'Eye Exams for People with Diabetes.'

The five COHS health plans have a greater proportion of members with chronic illnesses than other Medi-Cal health plan model types. Consequently, DHS and the COHS health plans agreed to collect and report a measure that better represented this segment of their Medi-Cal membership. In place of one of the four pediatric preventive care measures, Eye Exams for People with Diabetes was chosen. This HEDIS measure is designed to reflect the effectiveness of care delivered.

Analysis and Interpretation

The five COHS health plans that participated were CalOPTIMA, Central Coast Alliance for Health, Health Plan of San Mateo, Partnership Health Plan and Santa Barbara Regional Health Authority. The overall COHS health plan average was 41.3 percent with a range between 18 and 52 percent (Table C1, page 26). One health plan's rate was significantly lower than the Medi-Cal average. The Medi-Cal average exceeds the HEDIS 1999 National Medicaid Benchmark of 38 percent.

Table C1: Eye Exams for People with Diabetes

Description: The percentage of Medicaid members with diabetes (Type 1 and Type 2), 18 years to 25 years of age, who were continually enrolled during the 12-month study period and who received a retinal examination during that period.

Health Plan Name	95% Confidence Interval	Cases Reviewed	Rate	Rank
Santa Barbara Regional Health Authority		**469**	**52.0%**	❍
Partnership Health Plan of California	1999 Medi-Cal Average = 41.3%	**417**	**49.9%**	❍
Health Plan of San Mateo		**461**	**49.2%**	❍
CalOPTIMA		**452**	**35.2%**	❍
Central Coast Alliance for Health		**411**	**18.0%**	▼
	10% 30% 50%			
HEDIS 1999 National Medicaid Benchmark (50th Percentile)			***38%***	

Statistical Rating: ▲ - Rate is significantly higher ($p < 0.05$) than the Medi-Cal Average.
❍ - Rate does not significantly differ from the Medi-Cal Average.
▼ - Rate is significantly lower ($p < 0.05$) than the Medi-Cal Average.

Note: The five County Organized Health System Plans chose to measure rates of Eye Exams for People with Diabetes in place of the rate of Well-Child Visits in children three to six years of age. This was done in order to reflect the large number of members with chronic illness in these health plans.

RESULTS BY HEALTH PLAN MODEL TYPE

Pediatric Preventive Care

The graphs on pages 28 to 32 provide results that represent each area of clinical evaluation by health plan model type. Wherever available, the HEDIS 1999 National Medicaid Benchmark Rates (50th Percentile) have been displayed in the graph to allow for meaningful comparisons of health plan model type results.

An explanation of the use of the 50th percentile is provided through the following example. For the Childhood Immunization – Combination 2 Rate (4:3:1:2:3 series), the 50th percentile of the HEDIS 1999 National Medicaid Results is 54 percent. This means that half of the health plans with reported results recorded rates lower than this value (54 percent) and half of the Medicaid health plans across the nation recorded rates above the value. In statistical terms, this rate is referred to as the median value.

In the assessment of the Childhood Immunization Status – Combination 1 (4:3:1:2:2 series), the COHS had the highest average rate (56.5 percent). This rate was statistically higher ($p < 0.05$) than the rates of all the other health plan model types (Graph Al, page 28).

Similar results were noted in Childhood Immunization Status – Combination 2 (4:3:1:2:3 series), where the COHS health plans showed an average rate of 54.5 percent, significantly higher than the rest (Graph A2, page 29).

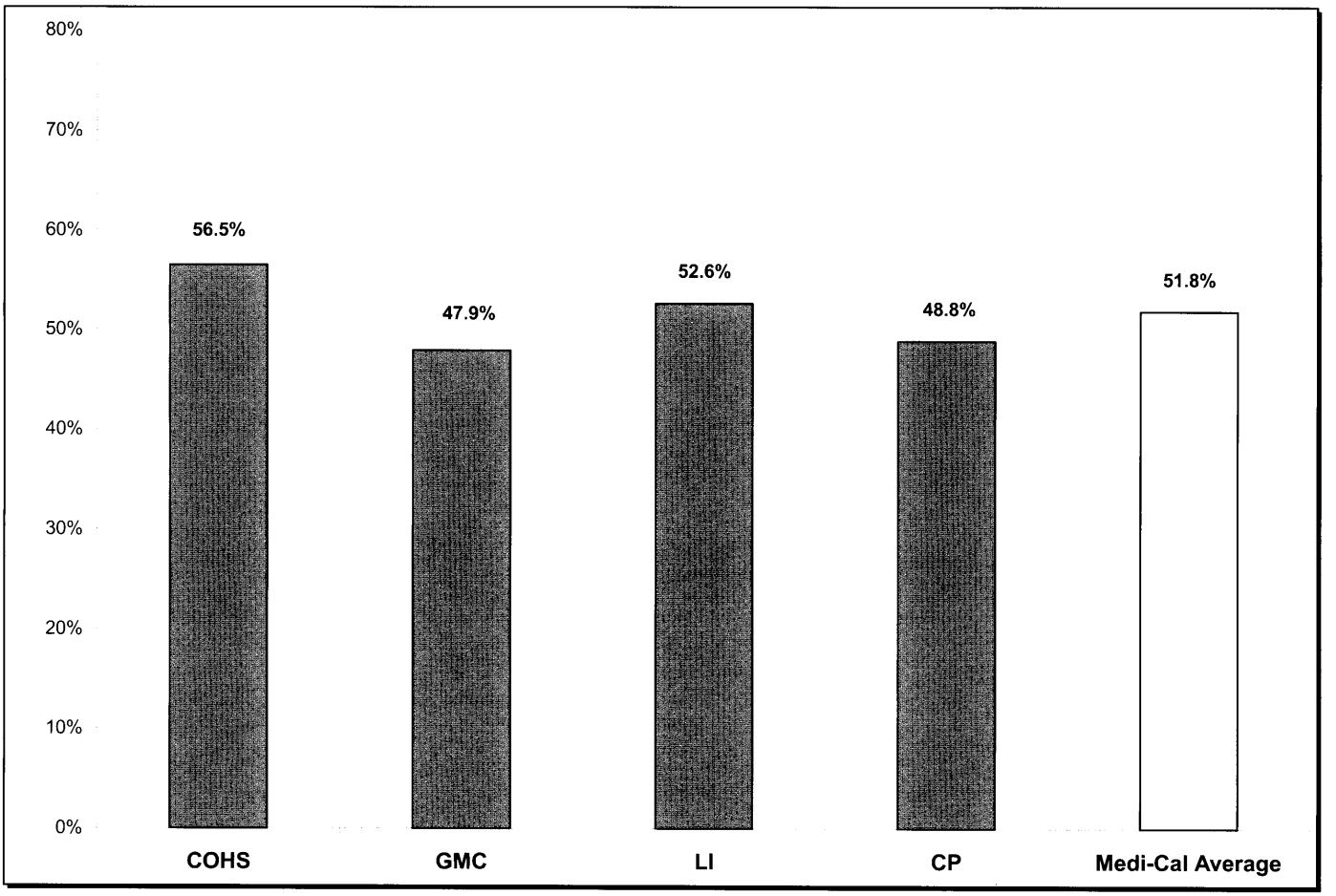
With regard to Well-Child Visits, the results indicate that in the 0-to-15-month age group, the best results were seen in the COHS health plans (35.7 percent). The average rate for the CPs (8.8 percent) was statistically lower ($p < 0.05$) than the average rates for all other health plan model types (Graph A3, page 30). The overall results in the three-to-six-year age group showed no statistical difference between the various health plan model types (Graph A4, page 31).

In the adolescent population, the COHS once again had the highest rate (25.3 percent). The lowest rate for this measure (19.6 percent) was seen in the Local Initiatives (LIs). This rate was significantly lower ($p < 0.05$) than those of all the other health plan model types (Graph A5, page 32).

RESULTS BY HEALTH PLAN MODEL TYPE

Pediatric Preventive Care

Graph A1: Childhood Immunization Status - Combination 1 (4:3:1:2:2 Series)

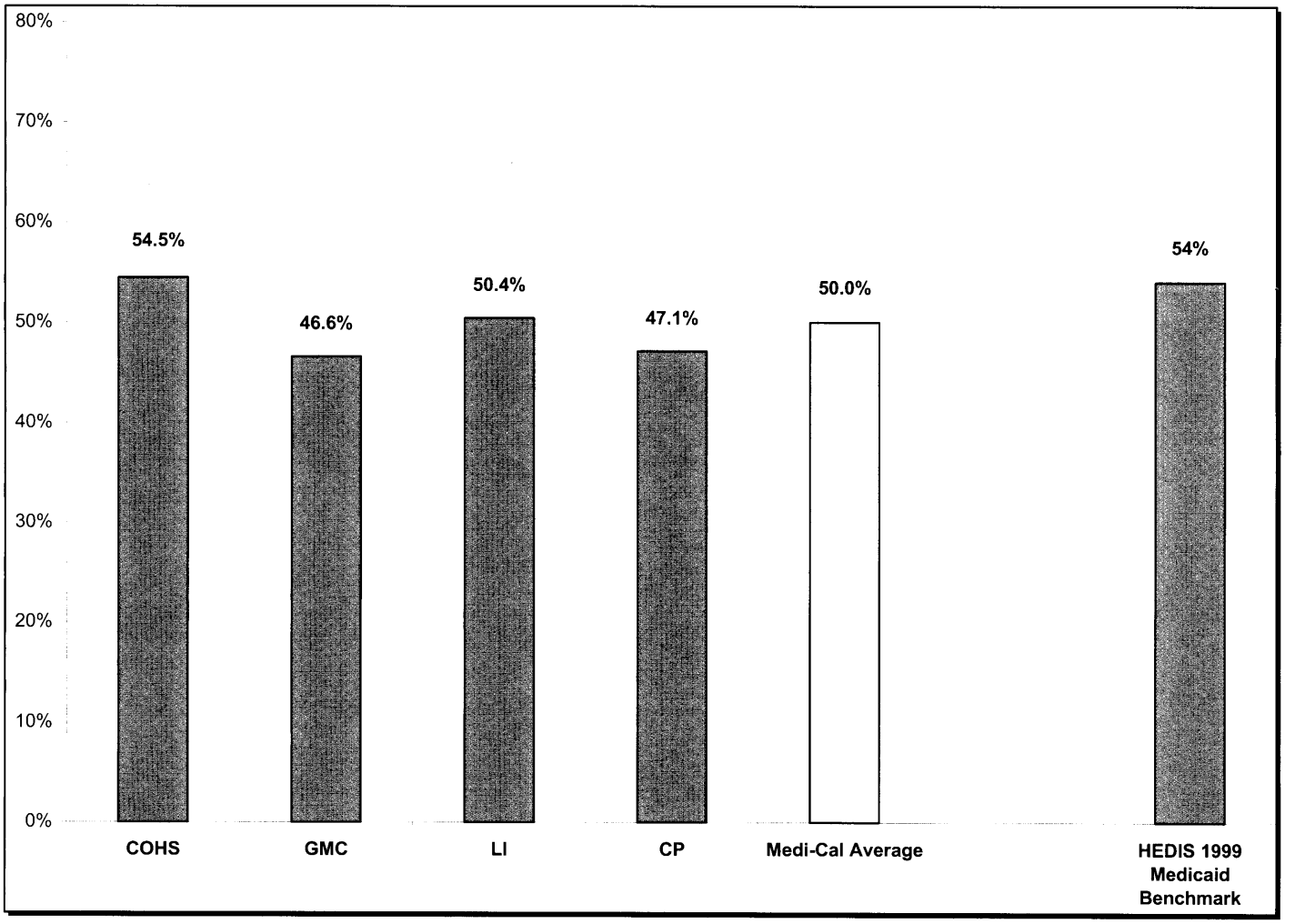


Note - HEDIS 1999 Medicaid Benchmarks were not developed for Childhood Immunization Combination 1.
- The average rate for COHS health plans was statistically higher than all other health plan model types.

RESULTS BY HEALTH PLAN MODEL TYPE

Pediatric Preventive Care

Graph A2: Childhood Immunization Status - Combination 2 (4:3:1:2:3 Series)

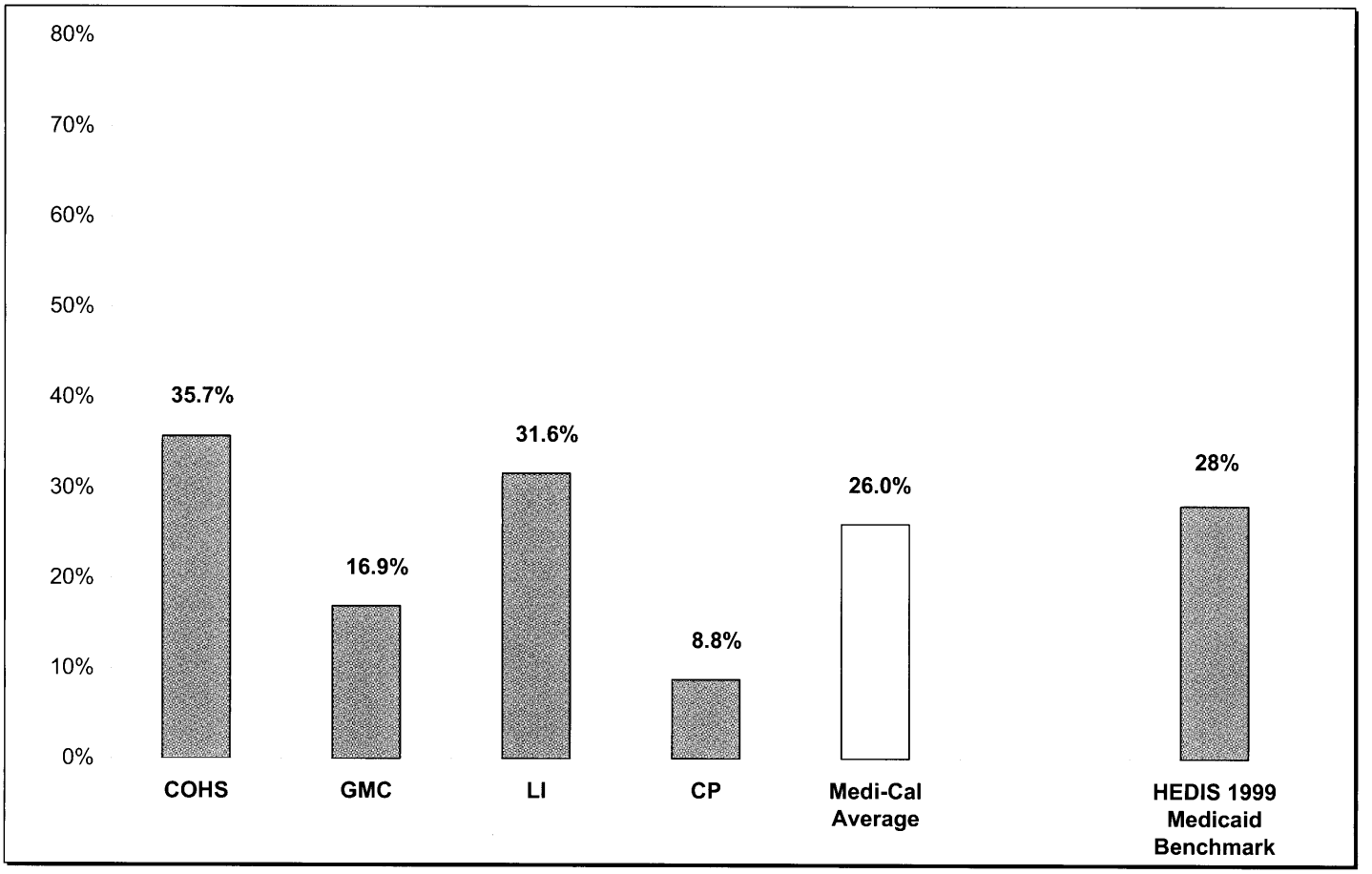


Note - The average rate for the COHS health plans was statistically higher than all the other health plan model types.

RESULTS BY HEALTH PLAN MODEL TYPE

Pediatric Preventive Care

Graph A3: Comparative Rates of Well-Child Visits in the First 15 Months of Life

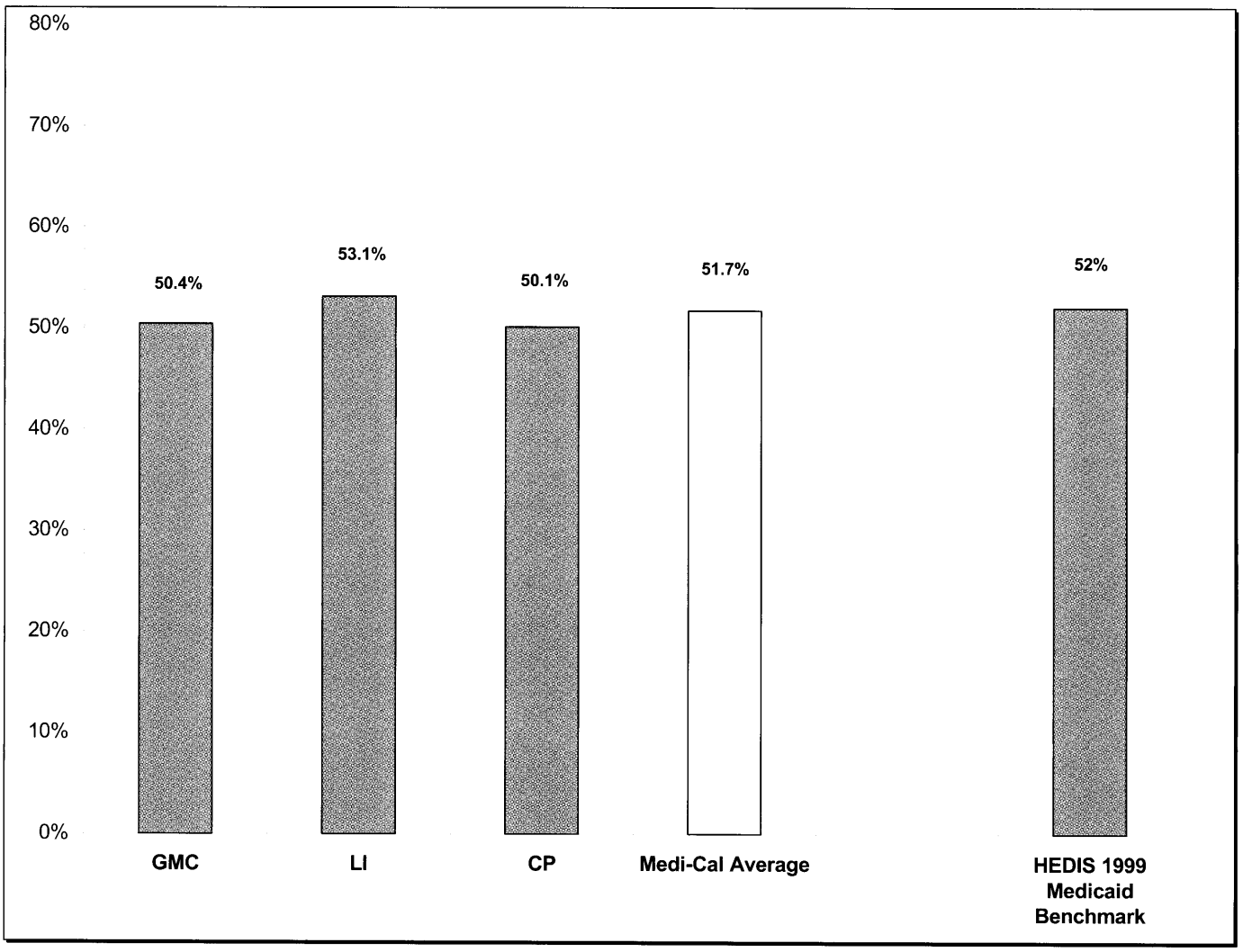


Note - The average rate for the CPs was statistically lower than the average rates for the other health plan model types.

RESULTS BY HEALTH PLAN MODEL TYPE

Pediatric Preventive Care

Graph A4: Comparative Rates of Well-Child Visits in the Third, Fourth, Fifth & Sixth Years of Life

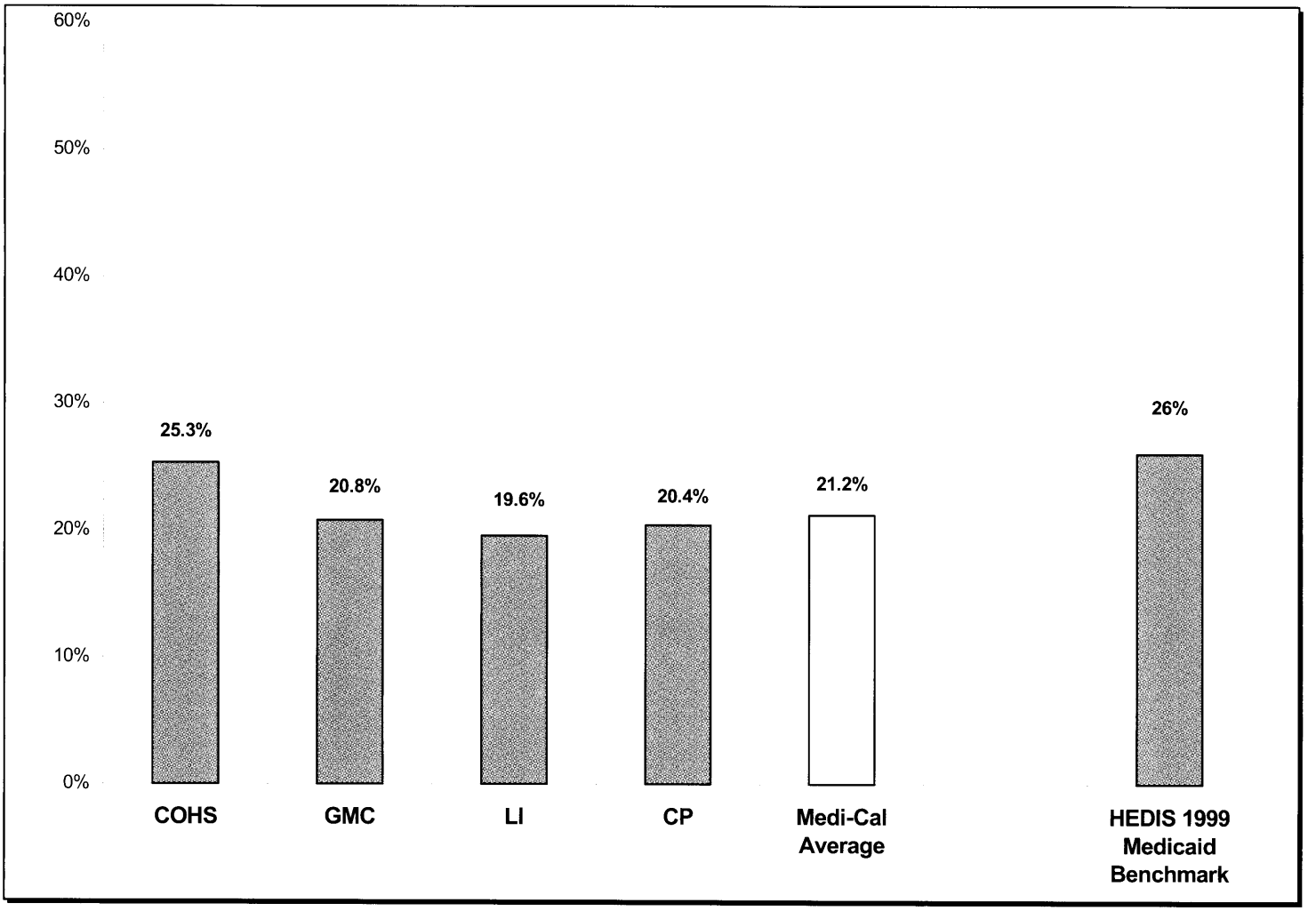


Note - There is no statistically significant difference between the results of the different health plan model types.
- The five COHS health plans did not report results for this measure and, instead, reported Eye Exam for People with Diabetes to better represent their adult population.

RESULTS BY HEALTH PLAN MODEL TYPE

Pediatric Preventive Care

Graph A5: Comparative Rates of Adolescent Well-Care Visits



Note - The average rate for the LIs was statistically lower than all the other health plan model types.

RESULTS BY HEALTH PLAN MODEL TYPE

Perinatal Care

Results for the perinatal care measures differed widely by health plan model type. For Prenatal Care in the First Trimester, the COHS health plans recorded an average rate of 64.1 percent higher than all other health plan model types (Graph A6, page 34).

For the Initiation of Prenatal Care, the best rate, seen in the GMCs (78.7 percent), was statistically higher ($p < 0.05$) than all other health plan model types (Graph A7, page 35). The lowest rates were recorded by the Local Initiatives.

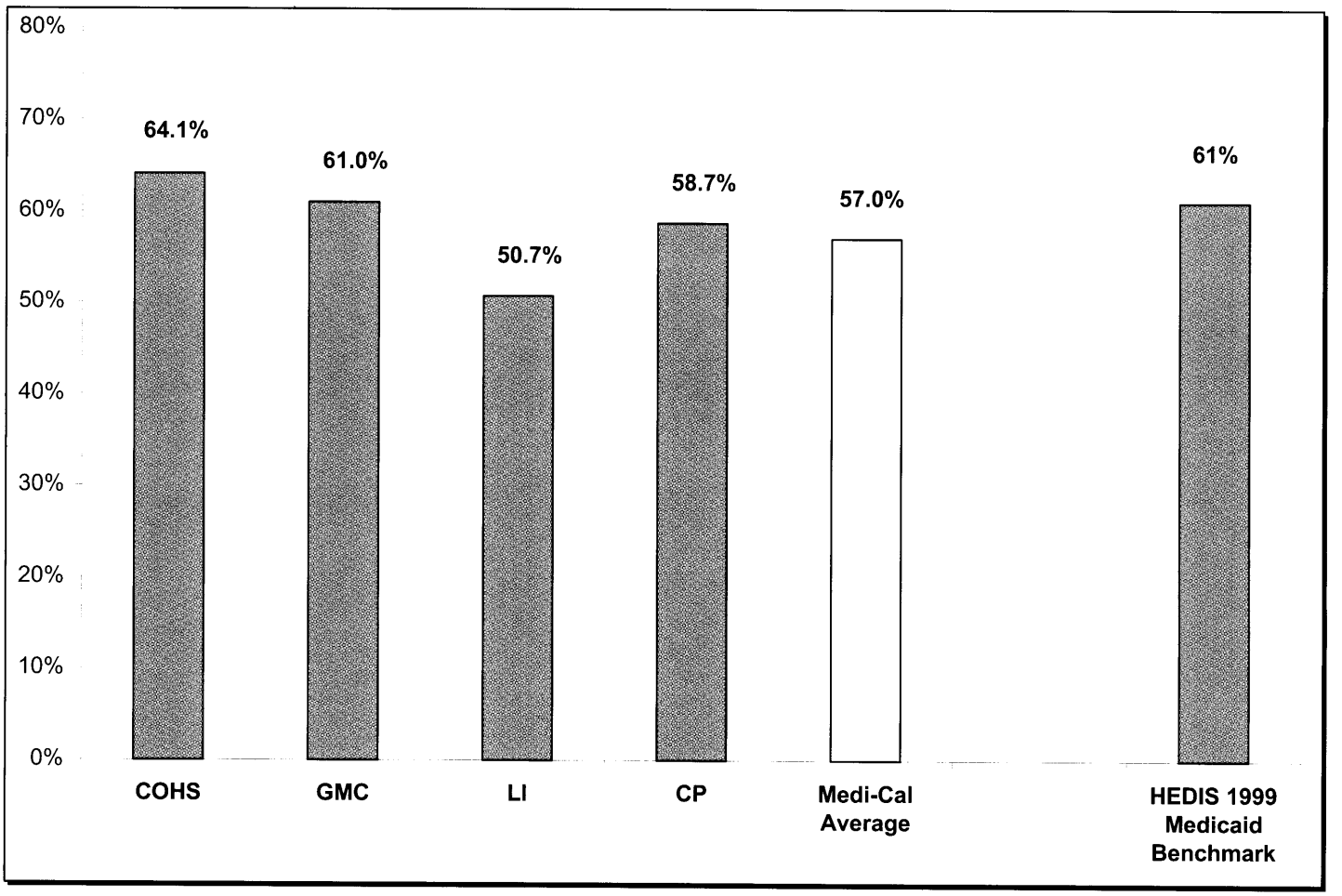
For Check-ups After Delivery, the COHS health plans showed the highest average rate (52.9 percent) while the CPs recorded the lowest average rate (40.6 percent). The COHS rate was statistically higher ($p < 0.05$) than all other health plan model types, while the rate recorded by the GMCs was statistically higher than those of CPs and LIs (Graph A8, page 36).

The results presented indicate that the health plan model types with the highest rates vary by quality indicator and the health service being provided. The goal of any quality initiative is to ensure consistent, high quality care to all Medi-Cal beneficiaries regardless of the type of health plan they are enrolled in. It is encouraging to note that health plan model types, which were lagging behind in the EQRO Baseline Studies in 1998 have improved their results considerably in the 1999 audits. Through sharing of best practices and collaborative efforts, it is possible to further reduce the variations in the quality of care provided across the various health plan model types.

RESULTS BY HEALTH PLAN MODEL TYPE

Perinatal Care

Graph A6: Comparative Rates of Prenatal Care in the First Trimester

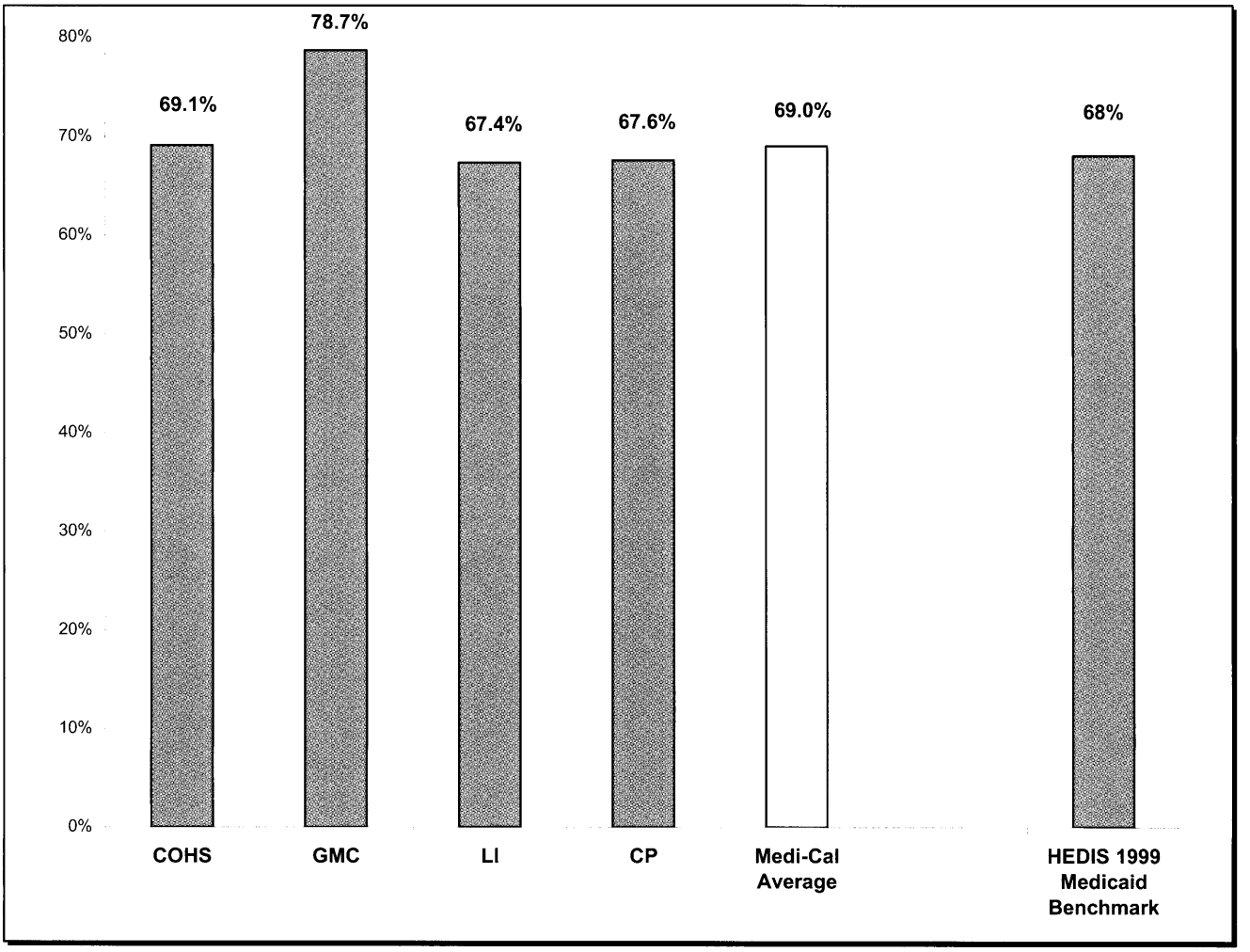


Note - The average rates for COHS and GMC health plans were statistically higher than LIs, and the average rate for the COHS health plans was statistically higher than the CPs.

RESULTS BY HEALTH PLAN MODEL TYPE

Perinatal Care

Graph A7: Comparative Rates of Initiation of Prenatal Care

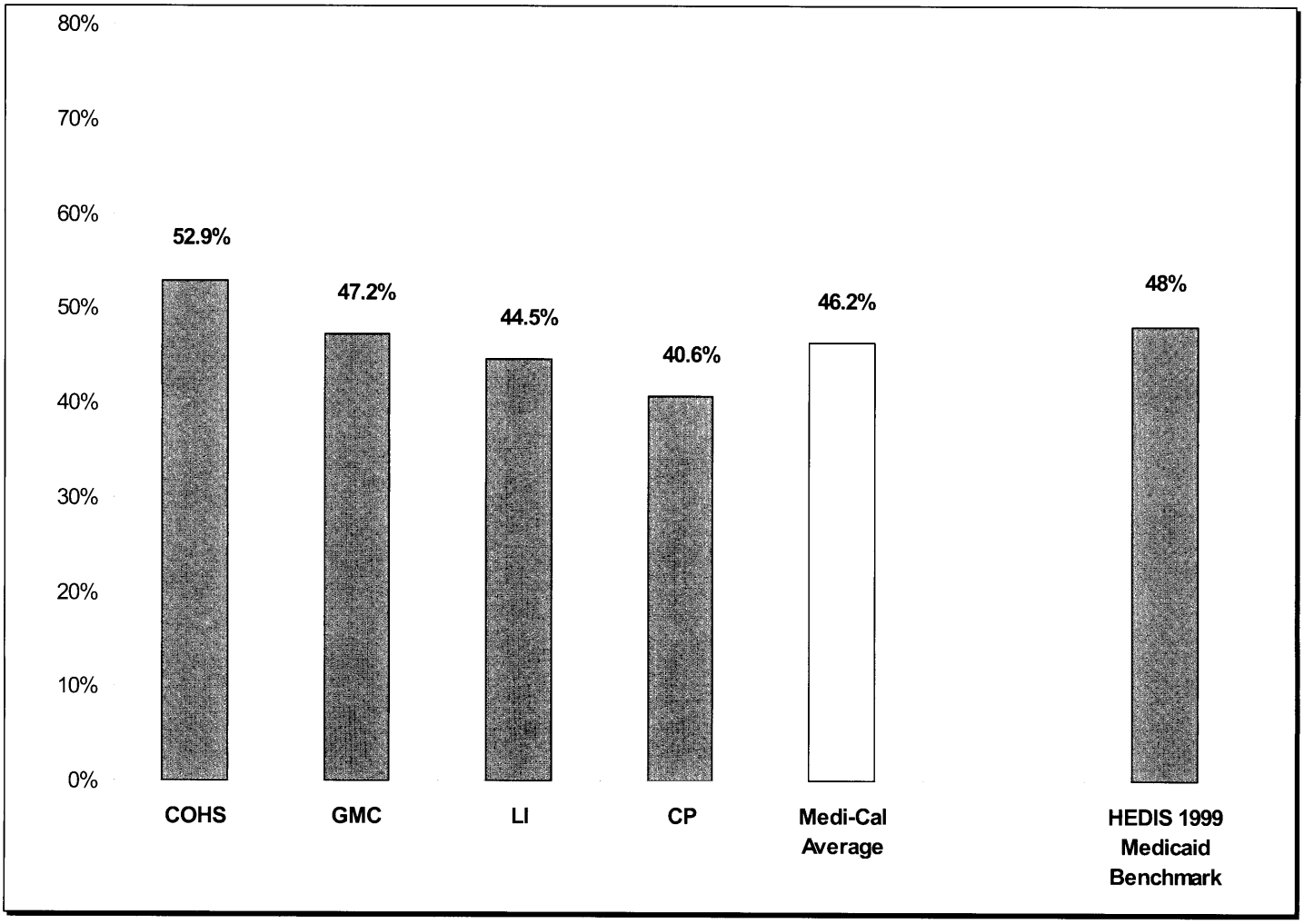


Note - The average rate for GMCs was statistically higher than the rates of the other health plan model types.

RESULTS BY HEALTH PLAN MODEL TYPE

Perinatal Care

Graph A8: Comparative Rates of Check-Ups After Delivery



Note - The average rate for COHS health plans was statistically higher than the other health plan model types, while the average rate for the GMCs was statistically higher than CPs and LIs.

PLAN-SPECIFIC COMPARISON BETWEEN HEDIS 1999 RESULTS AND EQRO BASELINE RATES

The HEDIS 1999 report affords the DHS the opportunity to compare these results with those of the initial EQRO Baseline Study conducted in 1997-98. The comparisons reveal remarkable and statistically significant improvement in all the measures that constitute the DHS Accountability Set. This finding is consistent with those of similar studies done across the country where any endeavor to monitor and evaluate quality of care has shown marked improvement within a short period of time.

A limitation that needs to be considered while interpreting the dramatic improvement in the rates is that some methodological differences did exist between the two evaluations. In the HEDIS 1999 Report, health plans were allowed to submit administrative and medical record data as part of the approved hybrid methodology. The Baseline Study however, entailed the review of medical records. Administrative data was only submitted by a few health plans as part of a pilot project.

Despite this difference, it needs to be reiterated that in both the Baseline Study as well as the 1999 HEDIS results, the most up-to-date HEDIS methodology was adhered to as outlined by the NCQA in the appropriate HEDIS Technical Specifications (HEDIS 3.0/1998, utilizing 1997 data and HEDIS 1999, utilizing 1998 data). This report will not focus on methodological differences especially since the differences seem to be rather small and of uncertain significance when compared to the dramatic improvement in HEDIS results. In presenting the comparative Baseline and HEDIS 1999 rates, this report seeks to identify health plans that have been able to significantly improve performance. Further in-depth evaluation of the possible factors and interventions behind the improvements will enable DHS to identify best practices and to institute guidelines for the overall improvement of the Medi-Cal progam.

For the HEDIS 1999 Report, the improvement of the Medi-Cal health plan results over the Baseline results ranged from a 19 percent increase in Childhood Immunization Status to a 250 percent for Initiation of Prenatal Care. As would be expected, some of the measures where the results were lowest in the Baseline Study have shown the most improvement in the HEDIS 1999 Report.

Following are some of the interventions instituted by DHS and Medi-Cal health plans that have influenced the remarkable change within the Medi-Cal program and other factors that may have contributed to the change:

- Selection of the DHS Accountability Set has served to focus health plan efforts in specific areas of care.
- Collaborative action between health plans and the DHS through the establishment of an ongoing Quality Improvement Work Group and an Encounter Data Work Group.

- Institution by health plans of various incentives for providers and members. Some incentives were implemented to encourage submission of more encounter data while others were implemented to encourage provision of more preventive care. Certain other incentives were implemented for beneficiaries to complete the immunization series.
- Initiation of various studies and projects by DHS and all health plans. These include a standardized Consumer Assessment of Health Plan Survey, an Access-to-Care Study across all Medi-Cal health plans, Internal Quality Improvement Projects and a statewide Medi-Cal Immunization Improvement Project.
- Submission by health plans of their HEDIS rates to a national Medicaid HEDIS database for benchmarking.
- The maturation of Medi-Cal health plans with significantly more experience and commitment to medical record retrieval and quality improvement.
- Improved information systems and automated data.

The graphs on pages 40 through 46 depict, by health plan, the comparative results for the various measures. The graphs also provide comparisons between the Medi-Cal health plan average rates for the two evaluations.

A point to note is that some health plans actually recorded 1999 HEDIS rates that were lower than their corresponding rates in the EQRO Baseline Study. In some cases this may have been due to the nature of random sampling. In other cases the reasons were more significant such as the impending closure of a health plan. The results provide health plans with the opportunity to evaluate specific causes for variations in performance and implement appropriate interventions and quality improvement programs.

The smallest increase in the average rates for a specific measure was seen in Childhood Immunization - Combination 1. The Medi-Cal health plan average for this measure increased from 42.6 percent to 51.8 percent, a 21.6 percent increase (Graph B1, page 40).

For the Well-Child Care measures, significant improvements were seen in all three age groups as depicted in Graphs B2, B3 and B4 on pages 41-43. The greatest percentage increase of 102 percent was recorded in children in the first 15 months of age (Graph B2, page 41).

For Prenatal Care in the First Trimester, the average percentage increase between the Baseline and the 1999 HEDIS rates was 33 percent (Graph B5, page 44). The greatest change across all the measures was seen in the Initiation of Prenatal Care with an increase in the Medi-Cal health plan average of 250 percent (Graph B6, page 45). Check-Ups After Delivery showed a marked improvement of 39 percent in the overall Medi-Cal rate (Graph B7, page 46). This occurred despite a change in the specifications for the measure. The HEDIS 1999 specification required that a postpartum visit occur on or between 21 and 56 days after delivery. This was more rigorous than the specification used previously, where a postpartum visit was counted if it occurred at anytime on or before 56 days after delivery.

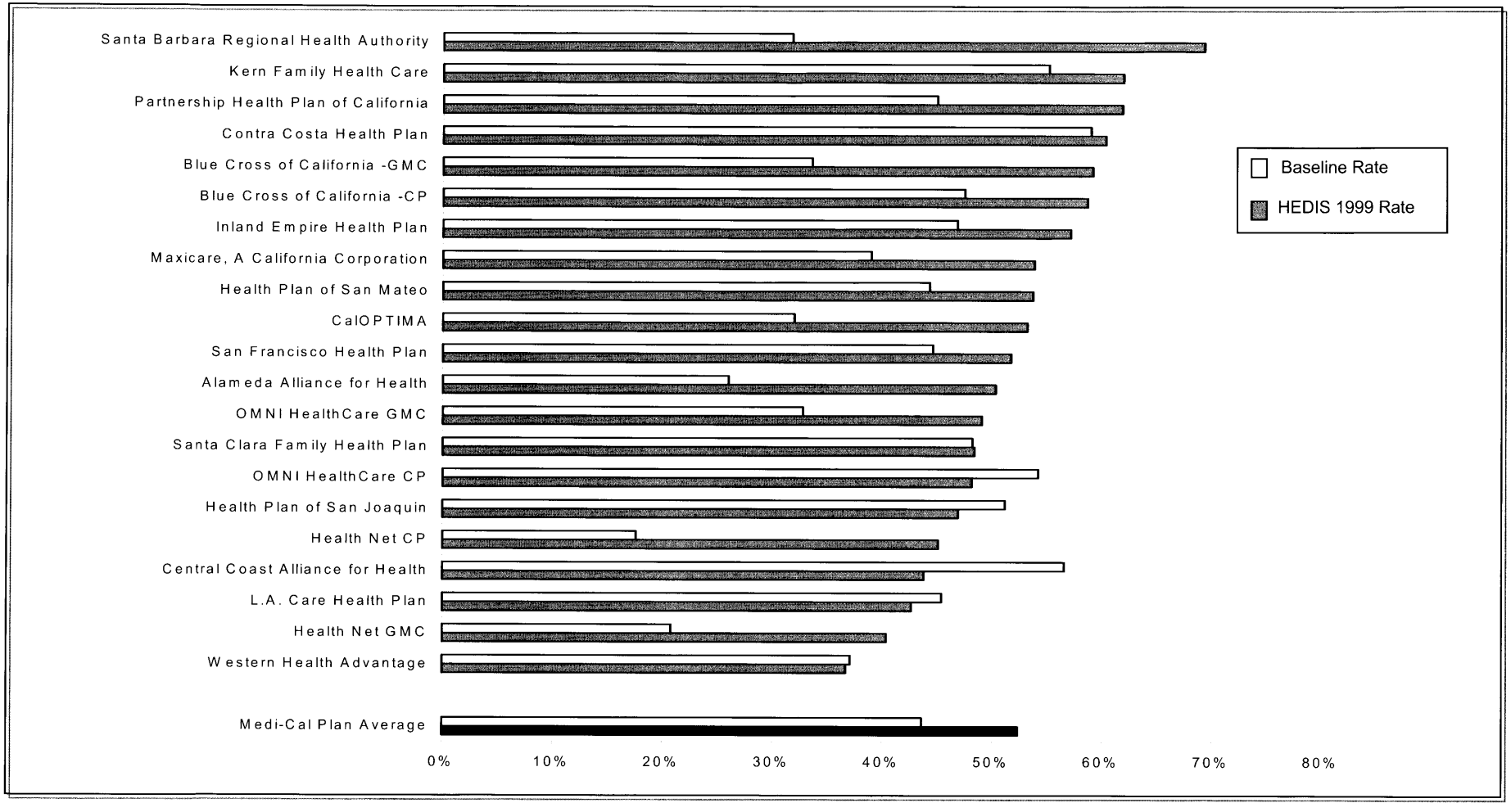
All health plans that had reportable results for calendar year 1998 have been included in the comparative graphs presented in the following pages.

Wherever available, the results in this HEDIS 1999 Report have been compared to the HEDIS National Medicaid Benchmark rates for 1999. This provides a meaningful point of reference for the comparison of health plan performance in each of the measures. The distribution value that has been used in benchmarking is the 50th Percentile.

An explanation of the use of the 50th percentile is provided through the following example. For the measure Well-Child Visits in the First 15 Months of Life, the 50th percentile of the HEDIS 1999 National Medicaid Results was 28 percent. This means that half of the Medicaid health plans across the nation with reported results recorded rates lower than this value (28 percent), and half of the health plans recorded rates above this value. In other words, this rate is the median value of the distribution of all reported results.

Pediatric Preventive Care

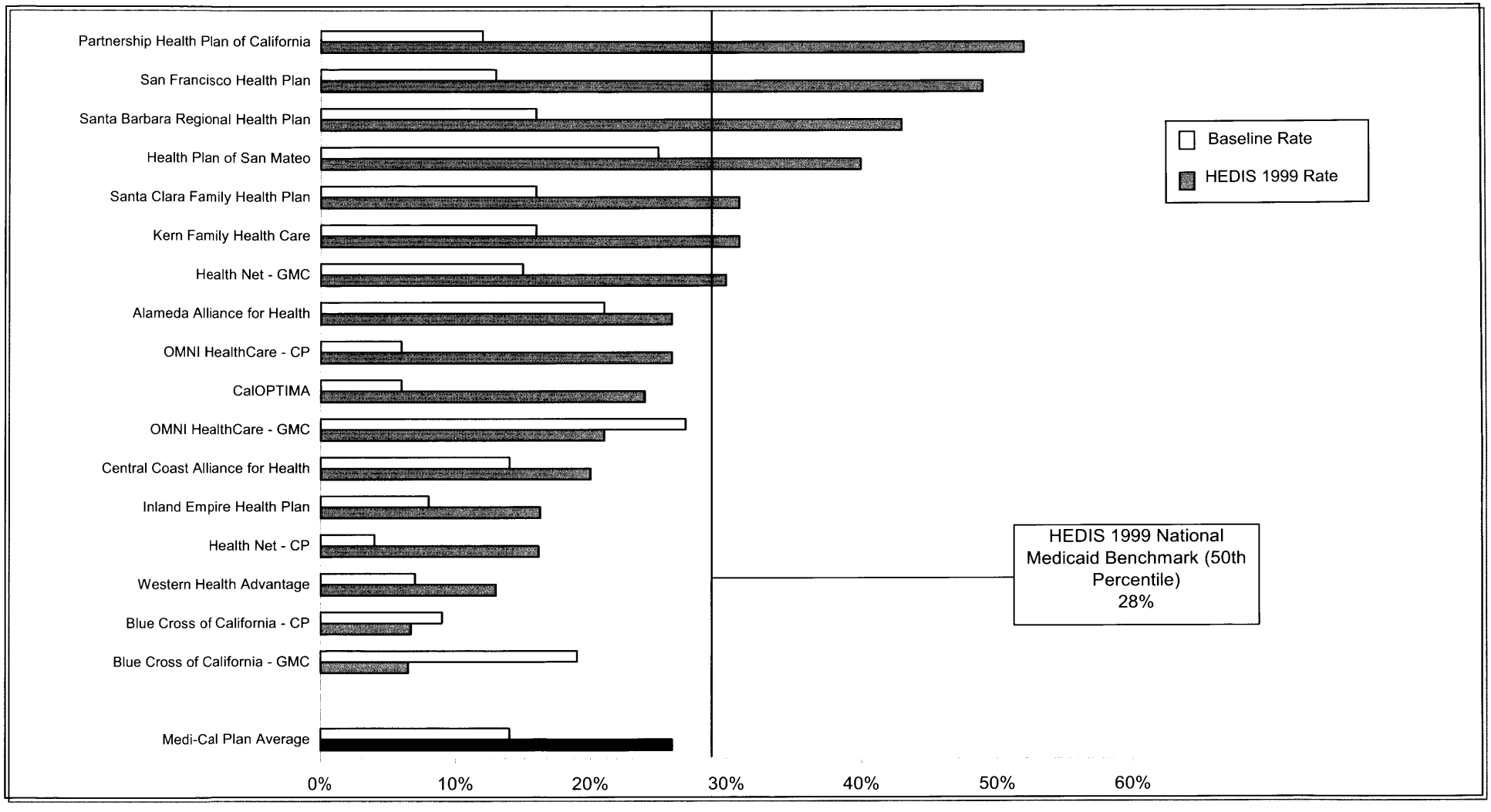
Graph B1: Childhood Immunization: Combination 1 Rate (4:3:1:2:2 Series)



Note - The Combination 1 Rate measured in the Baseline was the 4:3:1:1:2 series as per HEDIS 3.0.
- HEDIS 1999 Medicaid Benchmarks were not developed for Childhood Immunization Combination 1 (4:3:1:2:2 series).
- Five health plans recorded lower results in the 1999 HEDIS audits as compared to the Baseline Survey. The decline was statistically significant only ($p < 0.05$) for Central Coast Alliance for Health.
- Kaiser Foundation Health Plan received an NR designation for the 1999 audit.

Pediatric Preventive Care

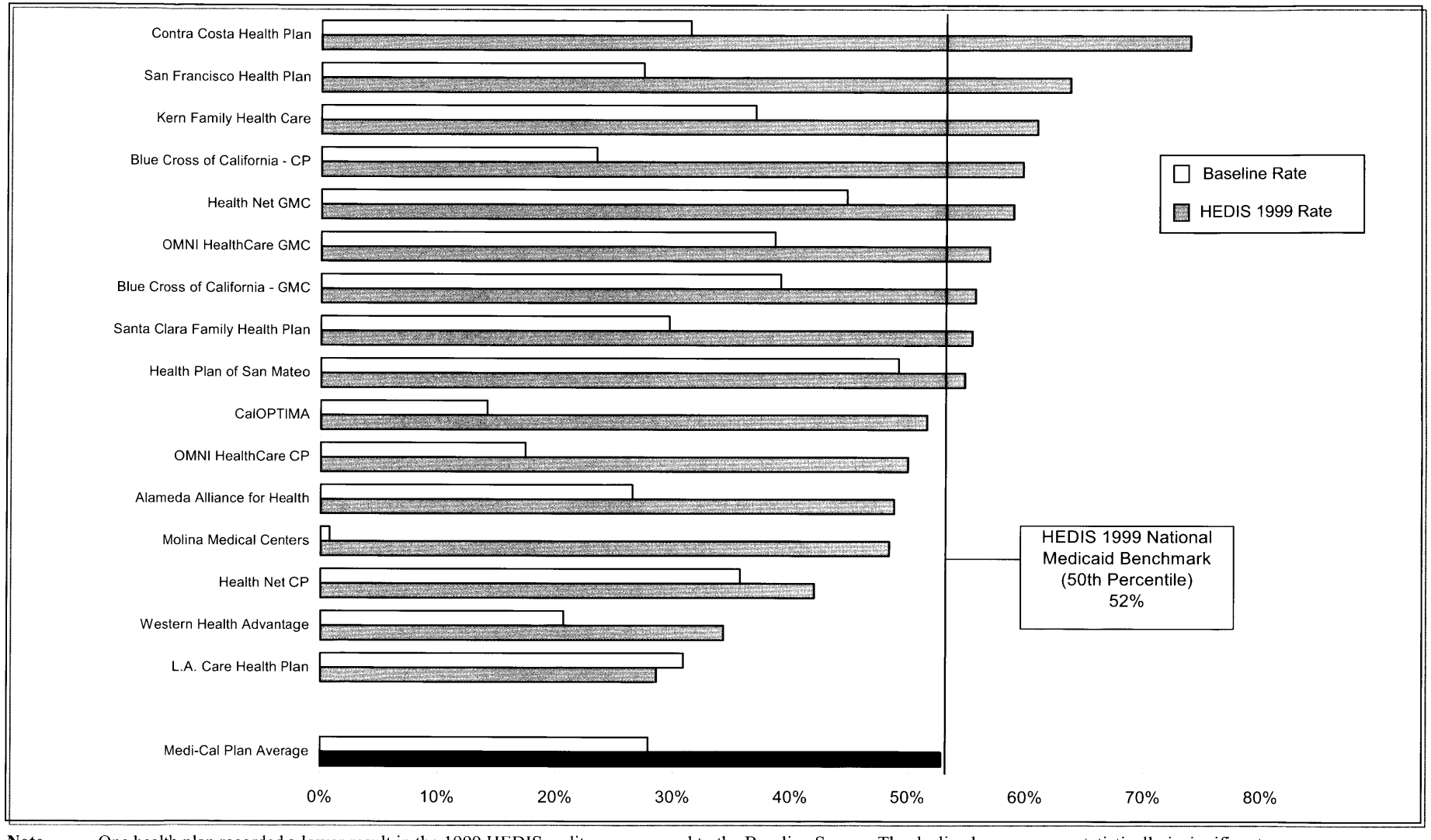
Graph B2: Well-Child Visits in the First 15 Months of Life



Note - Two health plans recorded lower results in the 1999 HEDIS audits as compared to the Baseline Survey. The decline was statistically significant ($p < 0.05$) for: Blue Cross of California - GMC
- Three health plans, namely Health Plan of San Joaquin, L.A Care Health Plan and Kaiser Foundation Health Plan received an NR designation while three other health plans, namely Blue Cross of California, Contra Costa Health Plan and Maxicare received an NA designation for the 1999 Audits. In the Baseline survey, Western Health Advantage did not have an adequate sample size so as to be statistically relevant and hence was not reported. Blue Cross of California - LI was not evaluated in the baseline study.

Pediatric Preventive Care

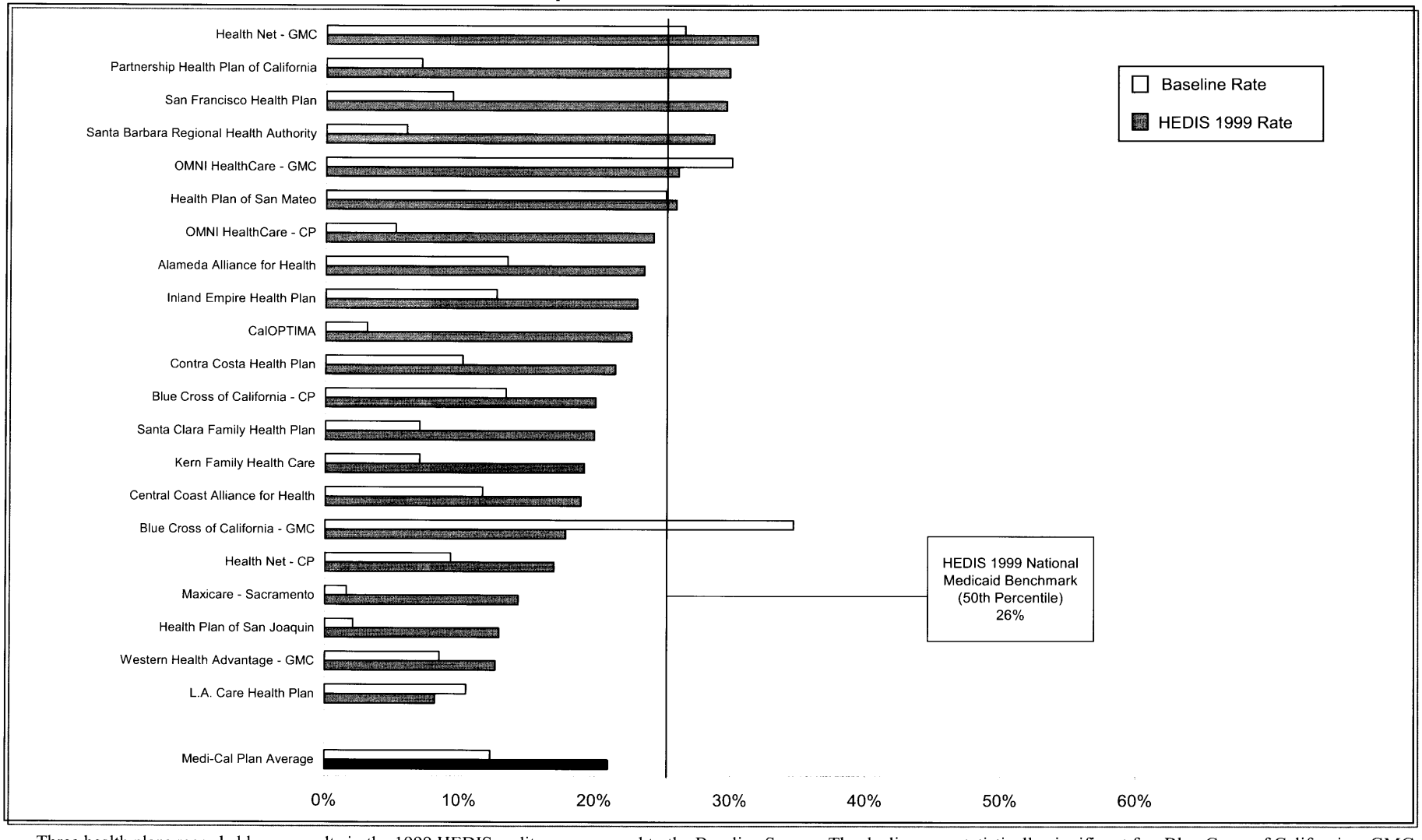
Graph B3: Well-Child Visits in the Third, Fourth, Fifth & Sixth Years of Life



Note - One health plan recorded a lower result in the 1999 HEDIS audits as compared to the Baseline Survey. The decline however was statistically insignificant.
- Kaiser Foundation Health Plan, received an NR designation for the 1999 audit.

Pediatric Preventive Care

Graph B4: Adolescent Well-Care Visits



Note - Three health plans recorded lower results in the 1999 HEDIS audits as compared to the Baseline Survey. The decline was statistically significant for: Blue Cross of California – GMC.
- Kaiser Foundation Health Plan, received an NR designation for the 1999 audit.

While the HEDIS Compliance Audits were conducted using a rigorous and scientifically sound methodology, the results must be interpreted with a clear understanding of certain caveats and study limitations. All aspects that may have impacted the results need to be carefully considered in drawing valid conclusions. The method used to collect data, resources available to the health plans, and age of the health plans are but three examples of factors that have a direct bearing on the data in this report.

While the 1999 HEDIS rates are an improvement from the 1998 baseline, there is still opportunity for improvement in terms of the performance of the health plans in general. Each health plan must conduct its own root cause analysis regarding its performance results for each of these measures. The health plan must then implement system changes and/or targeted interventions to improve healthcare.

Appendix A

Data Sampling, Collection and Reporting Methodology

and data warehousing) were also subjected to the auditing process, including teleconference calls, representation by the vendor while on-site at the health plan and onsite review of the vendor.

The NCQA audit policies and procedures require re-abstraction and comparison of auditor's results to health plan abstraction for a selection of hybrid measures. This process completes the validation of the medical record review (MRR) process, and provides an assessment of actual reviewer accuracy. In accordance with NCQA, HSAG and other auditors reviewed up to 30 records identified by each health plan as meeting numerator event requirements (determined through medical record review) for measures selected for audit and MRR validation. Records were randomly selected from the entire population of MRR numerator positives identified by the health plan, as indicated on the MRR numerator listings submitted to the audit team. If the health plan reported exclusions based solely on medical record review, a sample of the exclusions was over-read. If fewer than 30 medical records were found to meet numerator requirements, all records were reviewed.

For each of the validated measures where the hybrid methodology was used, auditors determined the impact of the findings from the reabstraction process on the health plan's Final Audit Designation for each audited measure. The goal of the MRR validation was to determine whether the health plan made abstraction errors that significantly biased its final reported rate. HSAG used a maximum error (or minimum accuracy) rate to make determinations of potential bias in the final rate.

In addition to validating the medical record abstraction process, member-level data validation was conducted to ensure the source code used to determine the numerators, denominators and rates was properly executed and obtained the intended results.

Audit Reporting

Each health plan was required to submit their rates using NCQA's Data Submission Tool (DST). Only rates that received a reportable status were used in the calculation of the Medi-Cal average. In addition, rates that were derived using the administrative method were adjusted for comparative purposes. The adjustment allowed for a more accurate Medi-Cal mean for each measure, rather than a skewed mean based on a single health plan's total eligible population.

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IV. IS Standards Compliance Tool

V. Measure Designations

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VII. Final Audit Statement

Attachment I - Data Submission Tool (DST)
Attachment II - Attestation
Attachment III - License Agreement

I. REPORT HIGHLIGHTS/SUMMARY

The report highlights include several sections to provide background information on the 1999 HEDIS® Compliance Audit, including data on the:

- NCQA-licensed audit firm
- Statement of audit scope and auditor validation signatures
- Managed care organization undergoing the audit
- Audit team's composition and core skills
- Pre-onsite audit activity
- Onsite meetings

A. About the Audit Organization

Health Services Advisory Group, Inc.

Home Office	Branch Office
301 East Bethany Home Road, Suite B-#157 Phoenix, Arizona 85012-1265	555 Capitol Mall, Suite #725 Sacramento, California 95814
Telephone: (602) 264-6382	Telephone: (916) 325-4330
Facsimile: (602) 241-0757	Facsimile: (916) 325-4333

B. Audit Validation Signatures

Health Services Advisory Group, Inc. (HSAG) conducted an independent audit of Sample Health Plan's 1999 HEDIS reporting consistent with the *1999 NCQA HEDIS® Compliance Audit Standards™, Policies and Procedures, HEDIS Volume 5.* The audit included two main components:

1. A detailed assessment of the Health Plan's (HP) Information Systems capabilities for collecting, analyzing and reporting HEDIS information.

2. A review of the specific reporting methods used for HEDIS measures, including: computer programming and query logic used to access and manipulate data and to calculate measures; data bases and files used to store HEDIS information; medical record

abstraction tools and abstraction procedures used; and any manual processes employed in 1999 HEDIS data production and reporting. The audit extends to include any data collection and reporting processes supplied by vendors, contractors or third parties, as well as the HP's oversight of outsourced functions.

HSAG used a number of different methods and information sources to conduct the audit, including:

1. Teleconference calls with Sample Health Plan personnel and vendor representatives, as necessary.

2. Detailed review of Sample Health Plan's completed responses to the Baseline Assessment Tool (BAT) published by NCQA as *Appendix B to HEDIS Volume 5*, and updated information communicated by NCQA to the audit team directly.

3. Onsite meetings in Sample Health Plan's offices, including:

   a. Staff interviews
   b. Live system and procedure documentation
   c. Documentation review and requests for additional information
   d. Primary HEDIS data source verification
   e. Programming logic review and inspection of dated job logs
   f. Computer data base and file structure review
   g. Discussion and feedback sessions

4. Detailed evaluation of computer programming used to access administrative data sets, manipulate medical record abstract information and calculate HEDIS measures.

5. Reabstraction of a sample of medical records selected by the auditors, with comparison of results to Sample Health Plan's review determinations for the same records.

6. Requests for corrective actions and modifications to the HP's HEDIS data collection and reporting processes and data samples, as necessary; and verification that actions were taken.

7. Accuracy checks of the final HEDIS rates as presented within the NCQA-*published Data Submission Tool-1999* completed by the HP.

8. As part of the onsite visit, auditors interviewed a variety of individuals whose department or responsibilities affected the production of HEDIS data. Typically, such individuals included the HEDIS manager, Information Systems Director, Quality Management Director, medical records staff, claims processing staff, enrollment and provider data manager, programmers, analysts and others involved in the HEDIS preparation process. Representatives of vendors that provided or processed HEDIS 1999 (and earlier historical) data may also have been interviewed and asked to provide documentation of their work.

The preparation and provision of the Performance Report is the responsibility of Sample Health Plan management. The auditor's responsibility is to express an opinion on the Performance Report based on our examination, utilizing procedures NCQA and HSAG considered necessary to obtain a reasonable basis for rendering an opinion. Our examination, in accordance with NCQA Compliance Audit: Standards, Policies and Procedures, included procedures to obtain reasonable assurance that the accompanying Performance Report presents fairly, in all material respects, Sample Health Plan's performance with respect to HEDIS 1999 Technical Specifications.

The report that follows, including detailed findings in Sections II through VI, represent our findings as verified by the following signatures:

_____

Date

Lead Auditor

_____

Date

HSAG Audit Director

C. Health Plan and Audit Information

HSAG conducted the type of audit described below. Basic information about the health plan also appears in the chart, including the major office locations involved in the 1999 HEDIS Compliance Audit:

Audit Scope:	**Partial Audit of Medicaid HEDIS Reporting for HMO Membership**	
MCO:	**Sample Health Plan** **Street Address** **City, State, Zip Code**	
MCO Location(s):	**Location 1**	**Location 2**
	Sample Health Plan Street Address City, State, Zip Code	N/A
MCO Contact:		
Title:		
Telephone:		
Facsimile:		

D. Audit Team Composition

The HSAG team is comprised of both NCQA certified and non-certified individuals. The team is assembled based on the full complement of skills required for the audit and requirements of the particular health plan. Some team members, including the Lead Auditor, participate in the onsite meetings at the health plan office; others conduct their work in HSAG offices.

The audit team is comprised of the following members in the designated positions. Each individual's particular expertise is described in Table 1 below:

Table 1 - Audit Team

Auditor	Certified Auditor (Yes/No)	Onsite (Yes/No)	Position	Skills/Expertise
Person A	Yes	No	Project Director	HEDIS knowledge, interviewing skills, medical record review advisor, contract consultant
Person B	Yes	Yes	Lead Auditor/ Medical Record Review Process Manager	HEDIS knowledge, interviewing skills, medical record review advisor, clinical consultant
Person C	Yes	Yes	Information Systems Analyst	Analysis and computer programming, source code review
Person D	No	Yes	On-Site Team Member	Medical record review advisor, contract consultant, interviewing and organizational skills
Person E	No	No	Source Code Review Manager	Computer programming, analysis
Person F	No	No	Over-Read Process Coordinator	Clinical expertise, abstraction tool development, supervision of nurse reviewers
Person G	No	No	Medical Record Reviewer(s)	Medical Record Review

E. Overview of Pre-Onsite Activity

HSAG conducted the following activities prior to meeting with health plan representatives onsite, including:

1. Teleconference call with Sample Health Plan explaining the scope of audit, methods used and time frames for major audit activities.

2. Detailed review of Sample Health Plan's completed responses to the Baseline Assessment Tool (BAT) published by NCQA as Appendix B to HEDIS Volume 5. The review included a methodical inventory of Sample Health Plan's submission, including verification that all questions and required documents were supplied. If any requested information was missing or otherwise not clear, HSAG notified Sample Health Plan and obtained supplemental responses.

3. Compilation of a standardized set of comprehensive working papers for the audit, including all auditor and plan correspondence, required documentation, work product, special analyses and findings, results of medical record reabstraction and source code review, corrective actions (if applicable) and audit reports. The working papers follow a consistent format used by HSAG as required by NCQA.

4. Determination of the number of sites and locations for conducting onsite meetings, demonstrations and interviews with personnel critical to HEDIS data production and

reporting. Based on a review of the BAT responses and discussions with Sample Health Plan, the audit team decided to hold onsite meetings at the plan, where the plan houses its main production system and produces HEDIS reports.

5. Preparation of an onsite agenda and sample interview protocol sent to Sample Health Plan to initiate meeting scheduling and cover the scope and contents of onsite activities. The meeting consisted of a full-two day agenda of plan presentations, auditor-to-staff interviews, system demonstrations and data processing observations, computer programming review, primary source verification of data samples and planning and feedback sessions.

6. Pre-onsite teleconference call in which the lead auditor reviewed the goals, processes, timing and attendee list for the onsite meetings.

7. Review of source code, computer programming and query language used by Sample Health Plan to calculate HEDIS measures. The review included a detailed line-by-line evaluation of the computerized logic:

   - Used to identify population eligible for HEDIS denominators (e.g., based on member age, gender and clinical conditions)
   - For determining if members were continuously enrolled for the required period
   - For determining event-based HEDIS numerators (e.g., county procedure codes and comparing to dates of services
   - Used to calculate HEDIS statistics (e.g., ratios or rates per 1,000 observations)

8. Detailed review of a select set of seven measures defined by the California Department of Health Services (DHS) as the Accountability Set for managed Medicaid plans, as listed in Table 2.

Table 2 - Audited HEDIS Measures

HEDIS Domain	DHS Standard Accountability Set
Effectiveness of Care	Childhood Immunization Status
	Check-Ups After Delivery
	Prenatal Care in the First Trimester
Access/Availability of Care	Initiation of Prenatal Care
Use of Services	Well-Child Visits in the First 15 Months of Life
	Well-Child Visits in the Third, Fourth, Fifth, Sixth Year of Life*
	Adolescent Well-Care Visits
Total Measures Selected	**7**

*Note: COHS (County Organized Health Systems) Plans substitute Eye Exams for People with Diabetes for the Well-Child Visits in the Third, Fourth, Fifth and Sixth Year of Life Measure to account for population differences.

II. MEDICAL RECORD REABSTRACTION FINDINGS

The NCQA audit policies and procedures require reabstraction and comparison of auditor's results to plan abstraction for a selection of hybrid measures. This process completes the validation of the medical record reabstraction process, and provides an assessment of actual reviewer accuracy. HSAG reviewed up to 30 records identified by Sample Health Plan as meeting numerator event requirements (determined through medical record review) for measures selected for audit and MRR validation. Records were randomly selected from the entire population of MRR numerator positives identified by the plan, as indicated on the MRR numerator listings submitted to the audit team. If the plan reported exclusions based solely on medical record review, a sample of the exclusions was over-read. If fewer than 30 medical records were found to meet numerator requirements, all records were reviewed.

For each of the validated measures where the hybrid methodology was used, auditors determined the impact of the findings from the reabstraction process on the health plan's Final Audit Designation for each audited measure. The goal of the MRR validation was to determine whether the health plan made abstraction errors that significantly biased its final reported rate. HSAG used a maximum error (or minimum accuracy) rate to make determinations of potential bias in the final rate, summarized by the following steps and calculations:

1. **Calculate Plan Error Rate Based on Plan Sample:** The calculation considers only reviewer findings that have a material impact on the reported rate. The auditor determines if the sample of medical records for reabstraction needs to be expanded based upon results, or if additional measures need to be reviewed, based upon results.

2. **Recalculate Error Rate Based on Total Number of Numerator Positive Reviews:** The Final Audit Designation was based on the auditor's comparison of the sample's error rate to the universe of medical records that were required for review to determine the impact on the reported rate. If the accuracy rate is less than 95%, HSAG evaluated the impact of the health plan's MRR processes on its final reported rate. The audit team extrapolated the findings from the reabstraction sample to the universe of all cases with positive numerator findings. If the amount of error in the health plan's MRR process ultimately caused the final reported rate to be biased by more than 5 percentage points, the rate was given a "Not Report" status.

   If fewer than 30 numerator positives were identified, the health plan could choose to remove all false positives from the numerator and adjust the rate accordingly. This would be a sufficient remedy because the entire universe of review positives would have undergone validation by HSAG.

As with most other audit findings, the maximum amount of bias allowed for the final rate to be considered reportable was 5 percentage points. Although a measure can fail the medical record review over-read process, the rate may not be biased by 5% or more and therefore be reportable. Final Audit Designations are included in Table 4 of Section V, Measure Designation Template of this report.

The table below identifies the measure name, plan product line, number of record over-reads and the agreement/accuracy rate for measures selected for the auditors' reabstraction:

Table 3
Audited HEDIS Measures – Medical Record Reabstraction

Hybrid Measure	Product Line	Number of Records	Percent Agreement	Impact of Medical Record Review

Percent of agreement only addresses critical errors.

Critical error: An error made upon abstraction that changes the outcome of the numerator event (i.e. changes a positive numerator event to a negative or vice versa).

Refer to IS Standard 2.4 describing Sample Health Plan's compliance with the standards.

III. INFORMATION SYSTEMS CAPABILITIES ASSESSMENT

The audit team reviewed Sample Health Plan's information system capabilities for accurate HEDIS reporting. The audit team focused specifically on those aspects of Sample Health Plan's systems that potentially impact the HEDIS Medicaid reporting set.

Note that for the purpose of HEDIS compliance auditing, the term "information systems" is used broadly to include Sample Health Plan's computer and software environment, data collection procedures, and abstraction of medical records for hybrid measures. The IS evaluation includes a review of manual processes that may be used for HEDIS reporting as well. In summary, the audit team determines if Sample Health Plan has the automated systems, information management practices, processing environment and control procedures to capture, access, translate, analyze and report each HEDIS measure.

Please note that there are certain information systems standards that address data (for example, provider data) that are required for the full HEDIS Medicaid reporting set, and not specifically for the DHS Accountability Set measures. The auditors' evaluation of Sample Health Plan's IS capabilities is therefore more comprehensive than the processes required to produce the seven audited Medicaid measures.

The following section presents the audit team's detailed findings, presented in terms of compliance with each HEDIS Compliance Audit IS Standard.

IV. IS STANDARDS COMPLIANCE TOOL

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The section summarizes the auditor's assessment of compliance with each IS Standard:

Standard	Fully Compliant Y	Fully Compliant N	Validation Date, On/Off-Site	Describe Method, Result and Impact on HEDIS Reporting Capability
IS 1.1 Industry standard codes (ICD-9, CPT, DRG, etc.,) are consistently employed, and all characters are collected and captured. ♦ Verify that the principal data submission documents request industry standard codes with full character levels, that the health HP enforces data submission policies, and that data entry processes preserve full entry of requested code levels. ♦ Examine the documentation, and actual file content, of files used to collect transaction data electronically to verify that standard coding systems are employed and implemented. ♦ Examine the HEDIS repository used to compute the final numerators and denominators to verify that the same coding conventions are preserved.				

Standard	Fully Compliant Y	N	Validation Date, On/Off-Site	Describe Method, Result and Impact on HEDIS Reporting Capability
IS 1.2 Principal codes are identified, and secondary codes are captured to the extent available. Non-standard coding schemes, unique to the MCO, are fully documented and mapped. ♦ Verify that the principal data submission documents request a principal code and complete secondary coding ♦ View data entry screens to verify the ability to enter the principal and all (HEDIS appropriate) secondary codes ♦ Examine the documentation, and actual file content, of files used to collect transaction data electronically to verify that the principal and all (i.e., sufficient for HEDIS) secondary codes are captured ♦ Confirm that all non-standard codes and coding systems, which are employed, are identified and fully documented with a computer-based file defining the mapping				

Standard	Fully Compliant Y	N	Validation Date, On/Off-Site	Describe Method, Result and Impact on HEDIS Reporting Capability
IS 2.1 Standard submission forms are routinely employed; and non-standard forms used capture equivalent data. All fields are captured that are relevant to HEDIS measures. ♦ Verify that standard submission forms are employed for all medical data (i.e., HCFA 1500, UB82 or UB92). If the MCO employs non-standard submission forms, determine the extent to which equivalent data are collected and assess the potential impact on HEDIS if it is not ♦ Verify that the data fields resulting, when electronic transmission replaces paper claim form submission, are consistent with the HCFA 1500 and UB82, UB92; similarly, verify that electronic replacement of non-standard forms provides equivalent data, and assess the potential impact if it does not ♦ Verify that, at a minimum, all data fields listed in table #6 of the BAT are being collected by the MCO, whether the collection is by standard or non-standard forms or their electronic equivalents. Check documentation and review the contents of transaction files and of the HEDIS reporting repository to carry out this verification				

Standard	Fully Compliant Y	N	Validation Date, On/Off-Site	Describe Method, Result and Impact on HEDIS Reporting Capability
IS 2.2 Data entry processes are effective and efficient, and assure timely, accurate, and complete input to HEDIS. ♦ Examine the MCO's policies, standards, and documentation for all data entry processes, as well as the MCO's procedures for assessing and assuring compliance with them, to confirm that all required data are requested, collected, and entered ♦ Confirm, by examining documentation and by observing entry operation, that the screens are able to receive all of the required data, and confirm that proper edit checks are in place to detect data entry errors (e.g., parity checks, field sizes, date ranges, cross checks with member file, code ranges, provider services by specialty, etc.) ♦ Assess the accuracy of transaction files by examining a sample of data on data entry files and comparing to sources, whatever the medium, and by examining the MCO's procedures for assuring accuracy ♦ Review standard and non-standard contracts to verify that data required for HEDIS reporting are contractually required, that inspection and auditing of data onsite are provided for, as well as provisions for correction and re-submission of data, and backlog control standards and procedures ♦ Review data on volumes of inputs, by type, using receipt logs and file counts and test against expected volumes ♦ Review the processes of data extraction and consolidation to assure that the HEDIS repository reflects transaction files; employ source code review as well as field -level comparison of samples of original and receiving files				

Standard	Fully Compliant Y	N	Validation Date, On/Off-Site	Describe Method, Result and Impact on HEDIS Reporting Capability
IS 2.3 Electronic transmission procedures conform to industry standards and have necessary checking procedures to assure data accuracy (logs, counts, receipts, hand-off, and sign-off.). ♦ Verify that the use of electronic formats and data transmission protocols conform to all industry, national, and ISO standards for health care EDI ♦ Evaluate the procedures in place to assure that transmissions are properly controlled, by such mechanisms as logs, record count verification, redundancy checking, receipts, sign-offs, re-transmissions. Check procedural documentation and observe operation to verify the implementation of the control procedures				
IS 2.4 Abstraction of data from medical records is reliably and accurately performed. ♦ Examine training materials delivered to personnel assigned the abstraction task to determine its likely effectiveness ♦ Examine abstraction tools to determine their effectiveness in guiding the reviewer to the proper data in a timely manner ♦ Examine the consistency of record review data and the final repository results by comparing samples of data determined from record abstraction and corresponding data residing in repository ♦ Examine the results of the abstraction process to determine consistency across reviewers as well as inter-rater reliability studies that may have been conducted				

Standard	Fully Compliant		Validation Date, On/Off-Site	Describe Method, Result and Impact on HEDIS Reporting Capability
	Y	N		
IS 2.5 The MCO assesses data completeness on an ongoing basis and takes steps to improve their performance. ♦ Examine the MCO's studies of data completeness ♦ Review any activities the MCO undertook to improve data completeness				

Standard	Fully Compliant Y	Fully Compliant N	Validation Date, On/Off-Site	Describe Method, Result and Impact on HEDIS Reporting Capability
IS 3.1 Effective procedures exist for submitting HEDIS-relevant information to data entry process and for assuring accurate, complete, and timely entry of membership event data. ♦ Review documentation of the MCO's mechanisms and systems for: transfer of information from employers and members to appropriate MCO location for pre-entry (i.e., microfilm or scanning) and entry processes, assuring entry accuracy, monitoring condition of the membership files, and tracking corrections and issues of members and employer groups regarding member file data. Observe these mechanisms in operation ♦ Compare entry dates to generation and receipt dates of membership data received from members and employers and assess the impact on HEDIS reporting. Review logs or other evidence of entry backlog ♦ Evaluate the processes that the MCO has in place to assure collection of all necessary membership data, which data must be able to support computations for: age, length of membership, periods of membership, periods of non-membership, coverage by product, MCO, and payer type (for each period of membership); capitated provider selections for each period of membership including all changes (for inclusion on abstraction forms) ♦ Review documented procedures, observe entry operations, and compare processed documents and electronic inputs to the corresponding file contents ♦ Assess the accuracy of member file maintenance computations that support HEDIS-oriented measures, such as: continuous enrollment, age/sex cell allocations, assignment of members to plan/population/product line/employer group, and sample selection				

Standard	Fully Compliant Y	N	Validation Date, On/Off-Site	Describe Method, Result and Impact on HEDIS Reporting Capability
IS 3.2 Data entry processes are effective, efficient, and timely and include sufficient edit checks to assure accurate reflection of submitted data in transaction files. ♦ Determine that the transaction files accurately reflect the submitted information; the first step in the process will be to verify that the data files have fields (which are of appropriate size) to receive the entered data ♦ Confirm, by examining documentation and by observing data entry operation, that the screens are able to receive all of the required data ♦ Review software to assure that proper edit checks are in place to detect data entry errors (parity checks, field sizes, date ranges, cross checks with member file, code ranges, provider services by specialty, rules for social security numbers, and key/verify processes, etc.) ♦ Review the processes of data extraction and consolidation to assure that HEDIS repository reflects data entry files; employ source code review, as well as, field by field comparison of original to receiving files				

Standard	Fully Compliant Y	N	Validation Date, On/Off-Site	Describe Method, Result and Impact on HEDIS Reporting Capability
IS 3.3 Electronic transmissions of membership data conform to industry standards and have necessary checking procedures to assure accuracy. ♦ Review documentation of the MCO's mechanisms and systems for: electronic transfer of information and verify that sound procedures are in place to assure that transmissions are properly controlled by such mechanisms as logs, record count verification, redundancy checking, receipts, sign-offs, and re-transmissions ♦ Observe operation and verify the implementation of the control procedures and verify that all standard industry protocols are in place and are employed				

Standard	Fully Compliant Y	N	Validation Date, On/Off-Site	Describe Method, Result and Impact on HEDIS Reporting Capability
IS 4.1 Effective procedures exist for submitting HEDIS-relevant information to data entry process and for assuring accurate, complete, and timely entry of provider data. ♦ Review documentation of the MCO's mechanisms and systems for: transfer of information from providers to appropriate MCO location for entry processes, assuring entry accuracy, monitoring condition of the provider files, and tracking corrections and issues regarding provider file data. Observe these mechanisms in operation ♦ Compare entry dates to generation and receipt dates of provider data and assess the impact on HEDIS reporting. Review logs or other evidence of entry backlog ♦ Evaluate the processes that the MCO has in place to assure collection of all necessary provider data; which data must be able to support computations for provider accessibility and availability, provider specialty, provider contracts, and provider credentials ♦ Review documented procedures, observe entry operations, and compare processed documents and electronic inputs to the corresponding file contents ♦ Assess the accuracy of provider file maintenance computations that support HEDIS-related measures				

Standard	Fully Compliant Y	Fully Compliant N	Validation Date, On/Off-Site	Describe Method, Result and Impact on HEDIS Reporting Capability
IS 4.2 Data entry processes are effective, efficient, and timely and include sufficient edit checks to assure accurate reflection of submitted data in transaction files. ♦ Determine that the transaction files accurately reflect the submitted information; the first step in the process will be to verify that the data files have fields (which are of appropriate size) to receive the entered data ♦ Confirm, by examining documentation and by observing data entry operation, that the screens are able to receive all of the required data ♦ Review software to assure that proper edit checks are in place to detect data entry errors (parity checks, field sizes, date ranges, cross checks with member file, code ranges, provider services by specialty, rules for social security numbers, and key/verify processes, etc.) ♦ Review the processes of data extraction and consolidation to assure that HEDIS repository reflects data entry files; employ source code review, as well as, field by field comparison of original to receiving files				
IS 4.3 Electronic transmissions of provider data conform to industry standards and have necessary checking procedures to assure accuracy. ♦ Review documentation of the MCO's mechanisms and systems for: electronic transfer of information and verify that sound procedures are in place to assure that transmissions are properly controlled by such mechanisms as logs, record count verification, redundancy checking, receipts, sign-offs, and re-transmissions ♦ Observe operation, verify the implementation of the control procedures and verify that all standard industry protocols are in place and are employed				

Standard	Fully Compliant Y	N	Validation Date, On/Off-Site	Describe Method, Result and Impact on HEDIS Reporting Capability
IS 5.1 Data transfers to HEDIS repository from transaction files are done accurately. ♦ Examine the documentation and assess the procedures for populating the repository used for HEDIS reporting from the transaction files (of medical, membership, and provider data) with regard to completeness and accuracy ♦ Examine samples of data from the repository and transaction files and assess the accuracy and completeness of the transfer process				

Standard	Fully Compliant Y	N	Validation Date, On/Off-Site	Describe Method, Result and Impact on HEDIS Reporting Capability
IS 5.2 File consolidations, extracts, and derivations are accurately carried out. ♦ Examine the processes to consolidate information from disparate transaction files and assess the ability of the process to produce the intended result (e.g., creating an inpatient stay record that encompasses all services during the stay, or a consolidation of claims, lab, and pharmacy data to assign a member to the diabetic category) ♦ Assess the effectiveness of such consolidations by comparing actual results to that which should have resulted according to the documented algorithms ♦ Evaluate the processes to extract information from the repository and assess their ability to produce the intended result (e.g., all females with a live birth in the reporting year) ♦ Assess the effectiveness of such extracts by comparing actual results to that which should have resulted according to the documented specifications				

Standard	Fully Compliant Y	N	Validation Date, On/Off-Site	Describe Method, Result and Impact on HEDIS Reporting Capability
IS 5.3 Repository structure and formatting are suitable for HEDIS measures and enable required programming efforts. ♦ Evaluate the repository's design and assess the resulting capability to accommodate analyses that produce HEDIS results ♦ Examine actual program flow charts and code to assess the extent to which the repository has enabled analyses and report preparation ♦ Assess the extent to which proper linkage mechanisms have been employed to join data across all data sources, in order to satisfy HEDIS data integration requirements (e.g., identifying a member with a given disease/condition)				

Standard	Fully Compliant Y	N	Validation Date, On/Off-Site	Describe Method, Result and Impact on HEDIS Reporting Capability
IS 6.1 Report production is managed effectively, and operators perform appropriately. ♦ Examine documentation governing the production process and assess its adequacy ♦ Examine logs of production activity and assess its compliance with documented standards and schedules ♦ Confirm proper run controls and review by production and analysis staff to assure that all report runs were properly reviewed and scrutinized ♦ Determine data update cutoff dates and assess the adequacy with regard to data reporting ♦ Determine whether MCO has retained copies of all files (and databases) used for reporting so that reported results can be reproduced				

Standard	Fully Compliant Y	N	Validation Date, On/Off-Site	Describe Method, Result and Impact on HEDIS Reporting Capability
IS 6.2 HEDIS reporting software is properly managed with regard to development, methodology, documentation, revision control and testing. ♦ Evaluate the documentation standards for all aspects of the HEDIS reporting repository including building, maintaining, managing, testing, and reporting ♦ Evaluate that processes and documentation comply with report program specifications, code review methodology, and testing				
IS 6.3 Physical control procedures are in place to assure HEDIS data integrity, such as physical security, data access authorization, disaster recovery facilities, UPS, and fire protection. ♦ Evaluate the procedures in place to properly control and protect the HEDIS repository and systems, and assess the adequacy of said procedures • Confirm that HEDIS data has not been compromised by deficits in: physical security, data access authorization, disaster recovery procedures, power failures, fire and smoke. If it has been compromised, determine the impacts				

V. MEASURE DESIGNATIONS

A. Measure Designation Template

Each of the seven measures reviewed by the audit team received a reporting designation consistent with the three NCQA categories listed below. HSAG used a variety of audit methods, including analysis of computer programs, medical record abstraction results, data files, samples of data and staff interviews to make each measure-specific designation:

R = Report	Measure was fully or substantially compliant with HEDIS specifications or had only minor deviations that did not significantly bias the reported rate.
NR = Not Report	Measure deviated from HEDIS specifications such that the reported rate was significantly biased. This designation is also assigned to DHS Accountability Set measures that the health plan chose not to report.
NA = Not Applicable	This measure designation is not applicable to the DHS Accountability Set measures.

For measures reported as percentages, NCQA has defined significant bias as a deviation of more than five (5) percentage points from the true percentage. A deviation of more than 10 percent in the number of reported events has been determined to be a significant bias for other measures.

For some measures, more than one rate is required for HEDIS reporting (for example, Childhood Immunization Status and Well-Child Visits in the First 15 Months of Life). It is possible that Sample Health Plan prepared some of the rates required by the measure appropriately but had significant bias in others. According to NCQA guidelines, Sample Health Plan would receive an "R" designation for the measure as a whole, but significantly biased rates within the measure would receive an "NR" designation in the Data Submission Tool (DST), where appropriate.

Table 4 indicates the auditor's report designation for each audited measure. The "Report" designation signifies which rates are appropriate for inclusion in external reports:

Table 4
Report Designations

Performance Measure	Partial Audit Scope*	Core Measure	Expanded Measure	Report Designation NA, NR, R	Audit Result Comments
Effectiveness of Care					
Childhood Immunization Status	X				
Prenatal Care in the First Trimester	X				
Check-Ups After Delivery	X				
Access Availability					
Initiation of Prenatal Care	X				
Use of Services					
Well-Child Visits in the First 15 Months of Life	X				
Well-Child Visits in the Third, Fourth, Fifth, and Sixth Year of Life	X				
Adolescent Well-Care Visit	X				

VI. HD Standards 5 and 6*

This report section describes the results of the review of each of the audited measures, including a summary of compliance with each HD Standard below:

Standard	Fully Compliant		Validation Date, On/Off- Site	Describe Method, Result and Impact on HEDIS Reporting Capability
	Y	N		
HD 5.0 The organization completely documents the data and processes used to collect and report HEDIS measures, to allow for verification of HEDIS data and calculations.				

**Compliance with HD Standards 1 through 4 are documented in the HSAG Working Papers.*

Standard	Fully Compliant Y	N	Validation Date, On/Off- Site	Describe Method, Result and Impact on HEDIS Reporting Capability
HD 6.0 If the managed care organization delegates any aspect of HEDIS data collection or reporting to an external vendor, the data from the vendor must meet all applicable NCQA HEDIS Compliance Audit Standards				

VII. FINAL AUDIT STATEMENT

We have examined seven measures from the accompanying 1998 Performance Report of Sample Health Plan for conformity with the Health Plan Employer Data and Information Set (HEDIS®) Specifications. This audit is a Partial Audit as defined by *the NCQA 1999 HEDIS Compliance Audit™: Standards, Policies and Procedures*. Our audit planning and testing was constructed to measure conformance to the HEDIS specifications for specific measures presented for review.

This report is the health plan management's responsibility. Our responsibility is to examine the selected seven (7) measures, and based on our examination, express an opinion on the seven measures. Our examination included procedures to obtain reasonable assurance that the selected seven measures from the accompanying 1998 Performance Report present fairly, in all material respects, the health plan's performance with respect to the HEDIS 1999 Specifications. Our examination was made according to *NCQA HEDIS Compliance Audit™: Standards, Policies and Procedures*, and included those procedures we considered necessary to obtain a reasonable basis for rendering our opinion.

In our opinion, the selected seven (7) measures from the accompanying 1998 Performance Report of Sample Health Plan were prepared according to the HEDIS 1999 Specifications, and present fairly, in all material respects, the health plan's performance with respect to these Guidelines.

_____

Lead Auditor

Health Services Advisory Group, Inc.
NCQA Licensed HEDIS Compliance Audit Organization

Date