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Missouri Patient Care Review Foundation

External Review of MC+ Medicaid Managed Care in Missouri

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Executive Summary

As the State of Missouri moves into its sixth year of providing managed care services for the MC+ population, the Missouri Department of Social Services (DSS), Division of Medical Services (DMS), continues to move forward in evaluating, modifying and improving the quality of care in its managed care program. As part of this process, the Missouri Patient Care Review Foundation (MPCRF) has produced an External Quality Review (EQR) report of the Missouri MC+ managed care program.

Overview

The Missouri Patient Care Review Foundation is pleased to present our fifth EQR evaluation of the Missouri MC+ Managed Care Program for calendar year (CY) 2000. The results of the evaluation indicate significant progress in the processes and procedures designed to advance the quality of care and access to health care services for MC+ members enrolled in managed care. The MC+ participating managed care plans and DMS are commended for their ongoing efforts to improve the quality of care provided to the MC+ population.

In considering the results, conclusions, and recommendations presented in this report, readers are encouraged to consider the information in light of the data involved in the evaluation, the ongoing quality improvement efforts of the state and health plans, and changes to the evaluation process to gain better results. The information and results in this report are more meaningful when considered in the context of factors that impact quality improvement initiatives. The findings in this report should be utilized as a snapshot of plan performance, identification of areas for improvement and for the development of multi plan quality improvement initiatives.

The report describes studies conducted based on very specific sources of information; one should not construe that it is a complete measure of all services that MC+ members may receive during the year. MC+ members may receive services delivered in free health clinics, health fairs, school settings or in health departments that do not submit claims to a health plan or forward information to the member's current Primary Care Provider (PCP) to be included in their medical records. The specific data sources, methodologies, and measures used in each study should be consulted to keep all findings in context.

Changes have been made to improve the evaluation process including minimizing the reliance on medical records, improving sampling methodologies, and increasing the use of secondary data sources. While changes can briefly interrupt the ability to compare results from year to year, every effort has been made to describe the changes in the methodology and to provide comparable data from prior years.

Each annual evaluation is retrospective and relies on data from the prior calendar year. It is likely that some quality improvement efforts undertaken during CY 2000 are not reflected in the data and, therefore, the results. The results must then be qualified by acknowledging the ongoing quality improvement efforts of the state and health plans.

MPCRF is charged with presenting the evaluation findings and suggested recommendations for improvement in the following areas:

- Established Benchmarks Review
- Focused Study: Pediatric Asthma
- Follow-up on the CY 1999 Evaluation Recommendations
- Encounter Claims Validation Study
- Encounter Claims Analysis

Evaluation Components

The **medical record review** findings are presented for some of the benchmark targets that were established in the 1998 EQR report. This medical record review looked exclusively at the medical record from the member's PCP at a point in time. It is important to note that where rates were calculated, the data are shown with 95% confidence intervals. The 95% confidence interval is a range of values above and below the rate obtained for a particular sample from a population (e.g., a *sample* of 12-month-old children). The confidence interval shows the margin of sampling error around the sample percentage and is an indication of the location of the true population rate. For a 95% confidence interval (CI), the probability is 95% that the interval contains the value for the entire population (i.e., *all* 12-month-old children). The upper confidence limit (UCL) and lower confidence limit (LCL) are the values that show the boundaries of a particular confidence interval. This statistical technique provides a method of determining statistically valid differences between different sample rates. Because of the small sample sizes for some indicators, the confidence intervals are quite large. For the purpose of this summary the percentage is reported. However, the UCL and LCL must be considered for each indicator, as detailed in the full report, before conclusions and comparisons can be made.

The **encounter claims review** examines encounter claims, both in managed care and fee-for-service areas. For all analyses, identical Medical Eligibility codes and CPT/ICD-9 codes were matched between managed care and fee-for-service. This is an exciting new development in the EQR process that will provide a spring board to future claims analyses.

The primary goal of the encounter claims analyses is to examine quality of care indicators/ benchmarks to determine strengths and opportunities for improvement in health care delivery of the MC+ program. Whereas earlier EQR evaluations examined indicators primarily using medical record data, MPCRF began reviewing the state's claims data to minimize intrusiveness and expense while maximizing the likelihood of more reliable evaluation findings. Future claims analyses can continue to improve this balance by enhancing the accuracy of claims submission and updating the data warehousing processes.

As noted in the Follow Up Recommendations section of this report, many efforts are underway at both the plan and state levels to improve the encounter claims data. Much work remains to be done to enhance the data's accuracy and reliability and thus the results of any reports based on encounter claims.

This EQR also included an **Encounter Claims Validation Study**. This new study reviewed submitted claims for Early Periodic Diagnosis Screening and Treatment (EPSDT) services and compared the submission of the claim to what was found in the medical record. The medical record was reviewed for any medical encounter during a 30-day period around the date of service on the claim.

The **Pediatric Asthma Focused Study** for this year updates the pediatric asthma literature review and provides follow-up to the pediatric asthma study conducted in 1998. This review provides information on the documentation of asthma treatment plans, patient education, and asthma drug utilization.

Results

Benchmarks Review

The 2000 EQR measured preventive health services, including EPSDT services, immunizations, blood lead testing at 12 and 24 months, emergency department visits, asthma education, and obstetric visits. Over the years, benchmark indicators have been revised to reflect contract changes or have been eliminated due to duplication of effort. Some topics are measured based on a random sample of medical records, other indicators were measured from encounter claims data or secondary source data. There may be other sources of information to support additional findings for each measure that is not included in this report, the findings reflected in this report represent only specific measures and reviews. The established benchmarks indicate levels the health plans should strive to reach. For example, a medical records review will only capture the services provided by the member's PCP during a period of time. This medical record review does not attempt to capture all services the member may have received from multiple PCPs throughout the year or services rendered outside the PCP's office.

In summary, all the indicators for both medical record and encounter claims analyses showed positive movement with the exception of emergency department visits. However, further study should be conducted prior to reaching conclusions on the basis of these results.

EPSDT Exams

This review collected data on the number of EPSDT forms in medical records with all exam components completed for children birth to six years of age. For documentation of EPSDT age appropriate services, MPCRF looked for the presence of an EPSDT form with all exam components documented as completed. The managed care state rate for 2000 is 21%, which represents a 75% increase over the 1999 rate of 12%. The rate for 1998 was 26%. Four plans exceeded the 2000 state rate: Blue Advantage Plus, HealthNet, Family Health Partners, and Missouri Care. All health plans, except HealthCare USA (E), improved their EPSDT rates over 1999 rates.

The encounter claims analysis of EPSDT screening services improved from 1999 to 2000. The rate of MC+ children ages birth to six years with at least one EPSDT service claim is 45% for 1999. For 2000, this rate increases to 59% of children receiving at least one EPSDT service, a 31% increase from 1999.

Immunizations

The managed care rate across all health plans for the completion of immunizations is 75%. For children birth to six years of age, 1,842 immunizations were due with 1,389 immunizations documented as administered. The 2000 rate reflects a 79% increase over the 1999 rate of 42%. Five plans exceed the state rate, including HealthNet, Blue Advantage Plus, FirstGuard, HealthCare USA (C), and HealthCare USA (E). The confidence intervals

indicate only HealthNet's rate is significantly higher than the state rate, however all plans made advances in their immunization rates over 1999 and the 1998 rate of 45%.

The encounter claims analysis rate of MC+ children ages birth to six years with at least one immunization service claim is 20% in 1999. For 2000, 28% of children had at least one immunization service claim, an increase of 40% from 1999.

Blood Lead Level Testing

The rate of blood lead level testing for children 12 months of age in the managed care program was 29% in 2000, based on medical record data. The benchmark goal is set at 40%. The rate for 2000 represents an increase of 12% compared to 1999, which was 26% for blood lead level testing at 12 months. In 1998 the rate was 14%.

In the encounter claims analysis, the rate of MC+ children 12 months of age with at least one blood lead level test claim in 1999 is 23%. For 2000, the rate increases to 32%, a 39% increase.

Blood lead testing for children 24 months of age was found to be 34% in 2000, compared to the target benchmark goal of 25%. The rate in 1999 and 1998 was 11%. Although this is a 209% increase, the numbers of 12 and 24 month old children in the medical record sample are so small that caution must be used in generalizing the results to all 12 and 24 month old children in managed care.

The encounter claims analysis of MC+ children 24 months of age with at least one blood level test claim was 13% in 1999. For 2000, the rate increases to 19%, a 46% increase.

Asthma Disease Education

Children with a diagnosis of asthma should have documentation in their medical record indicating they have received asthma disease education. The benchmark goal for the documentation of asthma disease education is 65%. Rates were calculated based on those cases selected for the asthma focused study plus any other cases that had a diagnosis of asthma documented in the medical record. The number of asthma cases ranged from 10 to 44 per plan, with a total of 320 cases across all plans. The managed care state rate in CY 2000 for asthma disease education is 55%, a 25% increase from the 1999 rate of 44% and 17% in 1998. The two health plans with rates above the goal are Care Partners and Family Health Partners, however only Care Partners has a rate significantly higher than the state rate. For the remaining plans there are no significant differences between any of the rates. Asthma disease education cannot be measured by encounter claims; this indicator currently requires documentation found in the medical record.

Emergency Department Visits

The Emergency Department visit benchmark goal was originally set at 0.35 visits per enrollee in 1998. This benchmark was established based on medical record review as the source document. For this review, MPCRF used encounter claims to determine the rate, as this is a more appropriate source for ED data. MPCRF recommends that the EQR continue to use encounter claims data to measure ED visits and to set a new benchmark goal that is more appropriate for this indicator. For this review, MPCRF determined the number of MC+ members who had at least one visit to the ED in both 1999 and 2000. In 1999, the

rate of MC+ members with at least one emergency department visit is 13%. For 2000, the rate increases to 22%, a 69% increase.

The following table presents benchmark rates for CY 1999 and 2000 as well as the percent change in the rate, for both the medical record and managed care claims analyses. While these findings are reported together for the convenience of the reader, readers should refrain from comparing the results of the medical record review to the managed care claims analyses and from year to year. The results are not comparable as different data sources and research methods were used to determine the respective rates.

Benchmark Comparisons of Medical Records				
Blood Lead Levels Testing	1998	1999	2000	% Change from 1999
12 Months	14%	26%	29%	12%
24 Months	11%	11%	34%	209%
One EPSDT Exam Completed	26%	12%	21%	75%
Immunizations	45%	42%	75%	79%
Asthma Education	17%	44%	55%	25%

Benchmark Comparisons of Encounter Claims				
Blood Lead Levels Testing	1998	1999	2000	% Change from 1999
12 Months	n/a	23%	32%	39%
24 Months	n/a	13%	19%	46%
One EPSDT Exam Completed	n/a	45%	59%	31%
Immunizations	n/a	20%	28%	40%
ED Visits	n/a	13%	22%	69%

Prenatal Care

MPCRF reviewed the Department of Health and Senior Services (DHSS) birth certificate data to look at prenatal care for the MC+ population. For comparative purposes both 1999 and 2000 data were examined. Three indices were examined: the percent of women who initiated prenatal care in each trimester of pregnancy, the number of prenatal visits and adequate prenatal care as defined by DHSS.

Percent of women who initiated prenatal care in each trimester of pregnancy. Prenatal care was initiated in the first trimester for 75.5% of the pregnant women in 2000. By the end of the second trimester prenatal care had begun for 91.7% of the women, and by the third trimester 94% began prenatal care. The number of birth certificates reporting no prenatal care was 1.3%. The rates for both 1999 and 2000 were comparable, with no significant increases or decreases.

Number of prenatal visits. The number of prenatal visits in 1999 and 2000 was measured for each managed care plan and in total. In both years, approximately 53% of women across all plans had between 11 and 20 prenatal visits. The results indicate that 92% of the women had up to 30 prenatal visits in 1999, while 89.7% had up to 30 visits in 2000.

Adequate prenatal care. According to DHSS, adequate prenatal care is characterized as care that begins before the end of the fourth month of pregnancy and includes at least five

visits for pregnancies of less than 37 weeks or at least eight visits for pregnancies of 37 weeks or longer. In 1999, adequate prenatal care was received in 76% of the cases and remained stable in 2000. The rate of inadequate prenatal care also remained at around 17% for both years. The Central region health plans experienced the highest rates for adequate prenatal care for both years.

Encounter Claims Validation Study

MPCRF reviewed 681 medical records that included sufficient information for the encounter claims validation study. Medical records were reviewed to determine if a provider encounter was documented within a 30-day period of the EPSDT date of service on the claim. Ninety-four percent of the records were found to have a face-to-face visit with a provider documented within the 30-day window (+/- 15 days) from the EPSDT date of service found on the encounter claim. Six percent of the records included documentation of an EPSDT visit conducted in 2000 although not within the 30-day time period. One record had no documentation of any visit of any kind in 2000, even though an EPSDT visit was recorded in the claims data for the case. This case has been referred to DMS for further investigation.

Asthma Focused Study Results

MPCRF reviewed the medical records and encounter claims to determine if the documentation of asthma severity, asthma treatment plans and the use of asthma drug therapy increased between 1998 and 2000. While asthma disease education documentation increased 148% from 1998 to 2000, the documentation of an asthma treatment plan and the severity of asthma decreased slightly. A review of the pharmaceutical encounter claims reveals a 25% increase in the rate of claims for quick relief and a 14% increase in long term control asthma drugs from 1998 to 2000. While it is impossible to determine exactly why the use of these drugs rose so significantly, expenditures for prescription drugs and the number of drugs prescribed in both public and commercial insurance markets also rose during this same time period.

Follow-up on the CY 1999 Evaluation Recommendations

MPCRF solicited information from the health plans and DMS to follow-up on the recommendations made in the 1999 EQR report. The health plans and DMS provided MPCRF with a self-assessment document designed to assess progress on recommendations. In addition, on-site interviews were conducted with the health plans. Significant activity and progress has been made by health plans with regard to the recommendations. The health plans initiated several successful quality improvement projects, and it appears communication and collaborative efforts with the state have improved.

Summary and Conclusions

It is clear that DMS and the MC+ health plans worked hard in 2000 to improve service delivery, quality of care, member and provider education, partnership development, communications and information sharing. The findings reveal the MC+ managed care program has both positive successes and opportunities for improvement. With six years of experience, the MC+ Managed Care program in Missouri continues to evolve and both the health plans and DMS are moving diligently forward to improve quality of care.

Quality improvement efforts are focused on the goals of improving the health care services and

outcomes and cost containment, at both the plan and state levels. Scarce resources dictate the prioritization of improvement endeavors and better communication and information sharing among community and local/state stakeholders. MC+ administrators and health plans have continued to improve their efforts in this regard.

Throughout this review the findings highlight many similarities among the health plans for the indices measured. The slow progress of raising rates to reach the established benchmarks demonstrates how difficult a task this is. It also reflects how "established benchmarks" must match the parameters of what is to be measured. When setting a benchmark goal, the available systems and measures for capturing the data must be considered. It is difficult to measure a health plan's progress measured against benchmark goals if the data to measure those indices are not readily available to the plans.

Two key elements, maximizing the utility of encounter claims and having accurate enrollment data collected by the state, are needed to advance most cost effective quality improvement efforts. Many task forces and specific projects have been directed over the years to improve claim submission and acceptance. The progress made has been dramatic, however numerous problems continue to exist with encounter claims data, including incomplete, missing and erroneous data. Enrollment data, specifically incorrect telephone numbers and addresses, tie up limited resources at the plan level and detract from other worthy projects yielding more tangible results. Efforts to improve the encounter claims data and enrollment data must continue through ongoing education of providers and use of incentives to increase submission rates and improve the quality of the data.

Traditionally, the external quality review of the MC+ Program results in numerous recommendations spanning numerous clinical and administrative areas. As evident from the administrative reviews of the plans and DMS, no single entity was able to focus and follow up on every recommendation from 1999. Rather, plan-specific priorities were determined and collaborative initiatives were launched in interagency forums with community-based associations.

Looking toward the future, what is needed is an evolution in the evaluation process. While monitoring and tracking the status of significant health care indicators remains an important approach, the maturation of the managed care program calls for the implementation of measurable processes and procedures designed to advance indicators of quality care. Health plans and DMS could look to Quality Improvement Systems for Managed Care (QISMC) for ideas to incorporate into their quality improvement efforts. QISMC is a quality improvement program utilized by Medicare health plan programs and offers a standard quality improvement framework for health plans to work within. Key features of this approach include selecting topics of significant importance to the well-being of the population, baseline measurements, identification of barriers and/or root cause analysis, development of intervention processes, well defined outcome measures and remeasurement. It promotes opportunities for partnership and develops a quality oversight system that could reduce duplicate or conflicting efforts and send a uniform message on quality. Statewide projects can unite quality improvement efforts and achieve a level of consistency and concentration necessary to change the behaviors of stakeholders in the managed care program and improve health care outcomes.

CY 2000 Recommendations

EPSDT Services

2000 Health Plan and DMS Recommendation

Health plans should collaborate to develop and implement a quality improvement project that uses real time data (e.g., individual health plan data), to increase rates of EPSDT examinations with all exam components (e.g., immunizations, lead testing at 12 and 24 months) completed and documented in medical records. Development of a quality improvement initiative should begin with a barrier analysis to determine reasons (patient-based, provider-based or program-based) for low rates. Plans should continue to review PCP medical records for validation of service delivery and utilization of the mandatory EPSDT forms in those clinical reviews.

Lead Testing and Screening

2000 Health Plan and DMS Recommendation

Evaluations of blood lead level testing at 12 and 24 months of age should include multiple sources of data including medical records, encounter claims data and other secondary data sets, (e.g. MOHSAIC, Stellar System, etc) in order to get a more complete picture of the level of testing occurring. DMS and DHSS should examine state structures to identify barriers which impact the reporting of blood lead level testing to the health plans (i.e., labs only reporting elevated levels). All state testing information on health plan members should be made available to the plans.

Although progress has been made there is considerable room for improvement. Health plans and DMS should design a quality improvement project focusing on lead testing. This report can provide a baseline measurement. Specific interventions should be designed after identifying the barriers to care or a root cause analysis has been conducted. The intervention must be measurable and initiated by all plans. Remeasurement should be conducted to evaluate the success of the intervention. This may take a considerable period of time but it is a positive step in addressing this serious problem. This repeats the recommendation made in 1999.

Prenatal Care

2000 Health Plan Recommendation

Plans should continue with their efforts to identify pregnant women and educate them about the importance of early prenatal care. Plans should consider evaluating Mercy Health Plan's perinatal home visit program. Mercy reports an increase in the gestational age and lower hospital costs of babies born to mothers participating in the program.

Asthma

2000 Health Plan Recommendation

Although reviewing medical records to determine adherence with treatment and documentation protocols is expensive and labor intensive, some medical record review is necessary. For asthma treatment, some information about how members are treated and managed can only be found in the medical record, (e.g., scheduled follow-up visits, peak flow rate documentation, asthma education and asthma action/treatment plans, etc.)

MPCRF recommends that MC+ health plans continue to strive for more rigorous documentation of an asthma treatment plan, asthma severity and asthma disease education in the MC+ pediatric asthma population. Future EQR studies should include analyses of asthma drug use for MC+ members with a diagnosis of asthma.

The National Asthma Education and Prevention Program Expert Panel Report 2: Guidelines for the Diagnosis and Management of Asthma (1997) and the findings from the Missouri Health Status Report (2001), encourages the increased usage of written asthma action plans, patient education at each visit, and follow-up at least every six months.

Plans should work together to develop a quality improvement project plan to evaluate and measure asthma education and documentation improvements using multiple sources of information. An evaluation of asthma treatment should include a hybrid methodology that examines both primary and secondary data. The 2000 EQR established a baseline rate for future studies.

Administration

2000 Health Plan and DMS Recommendation

DMS should provide regular information to health plans regarding the number and type of suspended/rejected claims. Health plans should continue activities to improve claims submission and acceptance rates. Encounter claims frequently have missing or incorrect data. Provider education regarding the importance of encounter claims submission should also be continued. The plans and DMS could consider collaborating on encounter claims training and education for providers to improve the integrity of the encounter claims data.

2000 DMS Recommendation

DMS should continue to survey health plans to determine if health assessment data is useful, such as the number and type of risk factors identified, and timeliness of receipt of the assessments. The timeliness of receipt of assessments affects health plan resource management.

2000 DMS Recommendation

Physicians and other providers do not have unique identifiers. Until HIPAA regulations are employed in this area, DMS should consider conducting periodic reviews of the provider file to verify the integrity of the information and implement improvement processes as necessary. Accurate physician information is critical for quality improvement and member tracking.

2000 DMS Recommendation

DMS should continue to explore best practices demonstrated by other states, such as dental reimbursement practices. DMS should consider addressing the issue of the shortage of dentists and its impact on the Medicaid population with leaders in higher education and dental universities in the state.

2000 DMS Recommendation

Quality improvement topics directed by contract requirements, or the Quality Assessment and Improvement Committee (QA and I) and its sub-committees, should be carefully considered to avoid duplication of efforts and promote consistent measurement methods. Topics should be able to respond to an intervention and a

baseline measurement should be established. Specific interventions should be designed after identifying the barriers to care or a root cause analysis has been conducted. Benchmark goals should be consistent between DMS contract compliance and those of the EQR and QA and I Committee.

2000 DMS Recommendation

Many health plans have requested studies of children with special health care needs in future external quality reviews of MC+. Children with special health care needs continue to be a focus of concern for CMS and states. Studies of this population should be included in future EQRs.

2000 Health Plan and DMS Recommendation

DMS and the health plans should collaborate to develop a provider satisfaction survey that uses a common tool so that results may be examined between plans and statewide. Identifying and addressing common issues faced by providers may help to increase the willingness of providers to participate thus increasing access to care for members.

I. Introduction

In September of 1995, the State of Missouri implemented MC+ managed care services through a 1915(b) Freedom of Choice waiver from the Health Care Financing Administration (HCFA), renamed Centers for Medicare and Medicaid Services (CMS) of the Department of Health and Human Services. The Missouri Department of Social Services (DSS), Division of Medical Services (DMS), administers the managed care program, which is in its seventh year of service.

The MC+ for Kids program was initiated in 1998, authorized by CMS and the Missouri State legislature. It expands the MC+ Program, Missouri's managed care and fee-for-service programs for children and families. Missouri's waiver amendment establishes eligibility for children from birth through age 18 with a family income up to 300% of the Federal Poverty Level. Adult caregivers and parents may also be eligible, with income and benefit limitations.

The calendar year (CY) 2000 review covers nine health plans holding ten contracts covering 37 counties. Eastern region plans included in the review are Care Partners, Community Care Plus, HealthCare USA and Mercy. In the Central Region, the plans included are HealthCare USA and Missouri Care. The Western region plans are Blue Advantage Plus, HealthNet, Family Health Partners and FirstGuard. The MC+ Managed Care Program covered 305,811 individuals in Missouri on June 30, 2000.

Under MC+ managed care, each health plan is paid a capitated fee for each enrollee to provide primary and preventive health care, inpatient and outpatient services, dental, pharmaceutical services, prenatal care, transportation, mental health services, and substance abuse services. Some benefit limitations apply to the MC+ for Kids expansion group.

Some services are "carved out" of the MC+ program but are available under the Medicaid fee-for-service program. The MC+ managed care population is defined by DSS into different eligibility groups. The qualifications for the MC+ Program eligibility groups are based on a combination of factors, including family composition, income level, insurance status, or pregnancy status depending on the eligibility group in question.

Physical health and pharmaceutical services for children in state custody are covered by MC+. Mental health services are paid directly to providers through the Medicaid fee-for-service program. Substance abuse services provided through Community Substance Treatment and Rehabilitation (C-STAR) programs are available to health plan enrollees and are paid for through the Medicaid fee-for-service program.

Purpose of External Quality Review Organization (EQRO)

This report is an annual, independent, external evaluation of the State of Missouri's managed care program. Section 4705(a) of the Balanced Budget Act of 1997 (and section 1932 (c)(2) of the Social Security Act) establishes state requirements for an External Quality Review Organization (EQRO) to conduct an evaluation of the quality of MC+ managed care services. The purpose of the external quality review is to evaluate quality improvement processes as well as individual health plan performance with regard to the outcomes, timeliness of, and access to services for which the program is responsible under the state's managed care program. Findings are available to health

plans and consumers on the MPCRF website (www.MPCRF.org), for quality improvement and facilitation of consumer education.

The Missouri Patient Care Review Foundation (MPCRF) is the EQRO contracted by DSS to evaluate quality of care, access to services and quality improvement for the managed care program. MPCRF is a private, not-for-profit 501 (c)(6) organization formed in 1983 by the Missouri Association of Osteopathic Physicians and Surgeons (MAOPS) and the Missouri State Medical Association (MSMA). MPCRF is a federally qualified Peer Review Organization (PRO) and has held the Missouri Medicare PRO contract continuously since 1984.

This CY 2000 External Quality Review report describes the studies conducted to follow-up on the CY 1999 evaluation and to assess health plan progress on benchmarks adopted by DMS in 1998. It also includes a study of the care of MC+ members with Asthma/Reactive Airway Disease (RAD). The Asthma Focused Study examines asthma drug use during 1998 and 2000 and makes comparisons between the two years for both the managed care and fee-for-service populations. An Encounter Claims Validation study, new to the evaluation process, examines EPSDT encounter claims and associated medical record documentation. Methods of collecting qualitative and quantitative data through administrative and medical record reviews of each health plan are described in detail, as well as presenting aggregate and plan-specific findings for Missouri in the subsequent sections.

MPCRF began the CY 2000 review by examining prior health plan recommendations to identify opportunities for improvement to the evaluation process. Many improvements have been made and steps have been taken to address several aspects of the evaluation to ensure the end product is useful to the state and health plans.

MPCRF collaborated extensively with DMS to design the CY 2000 external quality review and report. Meetings were conducted with DMS to work on multiple issues such as data requests, study design, and focused study topics. All focused and follow-up study designs, including research hypotheses and study questions, were reviewed and approved by DMS. MPCRF also collaborated with the health plans in the design and some functional areas of the evaluation.

Differences between Past and Current Evaluation Processes

The most significant change in the external quality review process from 1999 to 2000 is the expansion of the evaluation to include analyses of large secondary claims data sets provided by DMS. MPCRF built a data warehouse to accommodate encounter and fee-for-service claims data for CY 1998 through 2000. Following recommendations of health plans and DMS, MPCRF continued to shift reliance primarily on medical record review to a review enhanced with claims data. Analysis of claims data over time is expected to strengthen and increase confidence in current and future study findings, while decreasing the administrative burden on health plans and providers.

The CY 2000 evaluation includes: 1) a clinical follow-up review of benchmark indicators, 2) an asthma focused study emphasizing asthma drug use, 3) an encounter claims validation study, 4) analysis of encounter claims data for calendar years 1999 and 2000 for each of the benchmark indicators, excluding asthma education, 5) an analysis of fee-for-service data for CY 2000, and 6) an

analysis of DHSS birth certificate data examining prenatal care visits for calendar years 1999 and 2000.

Finally, the method of collecting medical records for the clinical portion of the review was updated. Medical records were requested directly from provider offices by MPCRF and providers were reimbursed for each record copy received. Record retrieval rates were comparable to prior years and the response to this change was generally favorable. A revised scope of work for this review eliminated some studies that were found to duplicate the ongoing work of DMS or DHSS.

II. Encounter Claims

2000 Statewide Encounter Claims Activity

Information from encounter claims data is used by state policy makers to determine funding, allocations, payment rates, program performance, and utilization. Claims data is used to support the 1915(b) waiver under which the State of Missouri operates the managed care program, MC+. Historically, capturing encounter claims data has been problematic due to payment systems (capitated vs. fee-for-service), lack of provider compliance in claims submission to health plans, and the DMS and health plan claims editing system. DMS and the health plans understand the problems with the encounter claims database and worked in 2000, individually and collaboratively, to improve the integrity of the data and claims submission process. DMS convened a task force of state and plan stakeholders to identify and begin resolving claims issues. The data reflects an improvement in capturing encounter claims into the system.

Table 1 presents 2000 encounter claims submission data provided by DMS. The information reflects only claims submitted and accepted in 2000 by the DMS editing system. Other claims may have been accepted by health plans but rejected by DMS. For comparison purposes, membership is based on a date-in-time for both fee-for-service and managed care. Total numbers of claims accepted by DMS are shown for each health plan, region and the state. Figure 1 and Figure 2 depict total 2000 claims by plan and total member enrollment by plan, respectively, as of June 30, 2000. Figure 3 presents the rate of claims per member by plan and Figure 4 shows the type of claims by region.

2000 Fee-For-Service Claims Activity

The CY 2000 evaluation includes various analyses of fee-for-service claims data to provide valuable points of comparison for managed care study findings. Table 2 presents 2000 fee-for-service claims submission data provided by DMS, including paid claims, denied claims and statewide totals across claim types. Comparable ME codes were included in the fee-for-service claims analysis.

Table 1. 2000 Managed Care Encounter Claims.

2000 Encounter Claims by Plan, Region and State										
Plan Name	Pharmacy	Inpatient	Dental	Medical	Outpatient	Home Health	Total Claims*	Number of Members, June 2000	Rate of Claims Per Member	% Change from 1999
HealthCare USA (C)	135,283	4,859	7,003	219,289	325	0	366,759	23,503	15.60	8.4%
Care Partners (C)	17,002	495	894	8,806	17,629	0	44,826	3,465	12.94	51.3%
Missouri Care	101,987	4,381	8,806	150,732	49,470	0	315,376	18,311	17.22	19%
Mercy	55,756	2,380	7,650	72,532	25,438	0	163,756	15,643	10.47	3.2%
Care Partners (E)	203,928	5,921	21,878	198,489	80,699	0	510,915	39,126	13.06	38.5%
Community Care Plus	19,243	1,538	14,668	58,738	23,902	0	118,089	21,789	5.42	39.3%
HealthCare USA (E)	414,852	21,818	52,209	666,520	8,965	0	1,164,364	90,212	12.91	60.2%
Family Health Partners	205,607	8,882	27,856	247,689	141,284	734	632,052	37,645	16.79	49.9%
HealthNet	61,754	2,197	8,732	82,635	22,663	0	177,981	12,679	14.04	70.6%
Blue Advantage Plus	95,704	5,695	15,130	236,146	56,908	13	409,596	22,880	17.90	80.3%
FirstGuard	107,398	4,948	18,193	153,602	46,133	425	330,699	24,023	13.77	16.7%
Central	254,272	9,735	16,703	378,827	67,424	0	726,961	45,279	16.06	15.0%
Eastern	693,779	31,657	96,405	996,279	139,004	0	1,957,124	166,770	11.74	45.2%
Western	470,463	21,722	69,911	720,072	266,988	1,172	1,550,328	97,227	15.95	48.8%
State	1,418,514	63,114	183,019	2,095,178	473,416	1,172	4,234,413	309,276	13.69	40.4%

Note: The data includes only those claims that met the criteria of the editing process. Additional encounter claims were submitted but not accepted by the claims editing process.
Source: Missouri Department of Social Services, Division of Medical Services
* includes paid and denied claims

Table 2. 2000 Fee-For-Service Encounter Claims.

2000 Fee-For-Service Encounter Claims									
Type	Pharmacy	Inpatient	Dental	Medical	Outpatient	Home Health	Total Claims*	Number of Recipients, June 2000	Rate of Claims Per Recipient
Fee-For-Service – Paid	2,161,900	42,467	111,767	2,487,518	684,414	6,652	5,494,718	416,339	13.20
Fee-For-Service – Denied	359,366	15,657	21,177	680,436	119,159	2,008	1,197,803		2.88
Total	2,521,266	58,124	132,944	3,167,954	803,573	8,660	6,692,521		16.07

Note: The data includes only those claims that met the criteria of the editing process. Additional encounter claims were submitted but not accepted by the claims editing process.
Source: Missouri Department of Social Services, Division of Medical Services
* includes paid and denied claims

Figure 1. Total 2000 Claims by Plan

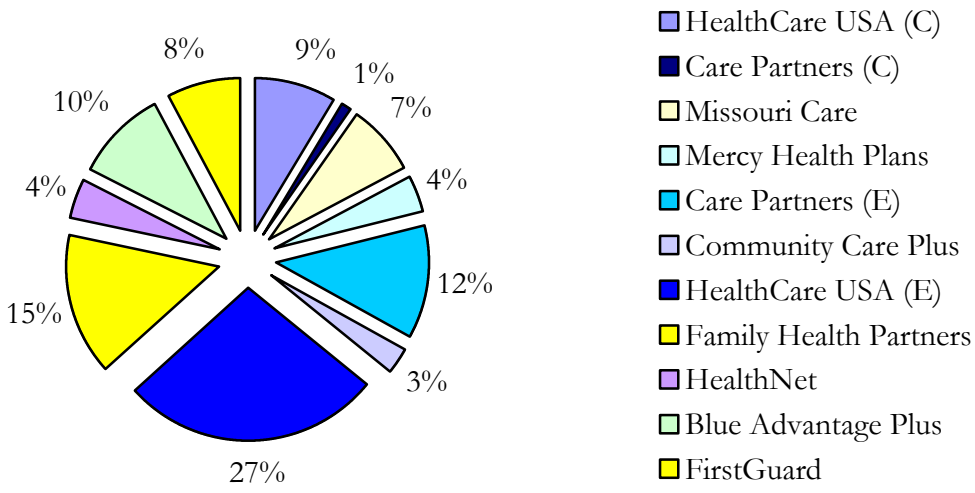


Figure 2. Total Member Enrollment by Plan

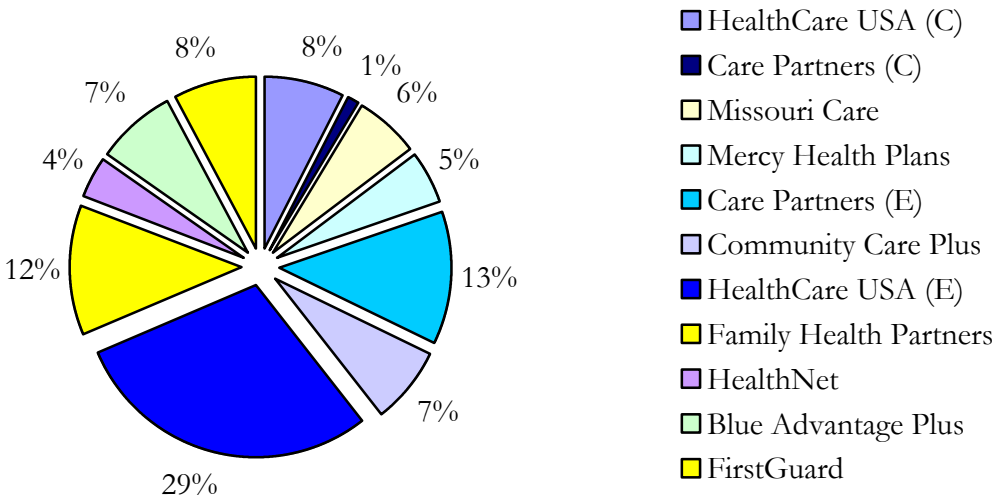


Figure 3. Rate of Claims Per Member by Plan

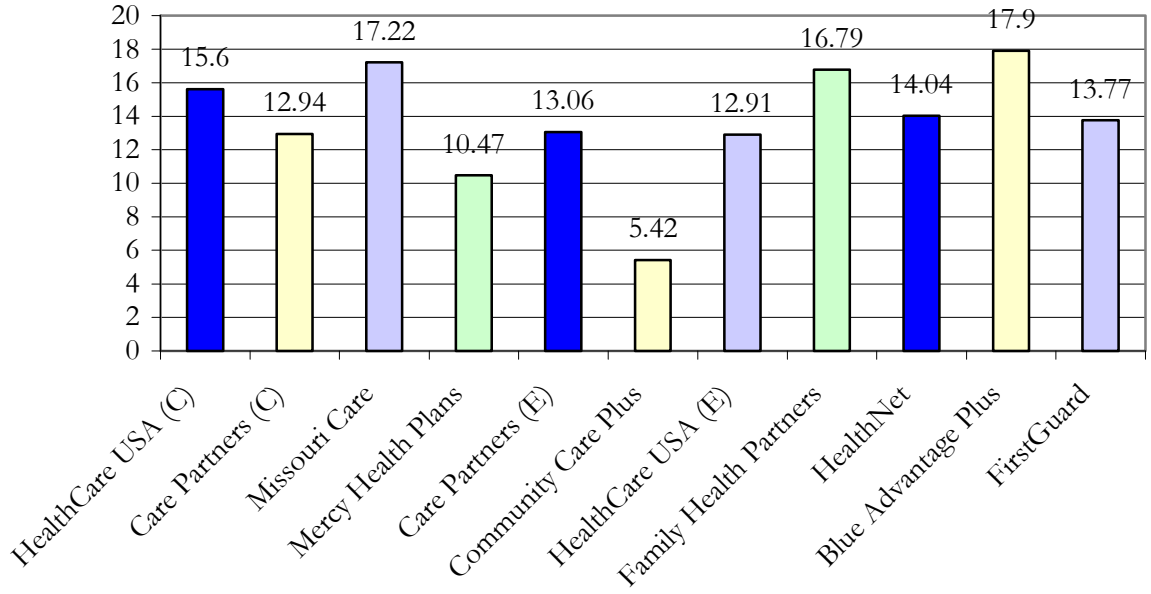
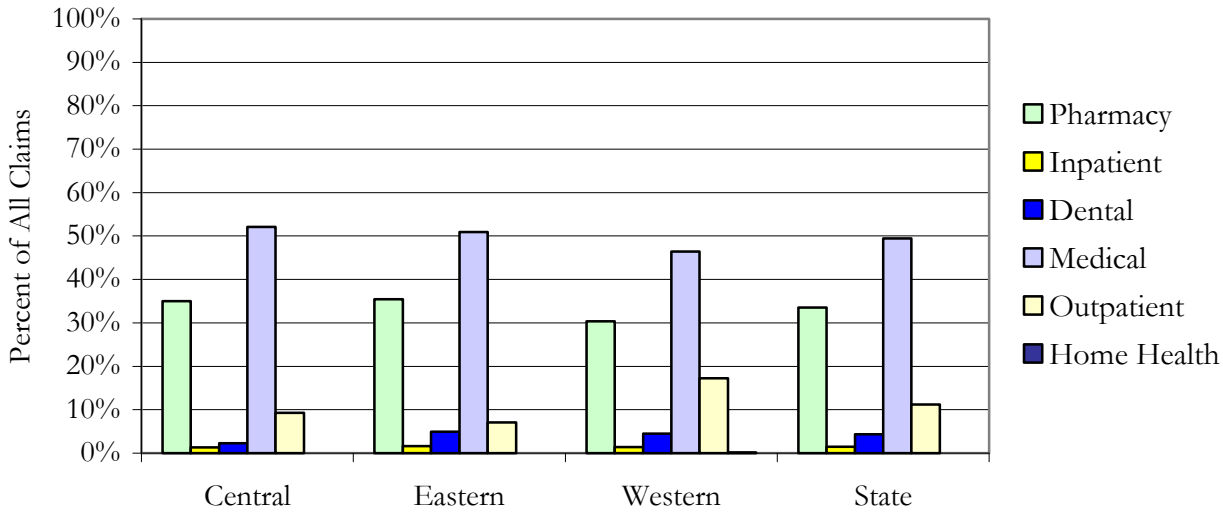


Figure 4. Type of Claims by Region



Encounter Claims Validation Study

MPCRF conducted an Encounter Claims Validation Study for calendar year 2000 to determine if certain information in the encounter claims corresponded to information in the medical record. This encounter claim validation study is new and comparisons to other years is not possible. Specifically, data was analyzed to assess whether the medical records contained documentation of a face-to-face medical visit with a provider that matched the date of service for an EPSDT visit found in the encounter claims, within a 30-day window. This 30-day window is plus or minus 15 days from the date of service. The results are reported statewide for the MC+ service area.

Methodology

A stratified random sampling process was used to obtain a sample for the Encounter Claims Validation Study. The 2000 encounter claims were used to select 150 cases from each of the ten MC+ contracts. Within the 150 cases, MPCRF selected 100 cases who were age six or less and had an EPSDT service code. Another 50 cases were selected of those who were age 21 or less, had an EPSDT service code, and had a diagnosis of asthma/RAD. Using these criteria it was possible to identify 150 cases from each MC+ contract except Missouri Care. A total of 122 cases were found in this plan and all 122 were included in the sample. The combined total was 1,472 cases.

The sample of 1,472 cases was matched to enrollment and provider data obtained from DMS to identify the primary care physician (PCP) for each individual. The PCP name and address was collected to allow MPCRF to send requests to the appropriate physicians for the medical records. Adequate PCP information was not available for all individuals, therefore a number of cases were eliminated from the sample.

Results

Of the records requested from physicians, MPCRF received 681 that included sufficient information for the encounter claims validation. These records were reviewed to determine if the record contained documentation of a provider encounter within a 30-day period of the EPSDT date of service on the claims. A total of 637 (94%) records were found to have a face-to-face visit with a provider documented within the 30-day window (+/- 15 days) from the EPSDT date of service found on the encounter claims. 43 (6%) records included documentation of an EPSDT visit that was conducted in 2000 but was not within the 30-day time period. One (<1%) record had no documentation of any visit of any kind in 2000, even though an EPSDT visit was recorded in the claims data for the case. This case has been referred to DMS.

III. Medical Record Review

Methodology

Using enrollment, eligibility and encounter claims data provided by DMS, a stratified random sampling process was used to obtain a sample for the Benchmark Follow Up, Asthma Focused Study and the Encounter Claims Validation Studies. As discussed earlier, the report reflects an increased effort to utilize encounter claims and reduce the number of medical records reviewed. The 2000 encounter claims were used to select 150 cases from each of the ten MC+ contracts. MPCRF searched the claims data for an EPSDT service code, asthma/RAD diagnosis code, and age criteria. MPCRF selected 100 cases who were age six or less and had an EPSDT service code. Another 50 cases were selected of those who were age 21 or less, had an EPSDT service code, and had a diagnosis of asthma/RAD. Using these criteria it was possible to identify 150 cases from each MC+ contract except Missouri Care, a total of 122 cases were found in this plan and all were included in the sample. The combined total was 1,472 cases. A listing of EPSDT procedure codes taken from the CMS 416 report list and a list of asthma diagnosis codes used in case selection are included in Exhibit A.

The sample of 1,472 cases was matched to enrollment and provider data obtained from DMS to identify the primary care physician (PCP) for each individual. The PCP name and address was collected to allow MPCRF to send requests to the appropriate physicians for the medical records. Adequate PCP information was not available for all individuals and enrollment criteria was not plan specific, therefore a number of cases were eliminated from the sample.

Of the records requested from physicians, MPCRF received, 681 records that included sufficient information for inclusion in the studies and were reviewed by trained nurse reviewers. In 1999 1,114 medical records were reviewed. In 1998, 871 records were reviewed.

Records were requested from PCP offices for review of EPSDT examinations, blood lead level testing at 12 and 24 months of age, immunizations, asthma education documentation and encounter claims validation.

Record Retrieval

The collection of medical records for clinical data extraction has been and continues to be a challenge. Even with use of over-sampling, rates of record retrieval have reached only approximately 56% statewide since the inception of the external quality review process. For the CY 2000 external quality evaluation MPCRF implemented a new approach to gather medical records from physician offices for the clinical portion of the project. The previous years method of using a third party to collect medical records was not an option as the cost of retrieving a single medical record more than tripled since last year. To continue the effort to minimize the workload for MC+ health plans, the decision was made to work directly with physician's office staff and offer reimbursement for each record copy received. Requests for medical records were mailed directly to physician offices and providers were given a minimum of 30 days to return record copies. Once again, a single list of requested medical records was generated for each physician involved in the review, regardless of the number of health plans the physician participated in. A physician only received more than one list if he/she practiced in more than one location. The health plans also

received a list of cases selected for review for the providers in their network and assisted with a letter to their providers describing the evaluation. Feedback on the new process was positive from both the health plans and the provider community.

Development of Data Collection Tools

The 1999 benchmark follow-up study and 1998 asthma data collection tools were revised for CY 2000. A multi-disciplinary team of analytic and health care professionals reviewed and revised the data collection tools and updated instructions for medical record data collection.

Nurse Reviewers

Three licensed nurses with strong clinical backgrounds were identified for record review and data abstraction. Forty hours of focused training and data abstraction practice were provided prior to actual project data collection. Identical to prior year's reviews, a Gold Standard assessment model was used to measure the nurses' abstraction proficiency in both the asthma focused and follow-up study after training. The Gold Standard model measures rates of accuracy with which nurses select and record correct data. Only nurses with an average Gold Standard score of 90% or better (i.e., nurses selecting and recording correct data 90% of the time) following retraining were allowed to participate in the extraction process. A nurse manager was available for consultation throughout the length of the data abstraction project.

Data Entry and Record Management

Clinical record data were electronically entered by nurse reviewers using a standardized, medical, data entry package (MEDQUEST). Two electronic entry systems were updated to capture data for the focused and follow-up studies, eliminating a separate data entry step and opportunities for error. Extensive edits were programmed into each data entry system to aid in the collection of accurate data. Nurse reviewers attended a four-hour training session on entry of clinical data and a programmer was available for technical assistance throughout the data extraction project.

Each medical record was used to the fullest extent by abstracting data for multiple reviews. This reduced the number of medical records reviewed, thus reducing the intrusion into the physicians' offices with medical record requests. Small sample sizes have some inherent risks, such as limiting the study's ability to detect statistically significant differences. However, the data can still give each plan a snapshot of the status of the benchmark measured.

Benchmarks

MPCRF established and DMS adopted benchmarks for certain service delivery indicators important to state administrators and health plans in 1998. This evaluation follows up on those service delivery areas to assess progress made by health plans in increasing access to care and improving documentation of service delivery. Following each benchmark analysis discussion, tables, and figures, is a synopsis of statewide rates from 1998 to 2000 and study source information.

Benchmarks related to prenatal care visits were examined using birth certificate data provided by DHSS. The benchmarks of missed appointments and danger signs in pregnancy were eliminated

from the evaluation. The emergency department visit benchmark was examined in 1999 using adhoc encounter claims data provided by DMS. Encounter claims data was used at MPCRF for the current evaluation and revised 1999 results are presented to allow year-to-year comparisons.

While the annual benchmark findings are reported together for the convenience of the reader, readers should use caution in comparing the results from year to year. Different methodologies may have been employed in collecting the data, (i.e., sample sizes, random selection, different record return rates and different processes used for obtaining the medical records)

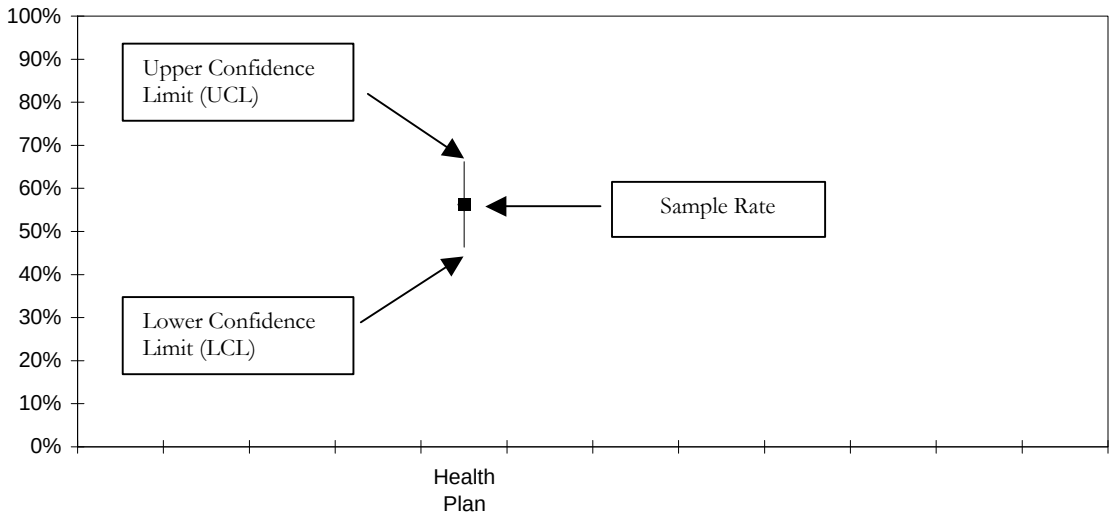
Medical Record Review Findings

Explanation of Data Tables, Graphs, and Confidence Intervals

Findings from the medical record reviews are presented for the benchmarks in this section. In those cases where rates were calculated, the data are shown in both tables and graphs, along with the 95% confidence intervals. The 95% confidence interval is a range of values above and below the rate obtained for a particular sample from a population (e.g., a *sample* of 12-month-old children). The confidence interval shows the margin of sampling error around the sample rate and is an indication of the location of the true population rate. For a 95% confidence interval (CI), the probability is 0.95 that the interval contains the value for the entire population (i.e., *all* 12-month-old children). The upper confidence limit (UCL) and lower confidence limit (LCL) are the values that show the boundaries of a particular confidence interval. The UCL and LCL for each rate are presented in both the tables and graphs in the following sections. In the text, the format is presented as: (95% CI: LCL, UCL). The 95% confidence interval calculations were based on the normal approximation of the binomial distribution method.

Figure 5 below shows an example of a graph with a rate and upper and lower confidence limits. In this example, MCO medical record review indicates a sample rate of 56%. The UCL is 68% and LCL is 47%. This would be reported as 56% (95% CI: 47%, 68%). This means that the probability is 95% that the interval between 47% and 68% contains the rate for the entire population.

Figure 5. Sample Graph Showing a Health Plan Rate with Upper and Lower Confidence Limits



EPSDT

EPSDT Form in the Record and All Exam Components Completed, Birth to Six Years.

Benchmarks were established in 1998 at DMS's request for EPSDT screening. After a review of the literature, a benchmark was set at 70% and was linked to the use of standardized EPSDT forms placed in medical records. The state created forms for documenting EPSDT exams that include all the components of each age specific examination and provides them to physicians free of charge. Use of the form is voluntary. Physicians may use their own format of the EPSDT forms and many do. Any EPSDT form that included all age appropriate exam components were incorporated in the benchmark analysis as long as the provider documented completion of each component (e.g., anticipatory guidance, immunizations, physical examination, etc).

The EPSDT Advisory Committee, a subgroup of the MC+ Quality Assessment and Improvement Committee, chaired by DMS, revised the state EPSDT forms in 2000. The new forms underwent beta testing in spring 2001. The final forms may be available as soon as fall 2001 and are anticipated, at the time of this report, to be mandatory for physician use in documenting EPSDT examinations for MC+ patients.

To calculate the rate of EPSDT exam forms in records and all exam components complete, MPCRF identified individuals birth to six years of age for whom a well-child exam was appropriate in 2000. Next, the number of individuals with a complete well-child exam documented in 2000 was identified. To calculate the benchmark rate, the number of individuals birth to six years of age for whom a well-child exam was documented in 2000 was divided by the number of individuals for whom an exam was appropriate.

The rates and 95% confidence intervals for each plan and the state are shown in Table 3 and Figure 6. The benchmark of 70% EPSDT forms in the record and all exam components completed for children birth to six years of age was not met at the state level. The state rate for 2000 is 20.9% (95% CI: 23.2%, 18.6%), which represents an increase of 4.3% over the 1999 rate of 11.75%. Four plans exceeded the state rate: Blue Advantage Plus, HealthNet, Family Health Partners, and Missouri Care. Health plans with rates much lower than the state rate are HealthCare USA (E), Care Partners, HealthCare USA (C). All the health plans excluding HealthCare USA (E), improved their EPSDT benchmark rates over 1999 rates.

As shown in Figure 7, there were significant decreases in rates from 1998 to 1999 in some of the plans. Due to the differences in medical record sampling, record retrieval methodologies, and the number of records reviewed, reliable comparisons should not be made from year to year. Figure 7 shows plan results for 1998, 1999 and 2000 for this indicator.

Table 3. EPSDT Form in the Record and All Exams Completed, Birth to Six Years.

EPSDT Form in the Record and all Exams Completed, Birth to Six Years					
Health Plan	UCL[1]	LCL[2]	Rate	# HCY Forms Complete	# of age appropriate exams due
Blue Advantage Plus	39.0%	24.2%	31.6%	48	152
Care Partners	19.1%	8.4%	13.8%	22	160
Community Care Plus	25.0%	10.5%	17.8%	19	107
Family Health Partners	36.3%	21.3%	28.8%	40	139
FirstGuard	23.4%	10.5%	16.9%	22	130
HealthCare USA (C)	23.9%	5.2%	14.5%	8	55
HealthCare USA (E)	18.3%	6.0%	12.1%	13	107
HealthNet	39.7%	21.5%	30.6%	30	98
Mercy	23.7%	11.3%	17.5%	25	143
Missouri Care	29.5%	14.6%	22.0%	26	118
State	23.2%	18.6%	20.9%	253	1,209

[1] Upper Confidence Limit

[2] Lower Confidence Limit

Figure 6. EPSDT Form in the Record and All Exams Completed, Birth to Six Years.

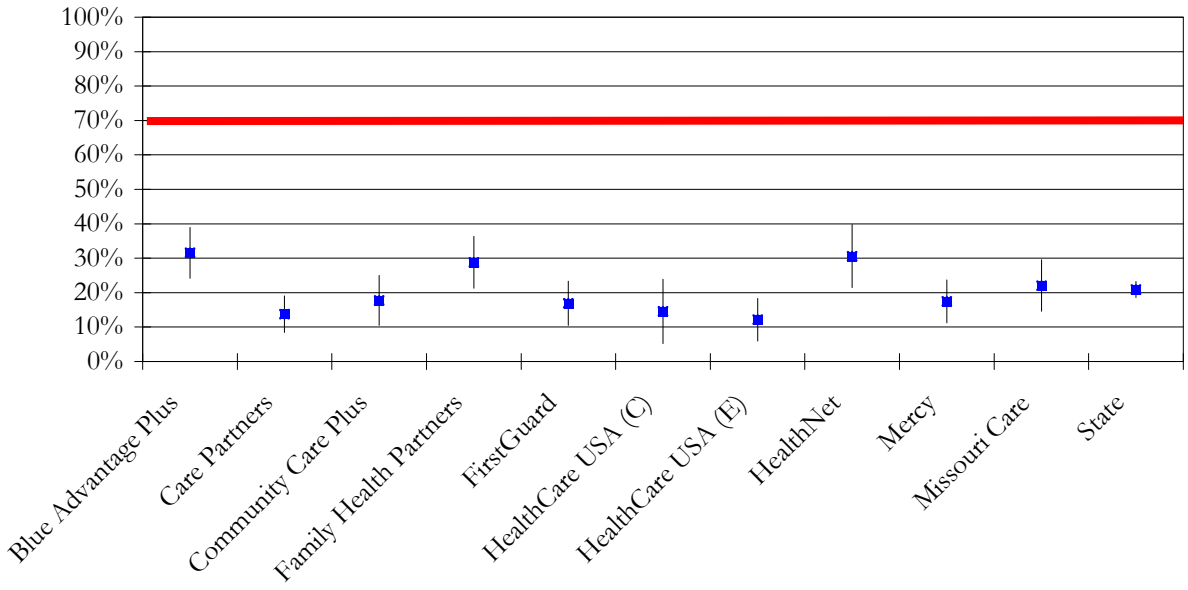
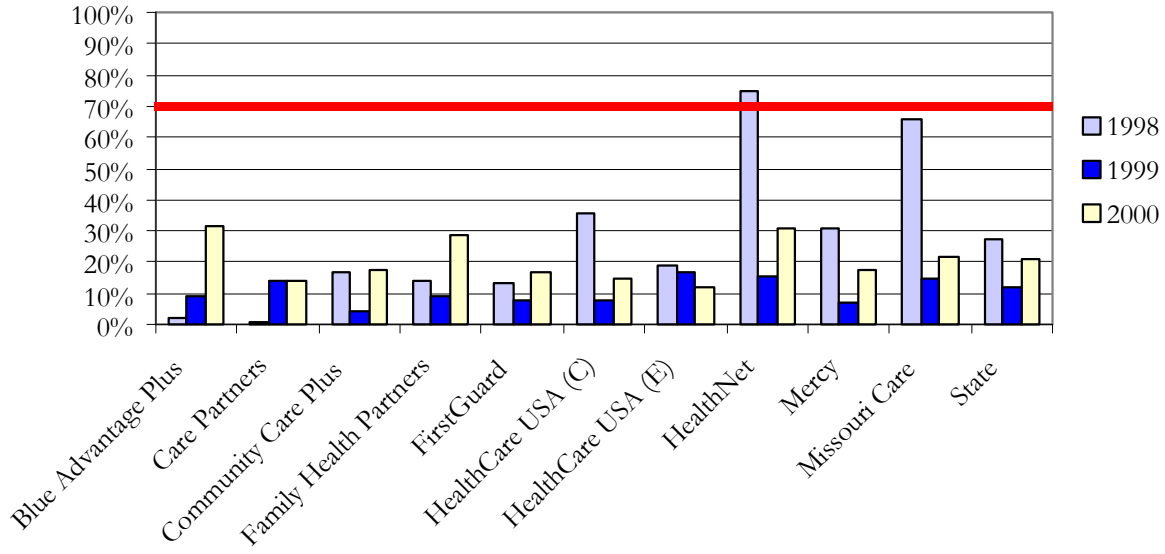


Figure 7. 1998, 1999 and 2000 Comparison. EPSDT Form in the Record and All Exams Completed.



The state rate shown does not necessarily reflect the average of the health plan rates. It is the average of all MC+ health plans reviewed for that year.
A missing bar value indicates that documentation was not found in the records reviewed.

No EPSDT Form in the Record and All Exam Components Completed, Birth to Six Years

Since EPSDT form use by practitioners is optional, an additional non-benchmark analysis was conducted to determine if use of the forms made a difference in the overall performance of the examinations. To collect EPSDT exam information in the absence of standardized forms, nurse reviewers searched entire medical records for documentation of exam components. Overall, the rate of EPSDT examinations with **all** age-specific exam components documented was quite low at 1.7% for the state. HealthCare USA (C) exceeded the state with a rate of 5.5%. It appears that use of standardized forms may make a difference in the performance and documentation of EPSDT examinations, however small sample sizes underscore the need to use caution in making inferences. Implementation of new, mandatory forms may help increase screening and documentation rates and should be a focus of future evaluations. Other factors that could influence the performance and documentation of EPSDT examinations are the availability of EPSDT forms, and integrating well child care with sick child care. In addition, many appointment systems are set for a certain length of time. For example a child with a cold may get a fifteen minute appointment slot where a child receiving a full well child EPSDT screen may take thirty minutes or more.

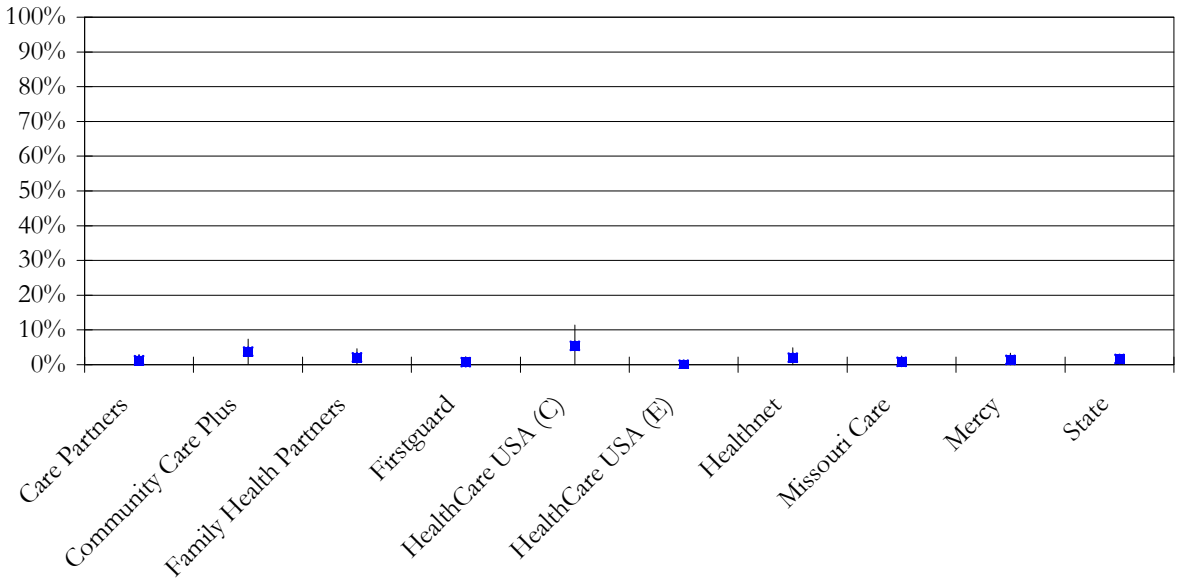
Table 4. No EPSDT Form in Record and All Exams Completed, Birth to Six Years.

No EPSDT Form in Record and All Exams Completed, Birth to Six Years					
Health Plan	**UCL[1]**	**LCL[2]**	**Rate**	**# Complete Exams Documented**	**# Age Appropriate Exams Due**
Blue Advantage Plus	3.1%	≈0	1.3%	2	152
Care Partners	3.0%	≈0	1.3%	2	160
Community Care Plus	7.3%	0.1%	3.7%	4	107
Family Health Partners	4.6%	≈0	2.2%	3	139
Firstguard	2.3%	≈0	0.8%	1	130
HealthCare USA (C)	11.5%	≈0	5.5%	3	55
HealthCare USA (E)	0.0%	0.0%	0.0%	0	107
Healthnet	4.8%	≈0	2.0%	2	98
Missouri Care	2.5%	≈0	0.8%	1	118
Mercy	3.3%	≈0	1.4%	2	143
State	2.4%	0.9%	1.7%	20	1209

[1] Upper Confidence Limit

[2] Lower Confidence Limit

Figure 8. No EPSDT Form in Record and All Exams Completed, Birth to Six Years.



2000 Health Plan and DMS Recommendation

Health plans should collaborate to develop and implement a quality improvement project that uses real time data (e.g., individual health plan data), to increase rates of EPSDT examinations with all exam components (e.g., immunizations, lead testing at 12 and 24 months) completed and documented in medical records. Development of a quality improvement initiative should begin with a barrier analysis to determine reasons (patient-based, provider-based or program-based) for low rates. Plans should continue to review PCP medical records for validation of service delivery and utilization of the mandatory EPSDT forms in those clinical reviews.

Blood Lead Level Testing at 12 and 24 Months

Documentation of Completion of Blood Lead Level Testing at 12 and 24 Months of Age

According to the Center for Disease Control (CDC), approximately 81% of children nationally, aged 1 – 5, enrolled in Medicaid did not receive a blood lead level screening test between 1991 and 1994. Estimates from the CDC's National Health and Nutrition Examination Survey (NHNES) (1991 – 1994) show Medicaid enrollees account for 83% of young children with blood lead levels greater than or equal to 20 ug/dl. Since so many children enrolled in Medicaid nationally do not get tested for blood lead content, many children with elevated blood lead levels do not receive needed treatment. Blood lead level testing at 12 and 24 months of age is mandated by federal guidelines under the EPSDT program.

Blood lead level testing rates are difficult to capture in medical record data for several reasons. Testing is performed in a variety of settings and test results are not always available for inclusion in the medical record. Some PCP offices do not perform blood lead level testing or sample collection and refer MC+ members to outside laboratories. Local health departments provide blood lead level testing services and do not always have systems in place for sharing service delivery information or the capability to bill health plans for services. Health plans report some physicians do not believe that elevated blood lead levels are a problem in Missouri and simply do not order blood lead level tests for age appropriate children. Parents may refuse to have their child tested for fear of eviction from their home during lead abatement, do not believe the test is necessary, or fail to make another trip to a free-standing laboratory.

2000 Health Plan and DMS Recommendation

Evaluations of blood lead level testing at 12 and 24 months of age should include multiple sources of data including medical records, encounter claims data and other secondary data sets, (e.g. MOHSAIC, Stellar System, etc) in order to get a more complete picture of the level of testing occurring. DMS and DHSS should examine state structures to identify barriers which impact the reporting of blood lead level testing to the health plans (i.e., labs only reporting elevated levels). All state testing information on health plan members should be made available to the plans.

Although progress has been made there is considerable room for improvement. Health plans and DMS should design a quality improvement project focusing on lead testing. This report can provide a baseline measurement. Specific interventions should be designed after identifying the barriers to care or a root cause analysis has been conducted. The intervention must be measurable and initiated by all plans. Remeasurement should be conducted to evaluate the success of the intervention. This may take a considerable period of time but it is a positive step in addressing this serious problem. This repeats the recommendation made in 1999.

Blood Lead Level Testing at 12 Months of Age

The benchmark for blood lead level testing in children 12 months of age was set at 40% in 1998. To capture data, nurse reviewers examined medical record documentation 30 days prior to and 30 days following a child's one-year birthday for evidence of a blood lead level test. In this analysis, the numerator is the number of PCP medical records in which blood lead level tests were documented. The denominator is the number of children in the sample who were age appropriate for the test. Only a single PCP's records are considered in this review.

The state rate for all health plans in 2000 was 29.2% (95% CI: 36.4%, 22.0%), a 1.2% gain over the 1999 rate of 25.6% and the second increase in the rate in two consecutive years. In this sample, 154 member case selections were found to be age appropriate for blood lead level testing at 12 months, with a range of 9 to 22 members. As shown in Table 5 and Figure 9, rates for two plans, Blue Advantage Plus and Care Partners, were higher than the benchmark. More than half of the MC+ contracts exceed the state rate including Care Partners, FirstGuard, Blue Advantage Plus, HealthNet, Missouri Care, and Family Health Partners. Four plans were lower than the state rate including Community Care Plus, HealthCare USA (C), HealthCare USA (E), and Mercy. The confidence intervals indicate that the rate for Care Partners is significantly higher than that for Community Care Plus. Eight plan contracts made advances in this indicator from 1999 to 2000. See Figure 10.

The increased rate for 2000 may indicate PCPs improved documentation of blood lead level tests in medical records, or performed more blood lead level testing in the office, or were perhaps more aware of the need to test age-appropriate children for lead content. While the overall results can be viewed as encouraging, readers should be cautioned that small sample sizes and differences in sampling decrease representation and the ability to say with certainty whether a rate is truly reflective of the performance of a health plan.

Table 5. Assessment of Blood Lead Levels at 12 Months.

Assessment of Blood Lead Levels at 12 Months					
Health Plan	**UCL[1]**	**LCL[2]**	**Rate**	**# Cases with Blood Lead Levels Documented**	**# 12 Month Age Appropriate Cases**
Blue Advantage Plus	64.3%	19.9%	42.1%	8	19
Care Partners	75.1%	30.2%	52.6%	10	19
Community Care Plus	24.0%	≈0	8.3%	1	12
Family Health Partners	52.2%	4.9%	28.6%	4	14
FirstGuard	61.2%	13.8%	37.5%	6	16
HealthCare USA (C)	31.6%	≈0	11.1%	1	9
HealthCare USA (E)	32.6%	≈0	14.3%	2	14
HealthNet	55.9%	5.7%	30.8%	4	13
Mercy	34.3%	2.1%	18.2%	4	22
Missouri Care	54.0%	8.5%	31.3%	5	16
State	36.4%	22.0%	29.2%	45	154

[1] Upper Confidence Limit

[2] Lower Confidence Limit

Figure 9. Assessment of Blood Lead Levels at 12 Months.

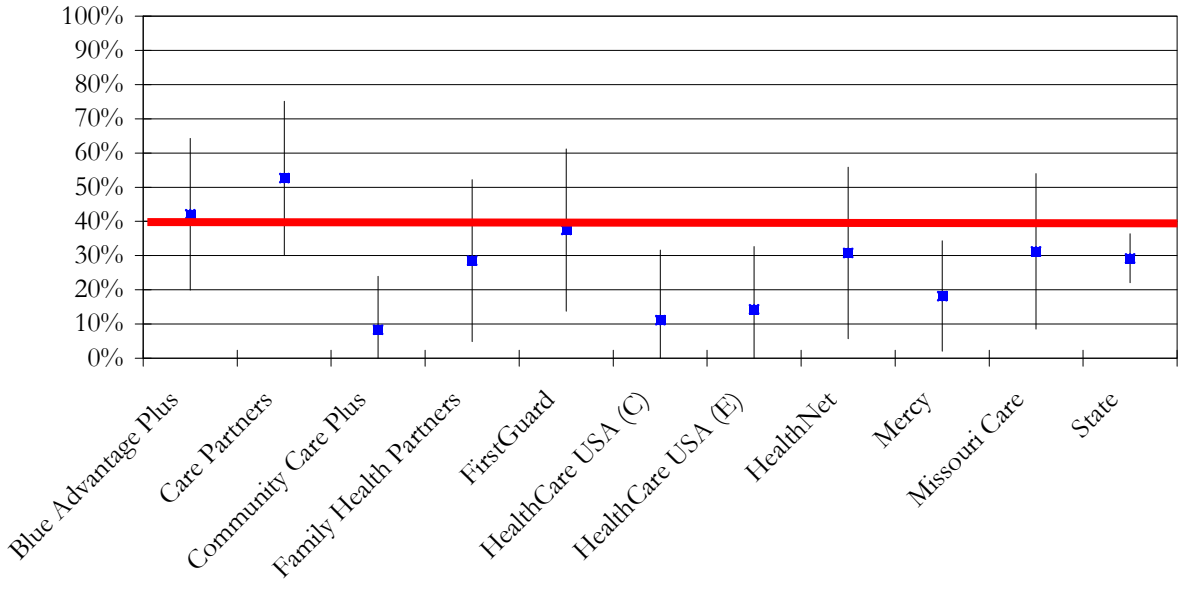
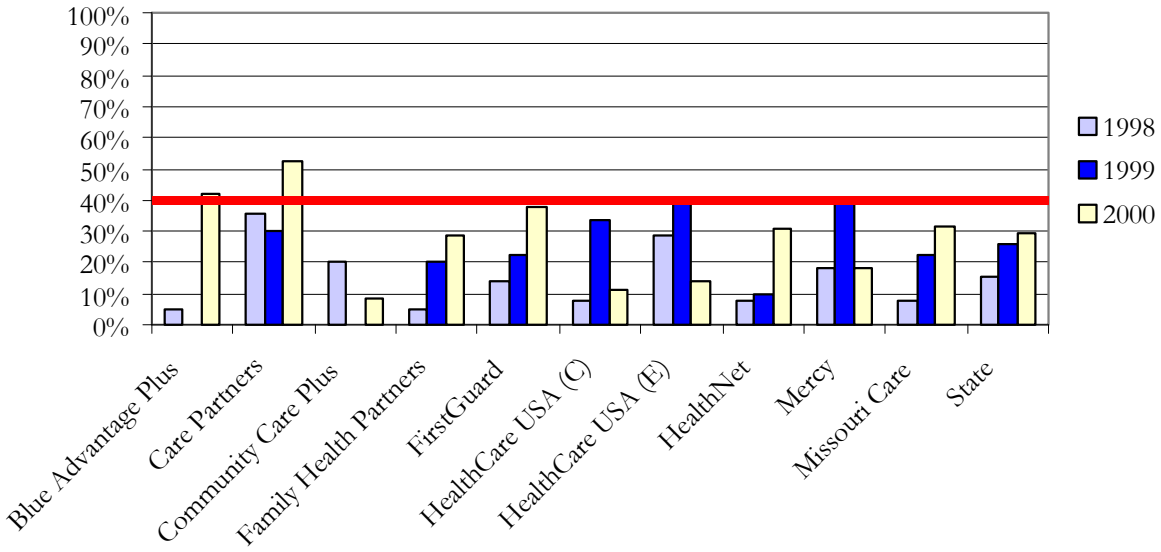


Figure 10. 1998, 1999 and 2000 Comparisons. Assessment of Blood Lead Levels at 12 Months.



The state rate shown does not necessarily reflect the average of the health plan rates. It is the average of all MC+ health plans reviewed for that year.
A missing bar value indicates that documentation was not found in the records reviewed.

Blood Lead Level Testing at 24 Months of Age

The benchmark for blood lead level testing at 24 months of age is 25%. In this analysis, the numerator is the number of PCP medical records in which blood lead level tests were documented. The denominator is the number of children in the sample who were age appropriate for the test. The results are shown in Table 6 and Figure 11.

The state rate for blood lead level testing at 24 months of age tripled from 11.0% in 1999 to 33.7% in 2000 (95% CI: 43.5%, 23.9%). This exceeds the benchmark of 25% and is the second increase (6.7%) in two consecutive years. Six health plan contracts exceeded the benchmark, Missouri Care, Family Health Partners, Care Partners, Blue Advantage Plus, Mercy, and HealthCare USA (E). Although these results are encouraging, as Figure 11 shows the confidence intervals indicate no significant differences between the state or plan rates and the benchmark. For two plans, Community Care Plus and HealthCare USA (C), no documentation of blood lead level testing was found for any cases in their samples. Overall, 89 members were age appropriate for blood lead level testing at 24 months, with a plan range of 1 member to 14 members. Compared to 1999, all plans made advances in their rates for this indicator excluding Community Care Plus and HealthCare USA (E). Once again readers are cautioned in making inferences regarding these results, as sampling differences and small sample sizes do not adequately represent health plan performance.

Table 6. Assessment of Blood Lead Levels at 24 Months.

Assessment of Blood Lead Levels at 24 Months					
Health Plan	**UCL[1]**	**LCL[2]**	**Rate**	**# Cases with Blood Lead Levels Documented**	**# 24 Month Age Appropriate Cases**
Blue Advantage Plus	64.8%	7.9%	36.4%	4	11
Care Partners	68.8%	16.9%	42.9%	6	14
Community Care Plus	0.0%	0.0%	0.0%	0	6
Family Health Partners	76.2%	23.8%	50.0%	7	14
FirstGuard	41.0%	≈0	18.2%	2	11
HealthCare USA (C)	0.0%	0.0%	0.0%	0	1
HealthCare USA (E)	58.4%	1.6%	30.0%	3	10
HealthNet	46.5%	≈0	16.7%	1	6
Mercy	71.1%	≈0	33.3%	2	6
Missouri Care	81.0%	19.0%	50.0%	5	10
State	43.5%	23.9%	33.7%	30	89

[1] Upper Confidence Limit

[2] Lower Confidence Limit

Figure 11. Assessment of Blood Lead Levels at 24 Months.

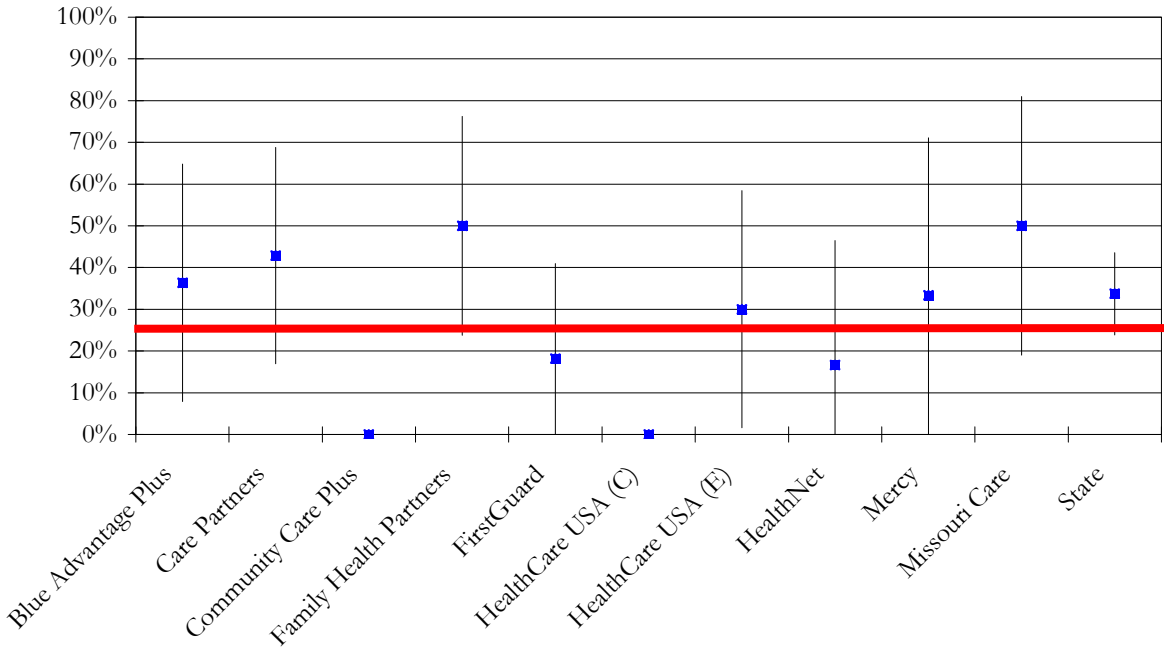
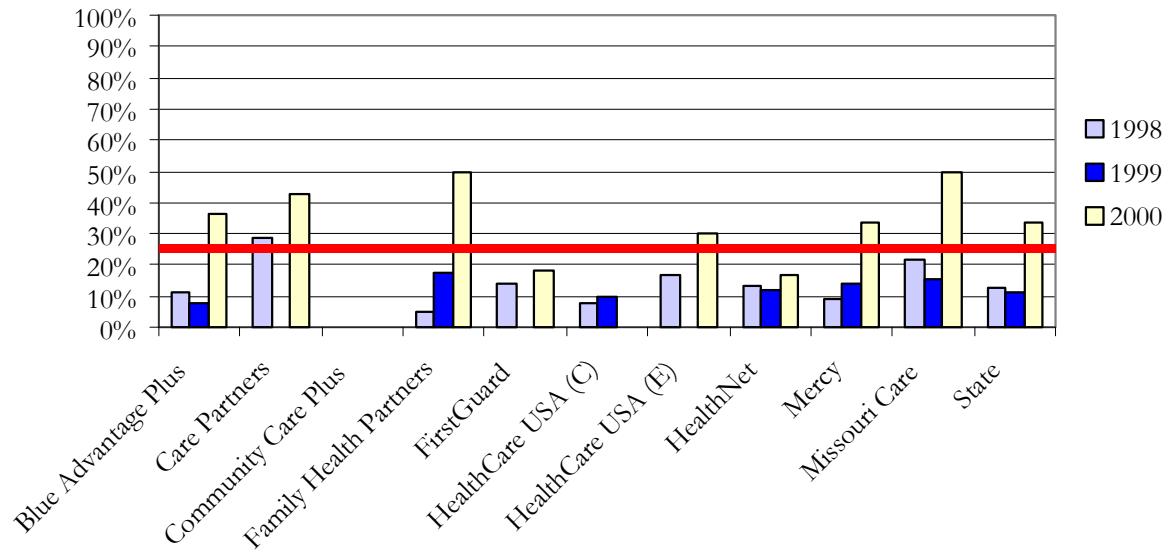


Figure 12. 1998, 1999 and 2000 Comparisons. Assessment of Blood Lead Levels at 24 Months.



The state rate shown does not necessarily reflect the average of the health plan rates. It is the average of all MC+ health plans reviewed for that year.
A missing bar value indicates that documentation was not found in the records reviewed.

Immunizations

Immunizations Due and Completed, Birth to Six Years

The benchmark for immunizations is a rate of 90%. In this analysis, the numerator is the number of immunizations documented as administered to children birth to six years of age. The denominator is the number of immunizations due for children birth to six years of age.

As Table 7 and Figure 13 shows, the state rate across all health plan contracts for the completion of immunizations is 75.4% (95% CI: 77.4%, 73.4%). For children birth to 6 years of age, 1,842 immunizations were due with 1,389 immunizations documented as administered. The 2000 rate reflects a 45% increase over the 1999 rate of 41.51%, yet is still lower than the benchmark. Five plans exceed the state rate including: HealthNet, Blue Advantage Plus, FirstGuard, HealthCare USA (C), and HealthCare USA (E). The confidence intervals indicate only HealthNet's rate is significantly higher than the state rate. The lowest rates were found for Care Partners, and Community Care Plus. Although none of the plan rates reached the benchmark of 90%, all of them made advances in their immunization rates over 1999. See Figure 14.

Table 7. Immunizations Due & Completed, Birth to Six Years.

All Immunizations Due & Completed, Birth to Six Years					
Health Plan	**UCL[1]**	**LCL[2]**	**Rate**	**# Immunizations Performed**	**# of Age Appropriate Immunizations**
Blue Advantage Plus	83.5%	73.3%	78.4%	196	250
Care Partners	76.8%	65.1%	70.9%	166	234
Community Care Plus	77.9%	64.5%	71.2%	126	177
Family Health Partners	80.2%	68.4%	74.3%	156	210
FirstGuard	84.1%	72.2%	78.1%	143	183
HealthCare USA (C)	86.8%	66.9%	76.8%	53	69
HealthCare USA (E)	82.7%	69.2%	76.0%	117	154
HealthNet	90.2%	78.3%	84.2%	123	146
Mercy	78.7%	67.6%	73.2%	180	246
Missouri Care	81.1%	68.1%	74.6%	129	173
State	77.4%	73.4%	75.4%	1,389	1,842

[1] Upper Confidence Limit

[2] Lower Confidence Limit

Figure. 13. Immunizations Due & Completed, Birth to Six Years.

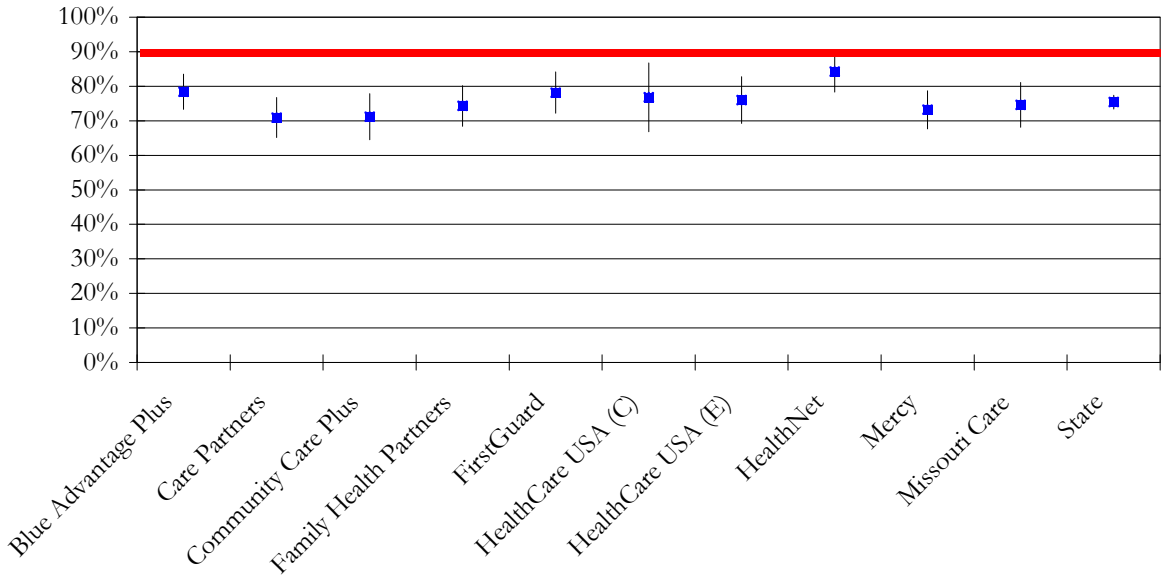
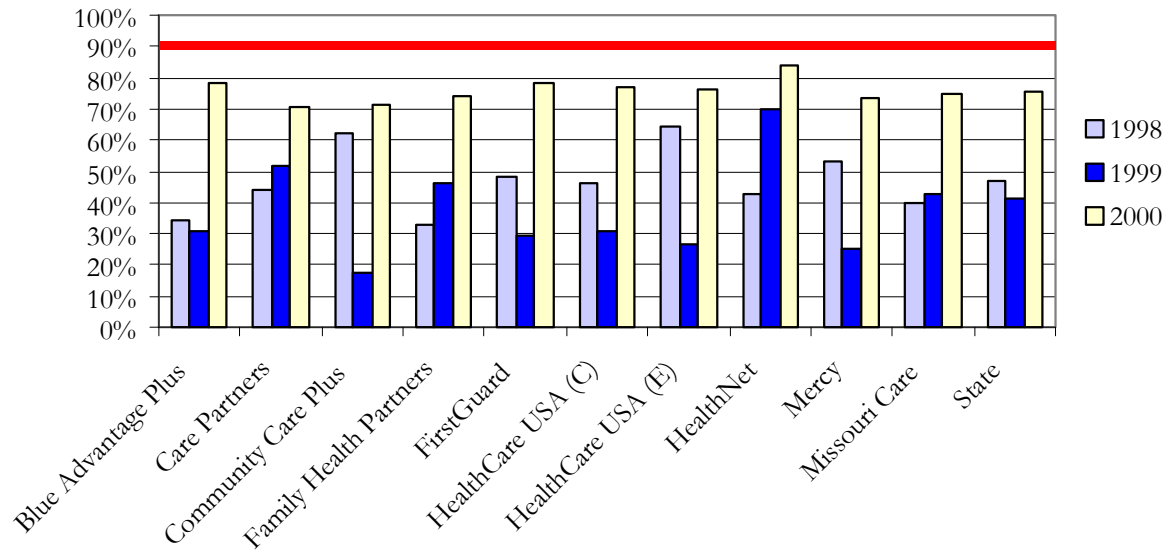


Figure 14. 1998, 1999 and 2000 Comparisons. Immunizations Due & Completed, Birth to Six Years.



The state rate shown does not necessarily reflect the average of the health plan rates. It is the average of all MC+ health plans reviewed for that year.
A missing bar value indicates that documentation was not found in the records reviewed.

All Immunizations, Inside and Outside Timeframe, Birth to Six Years

Another new non-benchmark analysis was performed to recognize health plans and PCPs for administering immunizations in 2000 that may or may not have been due in that study year. Early and late immunizations and immunizations due in a different year but administered in 2000 were included. For example, if immunizations were due in January 2001, but administered in December 2000, the immunizations were included in this analysis. The rate for all immunizations documented in 2000 for children birth to six years of age is 82.2% (95% CI: 84.0%, 80.5%). Three health plans exceeded the rate, including Blue Advantage Plus, HealthNet, and FirstGuard. When comparing these results to the results shown in Table 7 (rates for immunizations actually due), it can be seen that the rates for all plans and statewide increased. The increase in rates realized may indicate that PCPs are taking advantage of various opportunities to immunize MC+ children. See Table 8 and Figure 15.

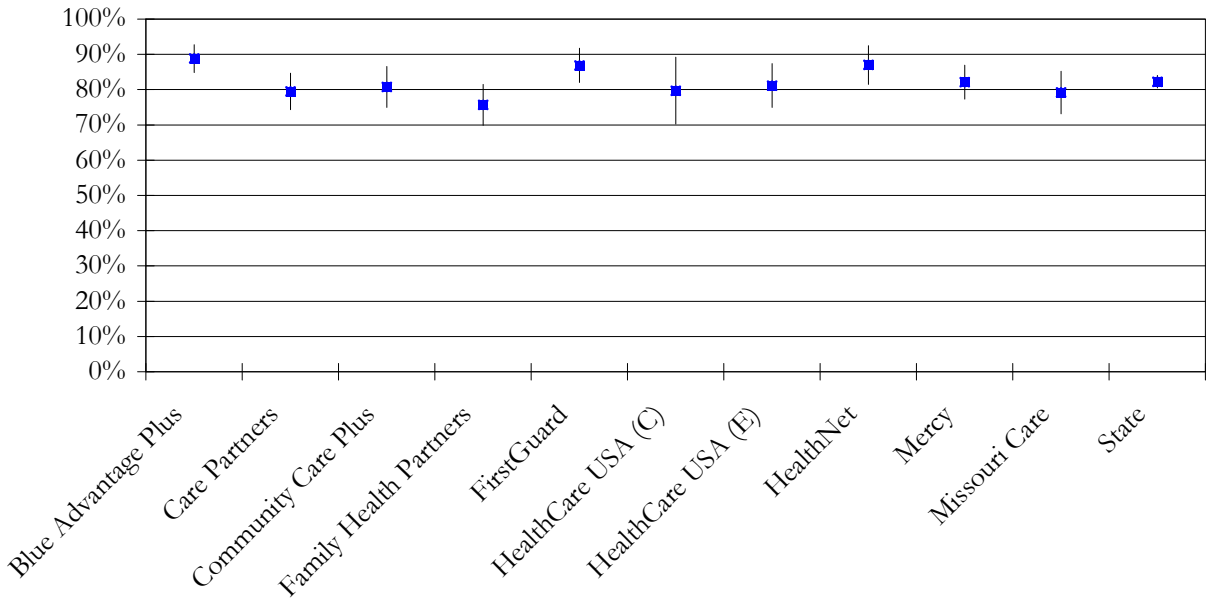
Table 8. All Immunizations, Inside and Outside Timeframe, Birth to Six Years.

All Immunizations, Inside and Outside Timeframe, Birth to Six Years					
Health Plan	**UCL[1]**	**LCL[2]**	**Rate**	**# Immunizations Performed**	**# of Age Appropriate Immunizations**
Blue Advantage Plus	92.7%	84.9%	88.8%	222	250
Care Partners	84.7%	74.3%	79.5%	186	234
Community Care Plus	86.6%	75.0%	80.8%	143	177
Family Health Partners	81.5%	69.9%	75.7%	159	210
FirstGuard	91.8%	82.0%	86.9%	159	183
HealthCare USA (C)	89.2%	70.2%	79.7%	55	69
HealthCare USA (E)	87.3%	75.0%	81.2%	125	154
HealthNet	92.4%	81.5%	87.0%	127	146
Mercy	86.9%	77.3%	82.1%	202	246
Missouri Care	85.2%	73.1%	79.2%	137	173
State	84.0%	80.5%	82.2%	1,515	1,842

[1] Upper Confidence Limit

[2] Lower Confidence Limit

Figure 15. All Immunizations, Inside and Outside Timeframe, Birth to Six Years.



Asthma Disease Education

The benchmark rate for the documentation of asthma disease education is 65%. Rates were calculated based on those cases selected for the asthma focused study plus any other cases that had a diagnosis of asthma documented in the medical record. As shown in Table 9, the number of asthma cases ranged from 10 to 44, with a total of 320 cases across all plans. The state rate for asthma disease education is 54.7% (95% CI: 49.2%, 60.1%), lower than the target rate of 65%. The two health plans with rates above the benchmark are Care Partners and Family Health Partners. As shown in Figure 16, Care Partners is the only plan with a rate significantly higher than the state rate. Blue Advantage Plus and FirstGuard had rates slightly below the benchmark. For the remaining plans, the rates ranged from 37.0% to 48.3%, although there are no significant differences between any of these rates. Figure 17 presents plan rates for this indicator for 1999 and 2000.

Table 9. Asthma Disease Education

Asthma Disease Education					
Health Plan	**UCL[1]**	**LCL[2]**	**Rate**	**# Cases with Education Documented**	**# Cases with Diagnosis of Asthma or RAD**
Blue Advantage Plus	78.5%	47.8%	63.2%	24	38
Care Partners	92.6%	68.4%	80.5%	33	41
Community Care Plus	55.3%	18.8%	37.0%	10	27
Family Health Partners	85.2%	50.6%	67.9%	19	28
FirstGuard	77.9%	49.4%	63.6%	28	44
HealthCare USA (C)	55.9%	21.6%	38.7%	12	31
HealthCare USA (E)	54.1%	24.9%	39.5%	17	43
HealthNet	66.5%	30.1%	48.3%	14	29
Mercy	66.5%	30.1%	48.3%	14	29
Missouri Care	70.4%	9.6%	40.0%	4	10
State	60.1%	49.2%	54.7%	175	320

[1] Upper Confidence Limit

[2] Lower Confidence Limit

Figure 16. Asthma Disease Education.

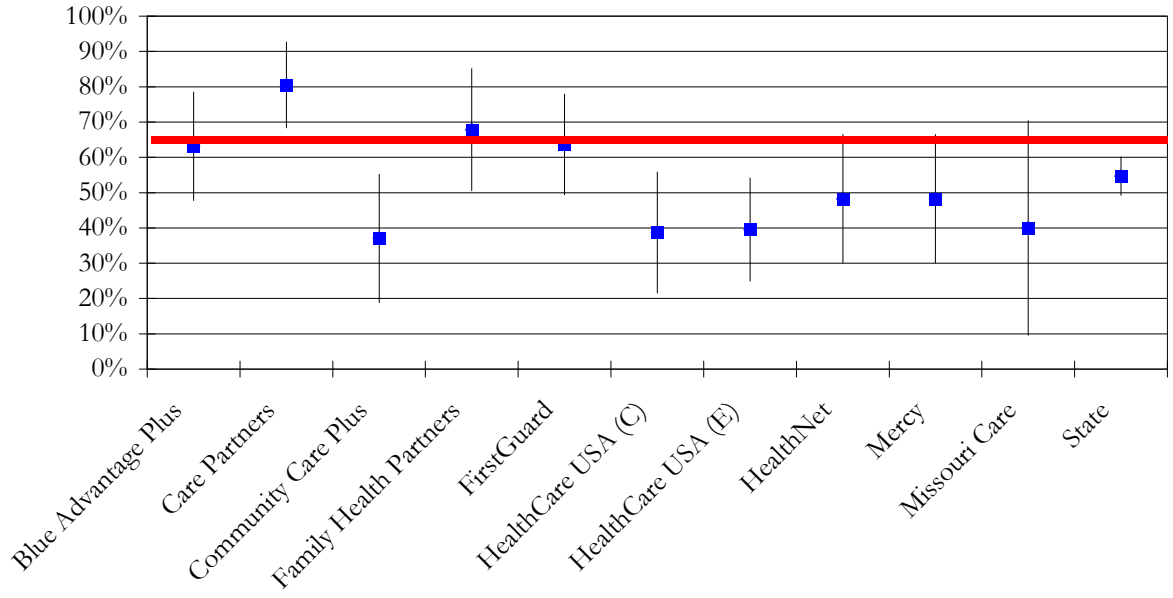
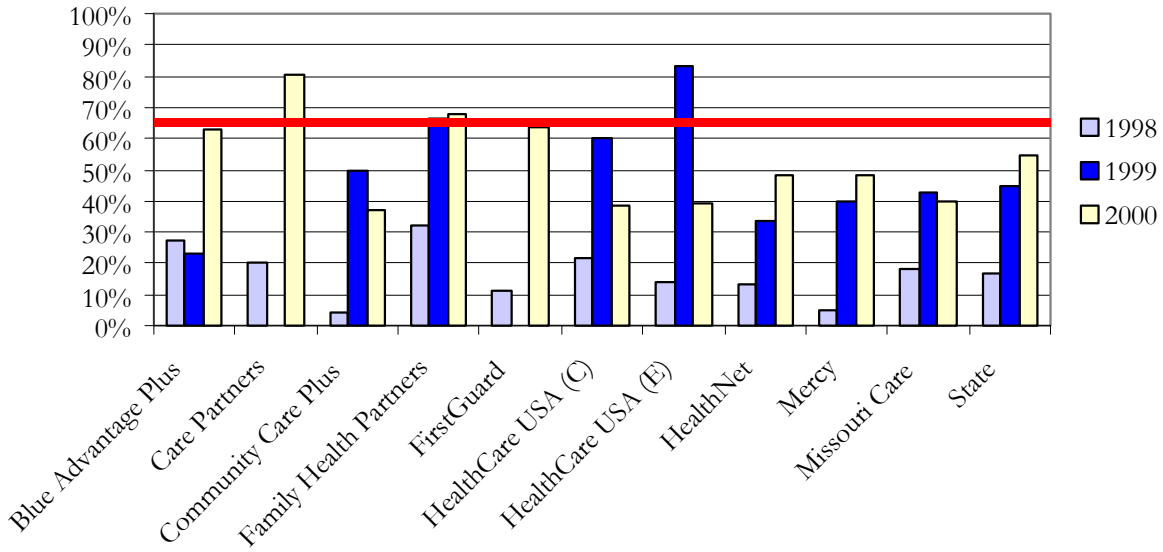


Figure 17. 1998, 1999 and 2000 Comparisons. Asthma Disease Education.



The state rate shown does not necessarily reflect the average of the health plan rates. It is the average of all MC+ health plans reviewed for that year.
A missing bar value indicates that documentation was not found in the records reviewed.

Benchmarks Summary and Conclusions

Documentation of EPSDT forms in the record and all exam components completed, nearly doubled from 1999 to 2000 with a rate of 20.9%, back up from the 1998 rate of 26%. Additional analysis of full exams documented in the absence of a standardized form, suggests that use of forms markedly increases documentation of full exams.

Blood lead level testing rates improved for MC+ children 12 and 24 months of age with rates of 29.2% and 33.7% respectively. In 1998 the rates were 14% and 11% respectively. More than half of the health plans exceeded the state rate.

The immunization benchmark realized the greatest gain moving from 45% in 1998 to 41.5% to 75.4% for the current evaluation. Once again, half of the health plans exceeded the state rate.

Asthma disease education documentation also rose significantly over 1999 (44.4%) to 54.7% in 2000. Only one plan experienced a rate significantly higher than the state rate, Care Partners, 80.5%

The 2000 evaluation shows increases in all the measured benchmark indicators. Great progress is being made statewide and all health plans have increased their rates since 1998. It should be noted that while sample sizes were small for the last three evaluations, data collection methodologies have remained stable. The increases may be attributed to differences in study methods or effective interventions and actions on the part of the health plans and the state resulting in greater access to care and/or consumer awareness. While it is not possible to identify with certainty what caused the indicators to improve, it is believed that the efforts of the health plans and the state are in part, responsible for the improvements realized. It cannot be mentioned too often that health plans expend large amounts of resources educating providers and members about preventive health issues and these efforts undoubtedly aided the upward movement of the benchmark indicators.

References

Centers for Disease Control and Prevention. Recommendations for blood lead screening of young children enrolled in Medicaid: Targeting a group at high risk. Advisory Committee on Childhood Lead Poisoning Prevention (ACCLPP). MMWR 2000;49(No. RR-14[1].

IV. Benchmark Comparisons, 1998, 1999 and 2000

Table 10 presents the benchmark rates for EQR evaluations for 1998, 1999 and 2000. Ninety-five percent confidence intervals are shown for 1999 and 2000. Year to year comparisons are difficult to make as study methodologies have varied and medical record return rates have been low. Clinical data was used for all the benchmark indicators excluding emergency department visits. Encounter claims data was used in 1999 and 2000 for the emergency department visits benchmark. To correct for the inclusion of ambulance claims in the 1999 ED analysis, MPCRF has reanalyzed the rate using comparable codes for 1999 and 2000.

It should be noted again that three additional benchmark indicators were dropped from the 2000 evaluation following discussion with DMS: OB education on danger signs in pregnancy, missed appointments (DNKAs), and number of OB visits in the first, second, and third trimesters. The OB education benchmarks required additional medical records to be obtained from the member's OB/GYN, the enrollment file only captures the PCP information.. This benchmark was replaced by capturing prenatal care information from birth certificate data. The number of OB visits in the first, second and third trimester, the month prenatal care was initiated, the total number of visits and adequacy of prenatal care indicators were evaluated. The adequacy of prenatal care is defined as care that begins before the fourth month of pregnancy and includes at least five to eight visits depending on the length of the pregnancy. For comparison purposes we calculated this data for 1999 as well as 2000.

Table 10. Benchmark Comparisons.

Benchmark Comparison				
	Benchmark	1998	1999	2000
Blood Lead Levels Testing				
12 Months	40%	14.0%	25.6%	29.2%
			UCL 35.1%; LCL 16.2%	UCL 36.4%; LCL 22.0%
24 Months	25%	11.0%	11.0%	33.7%
			UCL 16.9%; LCL 5.1%	UCL 43.5%; LCL 23.9%
HCY Form in the Record and all Exams Completed, Birth to Six Years	70%	26.0%	11.8%	20.9%
			UCL 13.8%; LCL 9.7%	UCL 23.2%; LCL 18.6%
Percent of Immunizations Documented	90%	45.0%	41.5%	75.4%
			UCL 44.8%; LCL 38.2%	UCL 77.4%; LCL 73.4%
Percent asthma disease education documented	65%	17.0%	44.4%	54.7%
			UCL 54.7%; LCL 34.2%	UCL 60.1%; LCL 49.2%

Percent of EPSDT Forms with Completed Exams

1998 Source: EPSDT examinations documented in PCP medical records; EPSDT benchmark study sample.

1999 Source: A random sample of children aged birth to six years from a random sample of children less than 21 years of age; PCP medical records.

2000 Source: A random sample of children aged birth to six years; PCP medical records.

Blood Lead Levels at 12 and 24 Months

1998 Source: Blood lead levels for children 12 and 24 months of age documented in PCP medical records, EPSDT benchmark study sample.

1999 Source: Children aged 12 and 24 months in CY 1999 drawn from a random sample of children aged less than 21; PCP medical records.

2000 Source: A random sample of children aged birth to six years of age; PCP medical records

Percent Immunizations Documented

1998 Source: Immunizations administered and documented in PCP medical records; EPSDT benchmark study sample.

1999 Source: A random sample of children aged birth to six years from a random sample of children less than 21 years of age; PCP medical records.

2000 Source: A random sample of children aged birth to six years; PCP medical records.

Percent Asthma Disease Education

1998 Source: A random sample of children, aged birth to twenty-one, identified by health plans as having had at least two emergency department encounters in 1998; PCP medical records.

1999 Source: A random sample of children less than 21 years of age; PCP medical record.

2000 Source: A random sample of children less than 21 years of age; PCP medical records and analysis of 2000 encounter claims data.

V. Managed Care Encounter Claims Analyses

Introduction

The primary goal of encounter claims analysis is to examine quality of care benchmark indicators to determine strengths and opportunities for improvement in the health care delivery of the MC+ program. Whereas earlier EQR evaluations examined indicators primarily using medical record data, MPCRF has worked to improve the review process by including data collection methods that minimize intrusiveness and expense while maximizing the likelihood of valid and reliable evaluation findings. Future claims analyses can continue to improve this balance by enhancing the accuracy of claims submission and updating the data warehousing processes.

The CY 2000 evaluation includes analyses of encounter claims data sets for 1998, 1999 and 2000. A subset of 1998 encounter claims data was obtained for analyses of asthma drug use as a component of the 2000 Asthma Focused Study.

The current analyses focus on CY 1999 and 2000 benchmark indicators as well as asthma drug use in CY 1998 and 2000. Administrative CY 1999 and 2000 data sets provided by DMS, including enrollment, eligibility, and encounter claims data for CY 1999 and 2000 were examined to evaluate EPSDT examinations, immunizations, blood lead testing at 12 and 24 months of age, emergency department visits and asthma drug use. The health plans included in the analyses were the plans serving the MC+ population for the years in review.

As noted in the Follow Up Recommendations section of this report, many efforts are underway at both the plan and state levels to improve the encounter claims data. Much work remains to be done to enhance the data's accuracy and reliability and thus the results of any reports based on encounter claims. Improvements to encounter claims submission and data warehousing processes should remain a high priority at both the state and plan level.

Methods

EPSDT and Immunizations Services

MPCRF identified EPSDT and immunization services performed in 1999 and 2000 by using the service codes identified in Exhibit A. These EPSDT codes were derived from the CMS 416 report and include partial and full EPSDT examinations and preventative medical office visits. MPCRF identified individuals enrolled in managed care in 1999 and 2000 and merged the data with the respective eligibility files to identify children with dates of birth between 01/01/1993 and 12/31/1999 for the 1999 analysis and 01/01/1994 and 12/31/2000 for the 2000 analysis. This step was necessary because birth date information in the encounter claims files was found to be unreliable. This yielded the populations of children birth through six years of age. The population totals were used to create state-level denominators for the EPSDT and immunization rates. The state-level data were used to create plan-specific data files for each year under study.

In the creation of the plan specific data, it was possible for a member to be listed more than once due to switching between health plans and differing periods of eligibility within and among health plans. MPCRF elected to remove duplicates to limit under- and over reporting of plan membership.

Specifically, the state-level and plan-specific files were unduplicated via a unique member number to prevent inflating the denominators and deflating performance rates for each plan. Following the unduplication process, the state-level and plan-specific files contained denominators with unique member information (e.g., EPSDT age appropriate children birth to six years of age). It is important to note that the state-level denominators are not sum totals of the plan-specific denominators due to the possibility of members being enrolled in several plans within a calendar year.

To obtain numerators for the plan-specific analyses, MPCRF employed the eligibility data using the same criteria for date of birth as in the denominators. The eligibility data were merged with the respective calendar year encounter claims data to identify the total number of claims indicating EPSDT and immunization services in 2000. The file containing the total number of EPSDT service claims was unduplicated using the unique member number and then sorted by plan. Unduplicating the file was necessary as it was not possible to differentiate between original and resubmitted claims without ICNs (internal control numbers). The encounter claims data provided by the state for analysis did not included ICNs. *Note: Unlike the denominator, the plan-level numerators are a sum total of the plan-specific numerators.*

Blood Lead Level Testing at 12 and 24 Months of Age

The enrollment and eligibility files were used to identify children 10 – 14 and 22 – 26 months of age in 1999 and 2000. The total numbers of children enrolled in Medicaid and found to be age appropriate (10 – 14 and 22 – 26 months of age) are the denominators for the state rates for blood lead testing at 12 and 24 months of age.

The total population files for 1999 and 2000 were again used to create new files containing plan specific information for each age grouping in this analysis. Similar to EPSDT services, it is possible for members to be listed in the files more than once, necessitating un-duplicating each of the plan specific files to prevent inflating the denominators and deflating performance rates for each plan. Following the un-duplication process, the files contained plan-specific denominators with numbers of children 12 and 24 months of age and eligible blood lead testing services.

Emergency Department (ED) Visits

Enrollment and eligibility data were used to identify eligible MC+ members. The plan specific denominators were determined by unduplicating and sorting members by plan. The rate is determined by the number of members with at least one ED claim divided by the total eligible population"

Managed Care Encounter Claims Findings

Table 11 presents state and plan level findings for the benchmark analyses for EPSDT examinations, immunizations, blood lead level testing at 12 and 24 months of age and emergency department visits for CY 1999 and 2000 from encounter claims. For each indicator, rates increased from 1999 to 2000. Because different methods were used to determine numerators and denominators, the plan and state rates are not comparable. Caution should be exercised in comparing the results of the managed care encounter claims analyses to the medical record review results. Differences in the data sources and research methods remove comparability between the two evaluation findings.

For 1999, the rate of MC+ children ages birth to six years with at least one EPSDT service claim is 45%. For 2000, the rate increases to 59%, a 31% increase.

The rate of MC+ children ages birth to six years with at least one immunization service claim is 20% in 1999. For 2000, the rate increases to 28%, a 40% increase.

In 1999, the rate of MC+ children, 12 months of age, with at least one blood lead level test claim is 23%. For 2000, the rate increases to 32%, a 39% increase.

The rate of MC+ children, 24 months of age, with at least one blood level test claim is 13% in 1999. For 2000, the rate increases to 19%, a 46% increase.

In 1999, the rate of MC+ members with at least one emergency department visit is 13%. For 2000, the rate increases to 22%, a 69% increase. The Emergency Department visit benchmark goal was originally set at 0.35 visits per enrollee. This benchmark was established based on medical record review as the source document. For this review MPCRF used encounter claims to determine the rate, as this is a more adequate source for ED data than a PCP record. MPCRF recommends that the EQR continue to use encounter claims data to measure ED visits and to set a new benchmark goal that is more appropriate for this indicator.

Summary

In summary, all the indicators showed positive movement with the exception of emergency department visits. However, further study and resolving the problem of incomplete data sets should be conducted prior to reaching conclusions on the basis of these results.

Table 11. Benchmark Comparison of Encounter Claims Analysis

Benchmark Comparison of Encounter Claims Analysis										
	Blood Lead Levels Testing				One EPSDT Exam Completed		Immunizations		ED Visits	
	12 Months		24 Months							
Health Plan	1999 (n=5977)	2000 (n=6983)	1999 (n=4164)	2000 (n=6006)	1999 (n=101258)	2000 (n=115504)	1999 (n=101258)	2000 (n=115504)	1999 (n=271117)	2000 (n=256878)
Blue Advantage Plus	27%	42%	11%	23%	63%	64%	31%	36%	15%	28%
Care Partners	30%	56%	22%	28%	48%	54%	23%	29%	10%	23%
Community Care Plus	29%	23%	26%	19%	4%	36%	4%	17%	0%	0%
Family Health Partners	43%	56%	20%	43%	53%	63%	18%	30%	17%	31%
FirstGuard	36%	38%	21%	20%	61%	60%	23%	25%	21%	28%
HealthCare USA (C)	14%	19%	6%	8%	61%	65%	18%	23%	11%	27%
HealthCare USA (E)	7%	6%	4%	5%	23%	52%	22%	30%	16%	20%
HealthNet	20%	29%	4%	24%	27%	52%	5%	23%	7%	26%
Mercy	19%	16%	8%	8%	49%	45%	13%	9%	10%	12%
Missouri Care	10%	43%	5%	20%	58%	60%	13%	24%	16%	33%
State	23%	32%	13%	19%	45%	59%	20%	28%	13%	22%

VI. Fee-For-Service Claims Analyses

In previous reviews, health plans have requested comparative fee-for-service data from similar populations to supplement other evaluative information. The 2000 EQR includes a new pilot study of fee-for-service data for three key indicator benchmarks: blood lead level testing at 12 and 24 months and immunizations. Fee-for-service data used in these analyses are limited to Medicaid recipients with medical eligibility codes identical to the managed care program. Procedure codes for blood lead level testing and immunizations used in these analyses are included in Exhibit A. MPCRF obtained 1999 fee-for-service claims data from DMS to perform the selected variables for comparison to managed care benchmark indicators.

It should be noted that the methods of analysis for blood lead level testing for fee-for-service differs from the managed care claims analysis for the same indicator. The fee-for-service analyses were based on the total numbers of children in specific age groups. Therefore the blood lead level test rates were determined using the age criterion of one year, rather than age ranges of 10-14 and 22-26 months used for the managed care analysis. Caution should be exercised in comparing the managed care and fee-for-service rates due to differences in study methods.

Blood Lead Level Testing at 12 and 24 Months of Age

Out of 8,715 children 12 months of age who were in the fee-for-service program as of June 30, 2000, there were 2,632 children who received blood lead level testing. This is a statewide rate of 30%.

Out of 8,786 children 24 months of age who were in the fee-for-service program as of June 30, 2000, there were 1,991 children who received blood lead level testing. This is a statewide rate of 23%.

Immunizations – Children Age Birth to Six Years with at Least One Immunization Claim

Out of 54,793 children birth to six years of age who were in the fee-for-service program as of June 30, 2000, there were 31,340 children who received at least one immunization service. This is a statewide rate of 57%.

Table 12. 2000 Fee-For-Service Claims Analysis

2000 Fee-For-Service Claims Analysis			
	Blood Lead Level Testing		Immunizations
	12 Months	24 Months	
Managed Care	32%	19%	28%
Fee-For-Service	30%	23%	57%

VII. Prenatal Care Visits

The benchmarks established in 1998 for prenatal care visits were at least one visit in the first trimester, three visits in the second trimester, and 4.5 visits in the third trimester. The methodology used to examine prenatal care was changed from a medical record review to an analysis of DHSS birth certificate data for the CY 2000 evaluation following discussions with DMS. These benchmark indicators cannot be measured without reviewing OB/GYN medical records that would have required an additional medical record request. This section presents an analysis of other important aspects of prenatal care indicators that are available from birth certificate data.

For this report, MPCRF analyzed 1999 and 2000 birth certificate data to enable comparisons between the two years using one data source. The information captured in the birth certificate is a mixture of the mother's self-reported number of prenatal visits and prenatal care record information abstracted by hospitals. MPCRF used the data to assess three aspects of prenatal care: the month prenatal care began, total number of prenatal visits, and overall adequacy of prenatal care for women in managed care. The results shown in Tables 13 – 18 and Figures 18 – 21 include each MC+ plan and statewide totals. The total number of live and still-births for all MC+ health plans is shown in Table 13. There were 785 more births in 2000 or just over a 5% increase in the number of births from 1999. MPCRF recommends DMS formally adopt a new prenatal benchmark based on birth certificate data.

Table 13. Number of Live and Still Births

Total # of Live and Still Births		
Health Plan	**1999**	**2000**
Blue Advantage Plus	1,164	1,208
Care Partners	1,997	1,986
Community Care Plus	685	668
Family Health Partners	1,609	1,619
FirstGuard	1,429	1,423
HealthCare USA (C)	1,322	1,233
HealthCare USA (E)	3,670	4,203
HealthNet	778	843
Mercy	593	667
Missouri Care	888	1,070
State - Managed Care Only	14,135	14,920

Initiation of Prenatal Care

Tables 14 and 15 reflect the number and percent of women who initiated prenatal care in each trimester of pregnancy in 1999 and 2000. Prenatal care was initiated in the first trimester for 74.5% of the managed care births in 1999. This increased slightly in 2000 to 75.5%.

By the end of the second trimester, prenatal care had begun for 92.3% in 1999. In CY 2000, this number fell slightly to 91.7%. By the third trimester this number is 94.8% in 1999 and in 2000 it is 94.2%. The number of birth certificates reporting no prenatal care was 1.5% in 1999 and fell slightly to 1.3% in CY 2000.

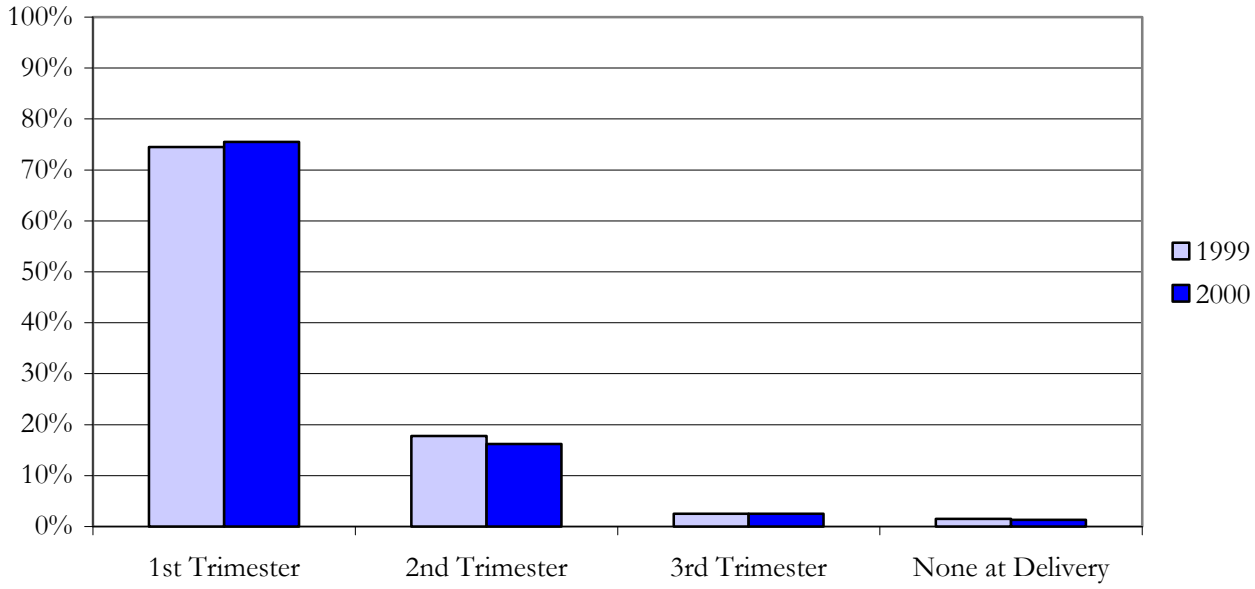
Table 14. CY 1999 Trimester Prenatal Care Began.

CY 1999 Trimester Prenatal Care Began								
	1st Trimester		2nd Trimester		3rd Trimester		None at Delivery	
Health Plan	Number	Percent	Number	Percent	Percent	Number	Number	Percent
Blue Advantage Plus	877	75.3%	203	17.4%	24	2.1%	17	1.5%
Care Partners	1,491	74.7%	378	18.9%	41	2.1%	50	2.5%
Community Care Plus	448	65.4%	174	25.4%	12	1.8%	15	2.2%
Family Health Partners	1,166	72.5%	287	17.8%	63	3.9%	13	0.8%
FirstGuard	1,025	71.7%	245	17.1%	39	2.7%	15	1.0%
HealthCare USA (C)	1,049	79.3%	216	16.3%	28	2.1%	9	0.7%
HealthCare USA (E)	2,745	74.8%	650	17.7%	92	2.5%	77	2.1%
HealthNet	606	77.9%	110	14.1%	19	2.4%	6	0.8%
Mercy	447	75.4%	95	16.0%	17	2.9%	9	1.5%
Missouri Care	673	75.8%	160	18.0%	12	1.4%	4	0.5%
State - Managed Care Only	10,527	74.5%	2,518	17.8%	347	2.5%	215	1.5%

Table 15. CY 2000 Trimester Prenatal Care Began

CY 2000 Trimester Prenatal Care Began								
	1st Trimester		2nd Trimester		3rd Trimester		None at Delivery	
Health Plan	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Blue Advantage Plus	940	77.8%	177	14.7%	25	2.1%	12	1.0%
Care Partners	1529	77.0%	314	15.8%	46	2.3%	43	2.2%
Community Care Plus	461	69.0%	116	17.4%	23	3.4%	19	2.8%
Family Health Partners	1195	73.8%	236	14.6%	56	3.5%	24	1.5%
FirstGuard	1009	70.9%	234	16.4%	38	2.7%	16	1.1%
HealthCare USA (C)	969	78.6%	208	16.9%	34	2.8%	3	0.2%
HealthCare USA (E)	3242	77.1%	665	15.8%	95	2.3%	54	1.3%
HealthNet	621	73.7%	150	17.8%	15	1.8%	10	1.2%
Mercy	480	72.0%	127	19.0%	22	3.3%	9	1.3%
Missouri Care	814	76.1%	188	17.6%	24	2.2%	9	0.8%
State - Managed Care Only	11260	75.5%	2,415	16.2%	378	2.5%	199	1.3%

Figure 18. CY 1999 & 2000 Trimester Prenatal Care Began.



Number of Prenatal Visits

Tables 16 and 17 show the number of prenatal visits in 1999 and 2000 for each managed care plan and in total. In both years, approximately 53% of women across all plans had between 11 and 20 prenatal visits. The results indicate that 92% of the women had up to 30 prenatal visits in 1999, while 89.7% had up to 30 visits in 2000.

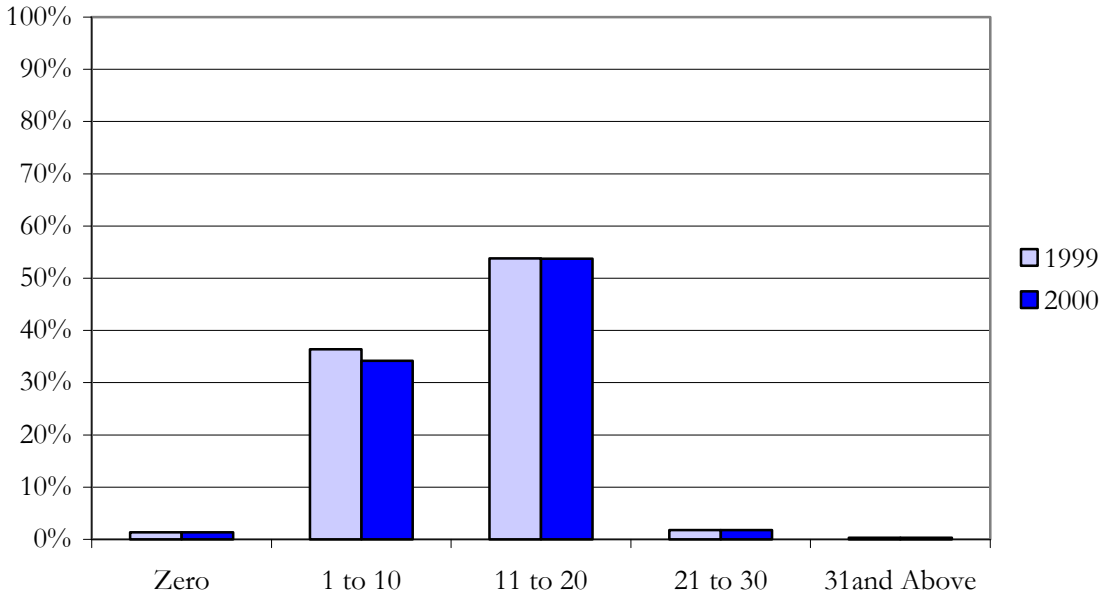
Table 16. CY 1999 Number of Prenatal Visits.

CY 1999 Number of Prenatal Visits										
	Zero		1 to 10		11 to 20		21 to 30		31 and Above	
Health Plan	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Blue Advantage Plus	17	1.5%	361	31.1%	670	57.5%	20	1.9%	3	0.3%
Care Partners	50	2.5%	841	42.3%	1,035	51.9%	16	0.9%	0	0.0%
Community Care Plus	15	2.2%	298	43.5%	316	46.1%	14	1.9%	2	0.2%
Family Health Partners	13	0.8%	577	35.9%	844	52.4%	30	1.9%	4	0.3%
FirstGuard	15	1.0%	509	35.5%	683	47.8%	33	2.2%	8	0.6%
HealthCare USA (C)	9	0.7%	478	36.1%	779	58.8%	25	2.0%	4	0.4%
HealthCare USA (E)	77	2.1%	1,397	38.0%	1,982	54.0%	49	1.4%	6	0.1%
HealthNet	6	0.8%	261	33.6%	439	56.7%	11	1.4%	3	0.3%
Mercy	9	1.5%	208	35.0%	322	54.2%	13	2.2%	2	0.4%
Missouri Care	4	0.5%	291	32.9%	519	58.5%	20	2.2%	4	0.4%
State - Managed Care Only	215	1.4%	5,221	36.4%	7,589	53.8%	231	1.8%	36	0.3%

Table 17. CY 2000 Number of Prenatal Visits.

CY 2000 Number of Prenatal Visits										
	Zero		1 to 10		11 to 20		21 to 30		31 and Above	
Health Plan	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Blue Advantage Plus	11	0.9%	333	27.4%	681	56.4%	18	1.5%	3	0.3%
Care Partners	42	2.1%	799	40.3%	1,062	53.6%	11	0.7%	3	0.3%
Community Care Plus	19	2.8%	241	36.0%	294	43.9%	8	1.1%	2	0.2%
Family Health Partners	24	1.5%	552	34.0%	847	52.2%	38	2.4%	7	0.6%
FirstGuard	15	1.1%	477	33.6%	651	45.6%	35	2.6%	3	0.3%
HealthCare USA (C)	3	0.2%	411	33.4%	765	62.0%	32	2.8%	1	0.1%
HealthCare USA (E)	54	1.3%	1,518	36.1%	2,313	55.0%	60	1.4%	10	0.0%
HealthNet	10	1.2%	274	32.5%	468	55.5%	15	1.8%	1	0.1%
Mercy	9	1.3%	236	35.1%	363	54.3%	6	0.8%	4	0.5%
Missouri Care	9	0.8%	357	33.4%	628	58.7%	25	2.4%	1	0.1%
State - Managed Care Only	196	1.3%	5,198	34.2%	8,072	53.7%	248	1.8%	35	0.3%

Figure 19. CY 1999 & 2000 Number of Prenatal Visits.



Adequate Prenatal Care

According to DHSS, adequate prenatal care is characterized as care that begins before the end of the fourth month of pregnancy and includes at least five visits for pregnancies of less than 37 weeks or at least eight visits for pregnancies of 37 weeks or longer.

Table 18 and Figure 20-21 show the rates for adequate and inadequate prenatal care. In 1999, adequate prenatal care was received in 76.0% of the cases. This number fell slightly to 74.5% in 2000. The Central region health plans experienced the highest rates for adequate prenatal care for both years. The rate of inadequate prenatal care was 17.7% of all births in 1999 and 16.9% of all births in 2000.

Table 18. CY 2000 & 1999 Adequate and Inadequate Prenatal Care.

CY 1999 Adequate Prenatal Care				
	Adequate		Inadequate	
Health Plan	Number	Percent	Number	Percent
Blue Advantage Plus	887	76.2%	190	16.3%
Care Partners	1,491	74.7%	449	22.5%
Community Care Plus	497	72.6%	151	22.0%
Family Health Partners	1,154	71.7%	312	19.4%
FirstGuard	988	69.1%	269	18.8%
HealthCare USA (C)	1,105	83.6%	185	14.0%
HealthCare USA (E)	2,867	78.1%	647	17.6%
HealthNet	607	78.0%	113	14.5%
Mercy	450	75.9%	109	18.4%
Missouri Care	713	80.3%	120	13.5%
State - Managed Care Only	10,759	76.0%	2,545	17.7%

CY 2000 Adequate Prenatal Care				
	Adequate		Inadequate	
Health Plan	Number	Percent	Number	Percent
Blue Advantage Plus	897	74.3%	152	12.6%
Care Partners	1,507	75.9%	398	20.0%
Community Care Plus	430	64.4%	134	20.1%
Family Health Partners	1,203	74.3%	266	16.4%
FirstGuard	945	66.4%	245	17.2%
HealthCare USA (C)	1,032	83.7%	177	14.4%
HealthCare USA (E)	3,228	76.8%	723	17.2%
HealthNet	643	76.3%	126	14.9%
Mercy	497	74.5%	129	19.3%
Missouri Care	838	78.3%	181	16.9%
State - Managed Care Only	11,220	74.5%	2,531	16.9%

Figure 20. CY 1999 & 2000 Adequate Prenatal Care.

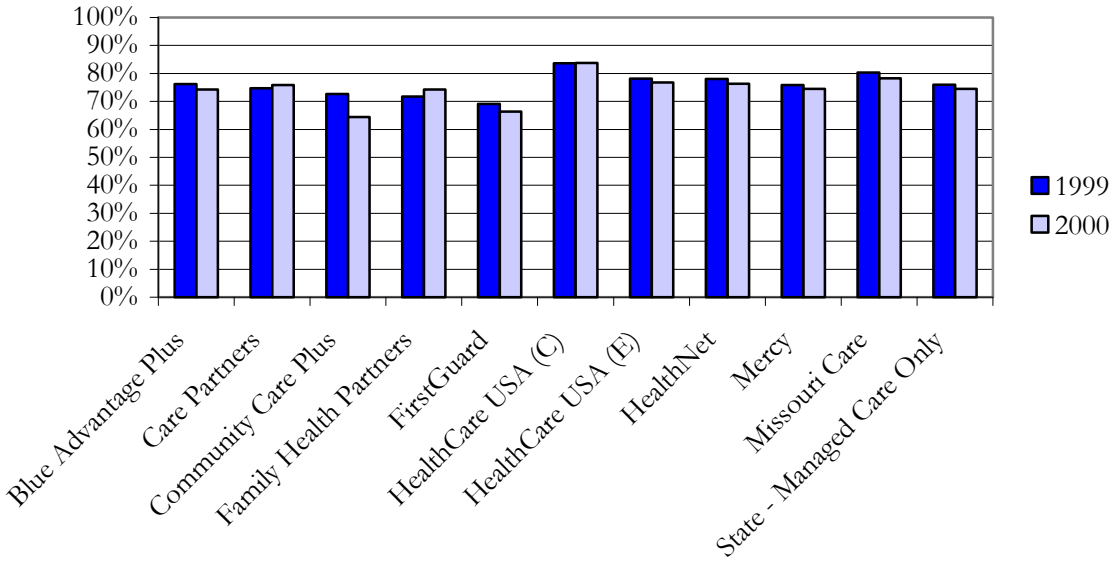
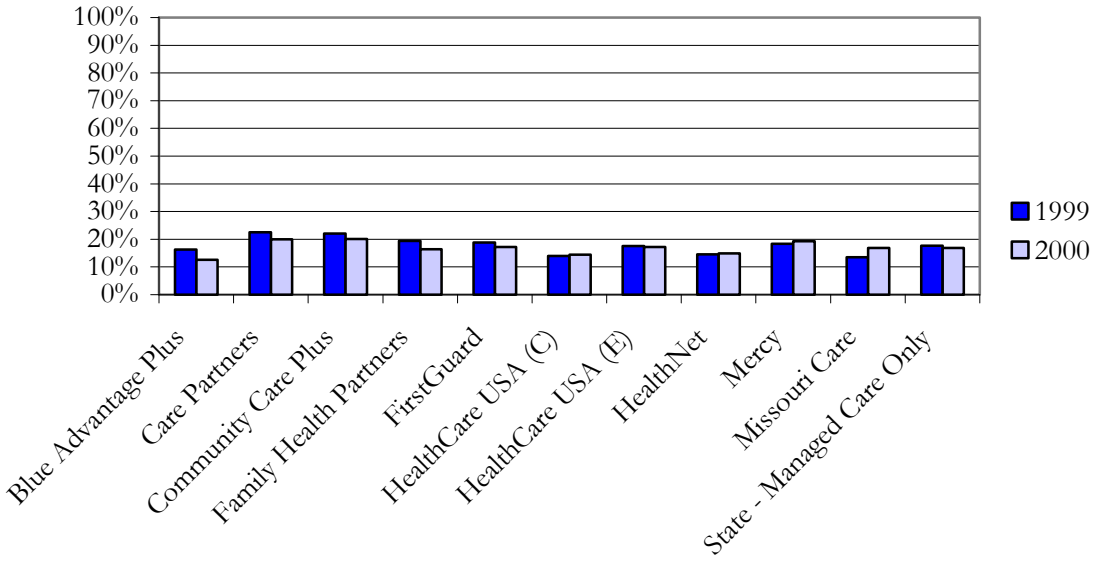


Figure 21. CY 1999 & 2000 Inadequate Prenatal Care.



Summary

Initiation of prenatal care moved in a positive direction between 1999 and 2000, with 75.5% of women initiating care in the first trimester. The number of prenatal visits remained stable between the two years with approximately 90% of women having up to 30 visits. Adequate prenatal care for both 1999 and 2000 was approximately 75%. Using this information as a baseline, health plans can position themselves to move forward with interventions designed to improve these rates.

2000 Health Plan Recommendation

Plans should continue with their efforts to identify pregnant women and educate them about the importance of early prenatal care. Plans should consider evaluating Mercy Health Plan's perinatal home visit program. Mercy reports an increase in the gestational age and lower hospital costs of babies born to mothers participating in the program.

VIII. Asthma Focused Study

In the 1998 external quality review, DMS and the health plans identified asthma treatment and outcomes as an important area of study for the MC+ population, prompting MPCRF to conduct a focused study on pediatric asthma. For the present review, a follow-up to the 1998 study has been conducted to reassess the status of asthma patients and determine if any changes are evident in certain treatment and outcome indicators. A review of the literature on this topic was conducted for the original study and has since been updated to provide additional relevant research findings from the past two years.

Review of Literature

In the fourth annual edition of **The State of Managed Care Quality** (2000), the National Committee for Quality Assurance (NCQA) conducted a study on the use of appropriate medications for people with asthma. Relying on the Health Plan Employer Data and Information Set (HEDIS) as well as Consumer Assessment of Health Plans Study (CAHPS) data, NCQA reported the following:

- 17.3 million people in the U.S. with asthma
- 4.8 million children with chronic asthma
- 2 million Emergency Department (ED) visits per year due to asthma
- 500,000 inpatient admissions per year due to asthma
- 5,000 deaths per year due to asthma
- $14.5 billion in asthma related costs per year

As can be seen from these statistics and as asserted by Kropfelder (1996), asthma costs our nation billions of dollars each year through hospitalizations, emergency department visits, and lost time from school and work. Weiss, Sullivan, and Lyttle (2000) examined the costs of asthma care using cross-sectional comparative analyses for the costs of illness for the years 1985 and 1994. Based on adjusted dollar figures, total asthma costs were 54% higher and direct medical costs were 20% higher in 1994. While inpatient admissions decreased from 45% to 29%, Weiss et al. noted that the largest component increase in costs was indirect (i.e., loss of time from work). Moreover, they found that asthma costs decreased 15.5% per affected child and increased 2.9% per affected adult.

Considering racial differences, hospitalization rates are 3.5 to 5 times higher for blacks than whites and mortality rates are five to ten times higher (Homer, 1997; Sears, 1997). Zoratti, Havstad, Rodriguez, Robens-Paradise, Lafata, and McCarthy (1998) examined patterns of asthma care in 464 African Americans and 1,609 Caucasian patients at initial evaluations in a managed care setting. They found that African American asthmatics had significantly fewer office visits to asthma specialists and fewer prescriptions for inhaled steroids than Caucasian asthmatics. Conversely, African American asthmatics were significantly more likely to visit the ED, be hospitalized and use oral steroids than Caucasian asthmatics. A similar pattern of differences was seen in a sub-group of African American and Caucasian patients who were in a similar low socioeconomic status.

Another study looking at gender differences (DeMarco, Locatelli, Sunyer, Burney, and European Community Respiratory Health Survey Study Group, 2000) evaluated 18,659 asthmatics from infancy to 44 years old. They found that young girls were at a significantly lower risk of asthma than

young boys were. However, at puberty the risk of asthma was about equal in males and females. After puberty, the risk of asthma was significantly higher in women. Earlier reporting of asthma symptoms by adult females as well as smaller airway calibers in adult females were considered as causes in gender differences. Mirroring these findings, Trawick, Holm, and Wirth (2001) carried out a retrospective review of the hospitalizations for acute asthma in the Yale-Haven Hospital in 1985-1994. They found that high-risk female adult patients are admitted twice as often as high-risk male adult patients and tend to have longer admissions.

In February of 2001, the Missouri Hospital Association (MHA) published the **Missouri Health Status Report**. The intent of the report is to provide information concerning risk behaviors for chronic disease, regionalized data with state and national comparisons, and national benchmarks using Healthy People 2010 objectives. In particular, MHA reported that of 7.2% of Missouri's population (5.5 million) have self-reported asthma compared to 7.1% of the U.S. population (274.7 million). MHA also reported the following regional percentages for self-reported asthma cases in the state of Missouri:

- 9.5% in the Kansas City region
- 5.9% in the St. Louis region
- 6.5% in the Northwest region
- 6.0% in the Northeast region
- 6.3% in the Central region
- 6.7% in the Southwest region
- 8.4% in the Southeast region

It is important to accurately diagnose asthma and begin treatment intervention as early as possible. Ziegler, Dawson, and Weiss (1999) have found that asthma severity is related to the duration of the disease. Delays in initiating inhaled corticoid steroid therapy lead to blunted improvement in lung function when anti-inflammatory therapy is introduced. As little as a two-year delay in starting inhaled corticoid steroids can be associated with a blunted improvement in lung function in adults with mild to moderate asthma. In all likelihood, delays in beginning treatment of severe asthma have even greater adverse effects on lung function (Larsen, 1999). These findings confirm decline in lung function in asthma patients and should prompt primary care professionals to follow lung function over time in a manner similar to that used to follow patients with cystic fibrosis or chronic obstructive pulmonary disease. Earlier diagnosis and aggressive intervention may be necessary to diminish the adverse affects of chronic asthma (Larsen).

Underscoring the need for earlier diagnosis and aggressive intervention, Another study examined risk factors for long-term decline in asthmatics' lung functioning. (Grol, Gerritsen, Vonk, Schouten, Koeter, Rijcken, and Postma 1999). A group of 119 allergic asthmatics initially evaluated at ages 5-14 years were re-assessed at age 42 with questionnaires and physical exams. The researchers found that decreased airflow in pediatric asthmatics appeared to be predictive of increased asthma problems in later childhood. Silverman and Pederson (1998) also encouraged the need for early intervention in childhood asthma but acknowledged limitations to achieving this goal (e.g., long-term patient compliance, adverse steroid therapy effects, and lack of precise outcome measurement).

In recent years nationally recognized practice guidelines for asthma management have been published. **A Pocket Guide for Asthma Management** (1998) has been jointly published by the

National Heart, Lung, and Blood Institute along with the World Health Organization *(see Appendix H)*. This is a condensed version for primary health care providers of a larger document, **National Asthma Education and Prevention Program Expert Panel Report 2: Guidelines for the diagnosis and management of asthma** (1997). The guide outlines basic elements of care for physicians and nurses treating people with asthma. An emphasis in the guide is on asthma as a chronic disorder requiring long-term management. With proper intervention, it is argued that asthma patients can control their symptoms and prevent troublesome symptoms night and day, prevent serious attacks, require little or no quick relief medication, have productive and physically active lives, and have near normal lung functioning. The guide recommends two types of medication to help control asthma: long-term preventive medications (especially anti-inflammatory agents) that keep symptoms and attacks from starting, and quick relief medications (short-acting bronchodilators) that work fast to treat attacks or relieve symptoms. The guide also stresses the use of inhaled medications due to the high concentration of drugs that are delivered directly to the airways with potent therapeutic effects and few systemic side effects. The guide argues that the physician or nurse should establish control as soon as possible and decrease treatment to the least medication necessary to manage and control symptoms. For severe asthma attacks, the guide recommends inhaled short-acting beta agonists in adequate dosages. Moderate attacks may require, and severe attacks usually require, care in a clinic or hospital.

When patients avoid exposure to asthma triggers (allergens and irritants that make their asthma worse), asthma symptoms and attacks can be prevented and medications reduced. Avoidance strategies for the different types of asthma triggers are outlined in the guide. The guide clearly stresses that all therapy *must* include education of patients. This education can help asthma patients learn to:

- Take medications correctly.
- Understand the difference between quick relief and long-term preventive medications.
- Avoid triggers.
- Monitor status using symptoms and, if possible, flow meters.
- Recognize signs that asthma is worsening and take action.
- Seek medical help as appropriate.

The **Pocket Guide for Asthma Management** (1998) also strongly urges that an asthma management plan be completed on all patients. This plan should include such things as what daily medication to take, what asthma triggers to avoid, how to recognize worsening asthma, how to treat worsening asthma, and how and when to seek medical attention. The guide clearly states, "Ongoing education, presented at every patient visit, is the key to success in all aspects of asthma management." Regular visits at one- to six-month intervals, as appropriate, are essential, even after control of asthma is established.

Even though practice guidelines are available for primary health care providers, there is evidence that these guidelines are sparsely used. Crane, Weiss, and Fagin (1995) did a survey of 376 emergency department directors with a 68% return rate. During 1991, there was an estimated 1.6 million visits for pediatric asthma care. Asthma accounted for 16.9% of all pediatric emergency department visits. They found that only 2.1% of emergency department directors reported the use of written protocols or guidelines with significant variation by hospital type. An estimated 45.5% of

respondents heard of guidelines published by the National Institutes of Health at the time of the survey. Twenty-four percent (24%) reported that they had read the guidelines.

Creer, Winder, and Tinkelman (1999) also considered physicians' use of the practice guidelines. They surveyed physicians' familiarity with the 1991 Expert Panel report and found only about 10% of physicians polled were familiar with the report. However, more recent studies indicate greater knowledge and application of the guidelines by specialists (allergists) and less by generalists and emergency department physicians. Creer et al. suggested several reasons for the low knowledge and application of the guidelines. Specifically, they note that generalists are overwhelmed by the proliferation of guidelines and the guidelines do not take into account important practical aspects of individual patient management or the conflicting mandates related to managed care.

As reported at the American Academy of Allergy, Asthma and Immunology (AAAAI) website, Johns Hopkins researchers found evidence regarding asthma specialists' increased likelihood of following the 1997 Expert Panel practice guidelines. In the study of 260 children, the researchers found that use of asthma medication was higher in children treated by a specialist compared with a generalist (94% vs. 72%, respectively). Children seeing a specialist were more likely to have written instructions for managing asthma attacks (69% vs. 46%, respectively). Specialists were more likely to provide instructions on how to properly use an inhaler (89% vs. 69%, respectively). Also, specialists were more likely to perform pulmonary function testing in confirming an asthma diagnosis (86% vs. 48%, respectively).

An important recommendation of the practice guidelines is the use of asthma action plans with families. However, Dawson, Van Asperen, Higgins, Sharp, and Davis (1995) found a low rate of action plans being used, in spite of recommendations of respiratory pediatricians. Over 40% of the children with asthma severe enough to warrant hospital attendance did not have an action plan. Furthermore, while 50% of parents claimed to have an action plan, only 29% had a written action plan. The authors argue that in a community-based sample the percentage of patients possessing an action plan would be even lower. In this study sample, over 80% of the parents who had a plan actually used it during their child's prior hospital admission. Most patients felt happy with the information they had been given concerning asthma, and nearly 50% regarded themselves as confident or very confident in the management of their children's asthma. The conclusion of this report was that general practitioners need to be encouraged to consider the use of action plans and to do so prior to these children being admitted to the hospital.

There have been many well-controlled studies documenting the clinical effectiveness and cost-efficiency of asthma education programs and follow-up care management. Greineder, Loane, and Parks (1998) performed an experiment with asthmatic children ages one through fifteen who had been continuously enrolled in a staff health maintenance organization (HMO) for two consecutive years. The control group received a single intensive asthma education intervention and the treatment group received the same initial education but then was followed-up by an asthma case management nurse throughout the intervention period. Control group patients experienced significant reductions in Emergency Ward (EW) visits (39%), hospitalizations (43%), and out-of-health-plan use (28%), possibly as a result of the baseline educational intervention. The treatment group patients experienced significant reductions in EW visits (73%), hospitalizations (84%), and out-of-health-plan use (82%). When compared with the control group, the treatment patients demonstrated significantly greater reductions in EW visits, hospitalizations, and out-of-health-plan

use. Estimates of direct savings to the health plan ranges from $7.69 to $11.67 for every dollar spent on the nurse's salary.

Another study assessed the effects of an inpatient education program (IEP) given to 44 inner-city adult asthmatics after evaluation in the ED for acute severe asthma flares. (George, O'Dowd, Martin, Lindell, Whitney, Jones, Ramondo, Walsh, Grissinger, Hansen-Flaschen, & Panettieri, Jr. 1999) IEP consisted of asthma education, bedside spirometry with instruction about peak flow monitoring, a telephone call 24-hours after discharge and scheduled follow-up in an Asthma Program outpatient clinic. A control group of 33 hospitalized asthma received conventional inpatient asthma care without special asthma education and a follow-up visit in a general outpatient clinic. The results revealed that the number of people in the IEP group was much higher than in the conventional group (60% vs. 27%). Plus, the IEP had significantly fewer ED visits and hospitalizations over a 6-month follow-up period.

Kropfelder (1996) published an evaluation of a case management program within a large inner city HMO that was developed in 1993 to control asthma exacerbations. Case management was conducted primarily through phone contacts with patients. Individualized asthma care plans were completed on all patients. Included in the asthma plans were daily peak flow readings, home medication regime, environmental changes necessary for the patient to avoid triggers of his/her asthma, a general plan for school, any restrictions in activity, and follow-up appointments. Both the provider and the patient signed the individualized asthma care plan. Study results of 114 patients indicate a decrease in hospitalization and emergency costs. ED visits were decreased by 50% and hospitalizations, measured by discharges, were decreased by 66%. In addition, office encounters increased by 25% during the same time period.

In summary, this review underscores several practices that are important for primary care providers and managed care companies who work with asthmatic patients. Practitioners should familiarize themselves with the most recent 1997 practice guidelines published by the National Institutes of Health and utilize these guidelines. These guidelines describe patient education as a "must" for effective asthma management. Even in those cases where symptoms are controlled, the guidelines recommend follow-up visits with a physician at least once every six months. The research is also conclusive in showing that regular case management and professional contact with the patient enhances treatment effectiveness and reduces costs. Finally, asthma action plans to help guide treatment and self-management should be utilized as frequently as possible.

The literature and research reviewed for the 1998 and 2000 external quality reviews promotes the need for heightened awareness by primary care providers and managed care organizations in providing patients with comprehensive as well as preventive asthma services. DMS and the health plans have expressed continued interest in the care and health status of children with asthma. Building upon he focused study from the 1998 review, MPCRF posed the following research question to expand the state's knowledge and provide recommendations for the management of asthma in the Missouri MC+ Medicaid population:

Hypotheses:
Did asthma treatment and outcomes, such as asthma documentation and use of asthma treatment plans, increase between 1998 and 2000 for pediatric asthmatic MC+ members (i.e., ages birth to 21 years old)?

Did asthma drug (quick relief and long-term) use increase between 1998 and 2000 in the MC+ population?

Asthma Focused Study Methodology

Data from the 2000 medical records were compared to results found in the 1998 asthma focused study to determine if improvements were made in documentation of asthma severity, risk factors, written treatment plans, or patient education. For the 1998 study, cases were selected from those children with a diagnosis of asthma who had two or more emergency department visits in 1998. Records were requested from the health plans and a total of 354 cases were reviewed. For the 2000 study, data were collected from a specific sample of asthma cases selected for the focused study and from any children identified in the EPSDT follow-up sample who had an asthma diagnosis. To select these cases, encounter claims were used to identify a sample of children who were age six or less and had an EPSDT service code, and another sample who were age 21 or less, had an EPSDT service code, and had a diagnosis of asthma/reactive airway disease (RAD). Medical records for these children were requested from the primary care physicians. Records were reviewed for 284 cases from the asthma focused study sample and another 36 cases from the EPSDT follow-up sample, for a total of 320 cases. Because the 1998 study included emergency department visits in the sample selection criteria, caution should be used in comparing the results for the two years.

Managed care pharmacy encounter claims for 1998 and 2000 were also examined to assess asthma drug use in the MC+ population. Generic asthma drug codes, found in Exhibit A, were used to identify asthma drug pharmacy claims for the total MC+ population. The analysis focuses on two categories of asthma drugs, quick relief and long-term control. Enrollment data were used to determine total member populations for the denominators for both years. For the numerators, pharmacy claims with asthma drug codes were identified at the state and plan levels for both years. Similar to other claims analyses, the plan specific and state denominators are derived using different research method. More specifically, the state denominator is not sum total of the plan specific denominators. Further, the analyses are limited by the state of the data. The results are intended as relative information and should not be viewed as an absolute reflection of asthma drug use.

Clinical Review Findings

For both the 1998 and 2000 focused studies, records were reviewed for documentation of the severity of asthma. As shown in Table 19, six categories of severity were examined in 1998 while ten categories were used in 2000. Information on severity was missing or not documented for a large proportion of cases in both 1998 and 2000 (85% and 82%, respectively). The most commonly documented severity levels in 1998 were stable and mild, similar to the results for 2000 of stable, mild intermittent, and mild persistent. Only a small number of severe cases were found in both study periods (4 severe in 1998 and 6 severe /severe persistent in 2000).

Table 19. Severity of Asthma.

Severity of Asthma				
	1998 (N=354)		2000 (N=320)	
	Number	Percent	Number	Percent
Stable	17	5	14	4.4
Mild	17	5	5	1.6
Moderate	8	2	0	0
Severe	4	1	2	0.6
Status Asthmaticus	6	2	0	0
Intractable Asthma	1	<1	0	0
Mild Intermittent	NA	NA	12	3.8
Mild Persistent	NA	NA	12	3.8
Moderate Persistent	NA	NA	8	2.5
Severe Persistent	NA	NA	4	1.3
Missing/Not Documented	301	85	263	82.2

As shown in Table 20, an actual written asthma treatment plan was found in 12% of the medical records in 1998 and only 4.4% of the records in 2000. The asthma records in 2000 that did not include a written treatment plan were further reviewed for any other indication that the patients had a treatment plan. This revealed another nine (2.8%) records that contained some information regarding the existence of a treatment plan. In total, then, records for only 23 cases in 2000 showed evidence of a written treatment plan.

Table 20. Treatment Plan in the Record.

Treatment plan in the record				
	1998 (N=354)		2000 (N=320)	
	Number	Percent	Number	Percent
Written treatment plan in record	42	12	14	4.4
Missing/Not Documented	NA	NA	306	95.6
Other indication of treatment plan	NA	NA	9	2.8

Table 21 shows that documentation of general asthma disease education, such as the course of the disease, increased considerably from 1998 (22%) to 2000 (54.7%). It should be noted that additional categories of asthma education were reviewed in 1998 that were not included in the 2000 study. It is unclear whether the improvement shown in 2000 is due to an actual increase in the education given to patients or simply better documentation of it in the records. Data from 2000 revealed that information on asthma disease education was missing or not documented in 45.3% of the cases.

Table 21. Documentation of Asthma Education.

Documentation of asthma education				
	1998 (N=354)		2000 (N=320)	
	Number	Percent	Number	Percent
Expected Course of Disease	77	22	175	54.7
Medication Regime	119	34	NA	NA
Signs and Symptoms of Emergent Crisis	90	25	NA	NA
Preventive Care	85	25	NA	NA
Follow-up on Preventive Care	61	17	NA	NA
Durable Medical Equipment	50	14	NA	NA
Pain Management	6	2	NA	NA
Missing/Not Documented	NA	NA	145	45.3

A comparison of the documentation of risk factors between the 1998 and 2000 studies is shown in Table 22. The proportion of cases is similar in terms of reporting allergies, pharmacological, psychological and psychosocial risk factors. Cases with documentation of exercise induced and environmental risk factors increased between 1998 and 2000, from 3.4% to 8.1% (exercise induced) and 12.7% to 18.8% (environmental). A decrease was found in the documentation of infection, from 11.6% in 1998 to 8.8% in 2000. In 1998 the most commonly documented risk factor was allergies, followed by environmental factors and infection. In contrast, environmental was the most common type of risk factor documented in 2000, followed by allergies and infection. Data on asthma risk factors was missing or not documented for 68.1% of the cases in 2000.

Table 22. Asthma Risk Factors Documented

Asthma Risk Factors Documented				
	1998 (N=354)		2000 (N=320)	
	Number	Percent	Number	Percent
Environmental	45	12.7	60	18.8
Allergies	56	15.8	49	15.3
Infection	41	11.6	28	8.8
Exercise Induced	12	3.4	26	8.1
Psychological	3	0.8	1	0.3
Pharmacological	4	1.1	0	0
Psychosocial	0	0	0	0
Missing/Not Documented	NA	NA	218	68.1

Encounter Claims Analyses - Asthma Drug Use Findings

Table 23 shows the findings of the asthma drug use analyses for 1998 and 2000. Rates are presented by plan and for the state for quick-relief and long-term control asthma drugs for 1999 and 2000.

In 1998, the rate of asthma quick-relief drug use is 4.4%. In 2000, the rate slightly increases to 5.5%. The rate of asthma long-term control drug use in 1998 is 8%. In 2000, the rate rises slightly to 9.1%. Based on this analysis, it is not possible to say that physicians are prescribing more asthma treatment drugs (both quick-relief and long-term control) for the MC+ population. The increases noted may be the result of improved claims submission/acceptance processes at the provider, plan or state levels, or increased physician prescriptions for quick-relief and asthma long-term control

drugs. Future EQR studies should include further analyses of asthma drug use for MC+ members with a diagnosis of asthma.

Table 23. Asthma Drug Use

Asthma Drug Use				
	Quick Relief		Long-Term	
Health Plan	1998	2000	1998	2000
Blue Advantage Plus	4.5%	4.8%	7.8%	7.4%
Care Partners	2.3%	5.8%	5.4%	9.8%
Community Care Plus	2.6%	1.0%	5.5%	2.9%
Family Health Partners	6.0%	7.5%	9.3%	11.0%
FirstGuard	3.2%	4.1%	7.2%	7.8%
HealthCare USA (C)	4.9%	5.3%	8.1%	8.9%
HealthCare USA (E)	5.3%	5.7%	9.9%	9.9%
HealthNet	3.4%	5.1%	6.1%	7.5%
Mercy	3.9%	3.6%	5.8%	5.7%
Missouri Care	0.0%	5.1%	0.0%	8.4%
State	4.4%	5.5%	8.0%	9.1%

Summary and Recommendations

In summary, the current focused study is a follow-up to the 1998 external quality review asthma focused study. Building upon the importance of the **National Asthma Education and Prevention Program Expert Panel Report 2: Guidelines for the diagnosis and management of asthma** (NIH, 1997), DMS identified asthma treatment and outcomes as an important area of study for the MC+ population. Therefore, MPCRF conducted a follow-up study to reassess the status of MC+ pediatric asthma patients (ages birth to 21 years) and determine if any changes are evident in certain treatment and outcome indicators.

Overall conclusions are difficult to determine in this study because the information needed was frequently not available from the medical records. This, in itself, is an important finding. The lack of information prevents health plans and providers from gaining an accurate picture of the status of their patients or the type of care they receive. It is impossible to assess what positive practices should be continued and what problems need to be addressed. This suggests that the state should take additional steps to improve documentation in medical records.

Comparing the results from the 1998 and 2000 asthma focused studies, there are some noteworthy changes in certain indicators. In particular, there was a considerable decrease in 2000 in the presence of a written asthma treatment plan in the medical record. The research and asthma care guidelines stress the importance of developing an asthma treatment plan for all patients (Dawson et al., 1995; Kropfelder, 1996; NIH, 1998). Nearly 96% of the records in 2000 did not include a treatment plan, although it is unclear whether the treatment plans did not exist at all or whether plans did exist and were simply not included in the record.

The findings suggest an increase between 1998 and 2000 in the education given to asthma patients on the expected disease course. Once again the issue of documentation is important. This increase may be a result of more patient education actually being conducted or the result of increased

documentation of education. As found in the literature and asthma treatment guidelines, ongoing education is critical for controlling the disease (Greineder et al., 1998; NIH, 1998). In spite of the increase found in 2000, no documentation of education was evident in 45% of the records suggesting the need to improve asthma patient education or at least the documentation of it.

With regard to asthma severity, the results were similar for 1998 and 2000. As for risk factors, there were notable increases found in 2000 in the proportion of cases listing environmental and exercise induced factors. Since documentation of the severity level was missing from 82% of the records in 2000 and risk factor information was missing from 68% of the records, definitive conclusions cannot be made. These issues have important implications for the treatment and duration of asthma, as well as the educational needs of asthma patients (Larsen, 1999; NIH, 1998; Ziegler et al., 1999).

As Crane et al. (1995) and Creer et al. (1999) asserted in their research, many physicians lack awareness or comprehensive knowledge about the asthma treatment guidelines. The results of the asthma focused study for Missouri's MC+ pediatric asthma suggest a need for improvement in patient education and use of written treatment plans. The proportion of cases in 2000 that included documentation of these two indicators was low (education 54.7%, treatment plan 4.4%), particularly the inclusion of a written treatment plan. The results may be due to the lack of provider awareness of national asthma treatment and education guidelines and therefore care of these patients is inadequate. Alternatively, MC+ providers may be familiar with the guidelines but have not fully incorporated these standards into their practices. Finally, it is possible that providers are following the treatment guidelines and give high quality care to patients, however documentation in the medical records is poor.

The findings also suggest slight increases in the use of asthma quick-relief medications (4.4% to 5.5%) and long-term control drugs (8.0% to 9.1%) from 1998 to 2000. It is difficult to say whether the increase is due to more asthma drugs being prescribed overall or better claims submission and acceptance procedures. The findings do suggest opportunity for improvement as the rates for use of asthma quick-relief and long-term control drugs are generally low for both years studied. In light of these findings, MPCRF recommends the following:

2000 Health Plan Recommendation

Although reviewing medical records to determine adherence with treatment and documentation protocols is expensive and labor intensive, some medical record review is necessary. For asthma treatment, some information about how members are treated and managed can only be found in the medical record, (e.g., scheduled follow-up visits, peak flow rate documentation, asthma education and asthma action/treatment plans, etc.)

MPCRF recommends that MC+ health plans continue to strive for more rigorous documentation of an asthma treatment plan, asthma severity and asthma disease education in the MC+ pediatric asthma population. Future EQR studies should include analyses of asthma drug use for MC+ members with a diagnosis of asthma.

The National Asthma Education and Prevention Program Expert Panel Report 2: Guidelines for the Diagnosis and Management of Asthma (1997) and the findings from the Missouri Health Status Report

(2001), encourages the increased usage of written asthma action plans, patient education at each visit, and follow-up at least every six months.

Plans should work together to develop a quality improvement project plan to evaluate and measure asthma education and documentation improvements using multiple sources of information. An evaluation of asthma treatment should include a hybrid methodology that examines both primary and secondary data. The 2000 EQR established a baseline rate for future studies.

References

American Academy of Allergy, Asthma and Immunology. (2001) Asthma specialists more likely to follow best practice guidelines [On-Line]. Available: http://www.aaaai.org/media/pressreleases/2001/08/010824.html.

Crain, E. F., Weiss, K. B., & Fagan, J. M. (1995). Pediatric asthma care in U.S. emergency departments. Archives of Pediatric Adolescent Medicine, 149, 893-901.

Creer T.L., Winder J.A., & Tinkelman D. (1999) Guidelines for the diagnosis and management of asthma: accepting the challenge. Journal of Asthma, 36 (5), 391-407.

Dawson, K. P., Van Asperen, P., Higgins, C., Sharpe, C., & Davis, A. (1995). An evaluation of the action plans of children with asthma. Journal of Pediatric Child Health, 31, 21-23.

DeMarco R., Locatelli F., Sunyer J., Burney P., & European Community Respiratory Health Survey Study Group. (2000) Differences in incidence of reported asthma related to age in men and women. American Journal of Respiratory Critical Care Medicine, 162 68-74.

George M.R., O'Dowd L.C., Martin I., Lindell K.O., Whitney F., Jones M., Ramondo T., Walsh L., Grissinger J., Hansen-Flaschen J., & Panettieri R.A. Jr. (1999). A comprehensive educational program improves clinical outcomes in inner-city patients with asthma. Archives of Internal Medicine, 159 (15), 1710-1716.

Greineder, D. K., Loane, K. C., & Parks, P. (1998). A randomized controlled trial of pediatric asthma outreach program. Journal of Allergy and Clinical Immunology, 103, 436-440.

Grol M.H., Gerritsen J., Vonk J.M., Schouten J.P., Koeter G.H., Rijcken B., & Postma D.S. (1999) Risk factors for growth and decline of lung function in asthmatic individuals up to age 42 years, A 30 year follow-up study. American Journal of Respiratory Critical Care Medicine, 160 1830-1837.

Kropfelder, L. (1996). A case management approach to pediatric asthma. Pediatric Nursing, 22, 291-295.

Larsen, G. L. (1999). Focusing on childhood asthma: The Childhood Asthma Management Program (CAMP). Journal of Allergy and Clinical Immunology, 103, 371-373.

Missouri Hospital Association (2001) Missouri Health Status Report: An Overview. Jefferson City, MO.

National Committee for Quality Assurance (2000) The state of managed care quality 2000. Washington, DC.

National Institutes of Health: National Heart, Lung, and Blood Institute (1998). Pocket Guide for Asthma Management, Publication no. 96-3659B.

National Institutes of Health: National Heart, Lung, and Blood Institute (1997). National Asthma Education and Prevention Program Expert Panel Report 2. Guidelines for the diagnosis and management of asthma. Publication no. 97-4051.

Sears, M. R. (1997). Epidemiology of childhood asthma. Lancet, 350, 1015-1020.

Silverman M., & Pedersen S. (1998) Early intervention in childhood asthma. European Respiratory Journal Supplement, 27 66S-68S.

Trawick D.R., Holm C., & Wirth J. (2001) Influence of gender on rates of hospitalization, hospital course, and hypercapnea in high-risk patients admitted for asthma: a 10-year retrospective study at Yale-New Haven Hospital. Chest, 119 (1) 115-119.

Weiss K.B., Sullivan S.D., & Lyttle C.S. (2000) Trends in the cost of illness for asthma in the United States, 1985-1994. Journal of Allergy and Clinical Immunology, 106.

Zeiger, R. S., Dawson, C., & Weiss, S (1999). Relationships between duration of asthma and asthma severity among children in the Childhood Asthma Management Program (CAMP). Journal of Allergy and Clinical Immunology, 103, 376-387.

Zoratti E.M., Havstad S., Rodriguez J., Robens-Paradise Y., Lafata J.E., & McCarthy B. (1998) Health service use by African Americans and Caucasians with asthma in a managed care setting. American Journal of Respiratory Critical Care Medicine, 158 371-377.

IX. Follow-up on Recommendations from CY 1999 – Health Plans and DMS

Consistent with prior external quality evaluations of the Missouri MC+ program, a number of recommendations were put forward regarding administrative and health care service delivery practices. To follow-up on the recommendations, the MC+ health plans and DMS administrative staff completed self-assessment questionnaires to provide information about activities accomplished in 2000 related to the CY 1999 recommendations. Following the completion of the questionnaire, all health plans were visited to clarify issues and elicit recommendations for the next EQR. This section presents the findings from both questionnaires and highlights specific health plan activities considered to be significant, innovative, or forward reaching.

Health plan activities are presented as they were reported in the questionnaire. Some plans may not be represented as often as other health plans due to how it was completed by each health plan. The design of the self-assessment tool, instructions for completion and the thoroughness with which the questionnaire was completed, significantly impacts the findings and limits the ability to highlight all the plans in all the areas examined. While plans may be participating in multiple efforts to improve quality indicators, this report reflects those efforts self-reported by the plans and DMS, or discussed during the onsite plan visits.

Blood Lead Level Testing

1999 Health Plan & DMS Recommendation

Blood lead level testing and reporting at 12 months and 24 months of age must be improved throughout the state. Recommendations have been made in the past three EQR reports regarding lead; results indicate that reported testing has not achieved the recommended levels.

A barrier analysis, which could include a targeted chart review, focused study, analysis of best practices in other states, and surveys should be conducted to determine the reasons (e.g., patient-based, provider-based, program-based) for these overall low rates. A quality improvement project should be designed and implemented based on the findings. Provider education and accountability for this important issue should be improved. DMS and DHSS should examine state structures to identify barriers that impact the reporting of all lead testing results to the plans.

While no health plan reported conducting a formal barrier analysis and designing a quality improvement project, all MC+ health plans continued a variety of activities and implemented new initiatives to improve blood lead level testing rates in the state. Provider and member education continued via newsletters, member handbooks, new member calls, personal letters, presentations and office guidebooks. Most plans send reminder cards to members and/or providers when EPSDT/blood lead level testing services are due. **Family Health Partners** started a Lead and EPSDT Task Force and developed lead screening provider education packets. They also contracted with LeadTech to provide an alternative to venipuncture and provide blood lead level testing paper to physician offices for finger stick blood samples. **HealthCare USA** also implemented an internal EPSDT/Lead Task Force to identify opportunities to address lead screening rates for eligible children in all administrative activities of the company. **HealthCare USA** also conducted an in-depth chart audit to assess documentation and billing related to completed screens and has incorporated blood lead level testing into their provider relations responsibilities. **Mercy** developed a high-risk screening tool for parents to complete while in the pediatrician's waiting room. After review by the physician, the tool becomes a part of the permanent medical record. **Mercy** also transitioned the follow-up care of members with elevated blood lead levels from city and county health departments to a home health agency that specializes in working with the MC+ population. **Community Care Plus** began paying a "bill above" for blood lead level testing services and brought on two additional staff to focus on new member calls and implementation of their revised EPSDT/Lead program, which includes a member reminder system.

A number of barriers exist that prevent health plans from demonstrating accurate rates of blood lead level testing for their memberships and real improvements made since the first MPCRF recommendation in 1998 to increase testing rates for 12 and 24 month old children. Most plans report provider disbelief or lack of recognition that lead poisoning is a problem in Missouri and that all age appropriate children should be tested. Many providers did not bill health plans for the service when performed causing deficient encounter data. Some providers did not perform screening even when additional compensation was initiated. Plans also report lack of cooperation, from city and county departments of health, in forwarding information on members that have been tested or submitting claims when blood lead level testing is performed. Other barriers include inability to retrieve information from the Missouri Department of Health and Senior Services (DHSS) Stellar System database, members not seeing their PCPs for EPSDT examinations, PCP

offices not equipped to draw blood lead specimens in the office necessitating a visit to an outside laboratory, some health plan data systems are unable to accept DHSS blood lead draw claims, and test results not returned in a timely fashion to PCP offices due to the removal of the PCP label in order to send specimens to the state laboratories for processing.

Plans have taken many steps to bring down the barriers that prevent children from accessing blood lead level testing services and to improve encounter claims data and thus blood lead level testing rates for children 12 and 24 months of age. **Blue Advantage Plus** enhanced their data system to accept health department blood lead level test claims and contracted with Lab One, enabling physicians to collect blood lead level test specimens in their offices eliminating the need for members to make a special trip to an outside laboratory. Also in 2000, **Blue Advantage Plus** laid the groundwork for a school-based clinic at St. Vincent's Day Care Center. St. Vincent's serves over 500 children and will provide EPSDT and blood lead screening services as well provide encounter claims data for **Blue Advantage Plus** members. **Family Health Partner**s contracted with LeadTech to promote in-office blood lead screening and amended PCP contracts to reimburse providers for completion of the risk appraisal, blood draws by the provider, blood drawn and sent elsewhere, documentation of a prescription written for a blood draw elsewhere, and documentation of patient refusal for testing. **Mercy** provider representatives began providing physician offices with the appropriate tubes to collect blood lead specimens. Other activities to eliminate barriers include ongoing physician and member education, including peer-to-peer education and continued communication with state Stellar System staff regarding information needs.

All MC+ Health Plans have systems and processes in place for ongoing monitoring and evaluation of efforts directed at increasing blood lead level testing rates. Most plans produce monthly or quarterly activity reports and several produce physician-specific profiles on blood lead level testing and link them with provider education.

Health plans have indicated a lack of communication between the state laboratory, county health departments and providers. DMS reported the DHSS has implemented a change in regulations and the state lab must now report all blood lead levels to plans. This information is being communicated to the health plans by DMS. In addition, DMS reports many of the plans have adopted other methods to obtain screening information. Some have augmented their efforts to establish linkages with county health departments, and established other resources to test members.

Overall, a good deal of effort was put forth in 2000 to bring age appropriate children into the health care system and improve blood lead level testing service delivery, and documentation of services in a fashion accessible to health plans for tracking purposes. DMS and health plans play a key role in successfully educating members and providers and providing all available data and system modifications necessary to continue improving this vital service indicator.

EPSDT Screening

1999 Health Plan and DMS Recommendation

A barrier analysis, which could include a targeted chart review, focused study, analysis of best practices in other states, and surveys should be conducted to determine the reasons (e.g., patient-based, provider-based, program-based) for these overall low rates. A Quality Improvement project should be designed and implemented based on the findings. Provider education and accountability for this important issue should be improved. Adopt an 80% benchmark for EPSDT and implement EPSDT Intervention Task Force recommendations.

While no health plan reported conducting a formal barrier analysis and designing a quality improvement project, most health plans have continued efforts established prior to 2000 to increase EPSDT screening rates. Popular methods continue to be reminder letters and cards to members and providers, education regarding the importance of EPSDT examinations during new member calls and onsite visits to providers, EPSDT informational brochures in welcome packets, articles in member and provider newsletters and direct mailings to PCPs about EPSDT requirements. In calendar year 2000, **Community Care Plus** began reimbursing physicians for submission of EPSDT claims and **Family Health Partners** increased reimbursements for EPSDT services. **Family Health Partners** also began giving physicians comparative data showing PCPs their EPSDT screening rates next to aggregate plan rates and established an EPSDT advisory group that held its first meeting in late 2000.

Numerous barriers exist that hinder health plans in their ability to drive up EPSDT screening rates. All plans report faulty addresses and phone numbers for new and existing members prevents them from contacting members for reminders and education. **Blue Advantage Plus** highlights the need for plans to be able to communicate corrected address and phone number information. DMS can report corrected address and phone number information to the plans; however, no mechanism exists to permit plans to report changes to DMS. **Family Health Partners** identified the need to use methodology utilized by DMS (CMS 416 Reporting Methodology) in the calculation of EPSDT rates. **Care Partners** identified the inability of their data system to link diagnostic and procedural code information as a barrier to identifying EPSDT services. **Care Partners** also points out that primary care physicians have 180 days to file claims and this filing time frame affects quarterly EPSDT rates. **Community Care Plus** reports physicians were not as likely to submit encounter claims in 2000, as they were not reimbursed specifically for this activity. Further, when zero pay or denied claims were submitted, as is the case with capitated physician claims, it was reported they were not accepted by the state.

Several plans report member noncompliance with scheduling and keeping appointments, despite continued reminders and education, as an obstacle to improving quality care and EPSDT rates. **Missouri Care** identified missed opportunities as a barrier as some physicians did and do not realize EPSDT examinations can be performed when a child presents for a sick visit, school physical or other reason. Most plans did not have the ability to generate provider-specific profiles of EPSDT screening rates; however, **Blue Advantage Plus** and **HealthCare USA** worked to develop the capability in 2000. **Family Health Partners** did generate provider EPSDT profiles in 2000 and shared them with their physicians. **Family Health Partners** reports several physicians requested their profiles be rerun, because they did not believe the low results.

Valuable feedback from physicians to **Family Health Partners** included curtailed outreach efforts due to bad phone numbers and completing EPSDT examinations during a sick child visit isn't reasonable due to time constraints. On a positive note, **Family Health Partners** reports some providers have agreed to be more attentive to EPSDT and blood lead screens, and one practice added equipment to enable blood lead level testing in the office.

Health Plans worked diligently in 2000 to address issues that keep EPSDT rates low. Plans continued efforts to reach members regarding the importance of EPSDT examinations through new member calls and appointment reminder systems, health fairs and promotions. **HealthCare USA** developed an EPSDT outreach program and initiated their EPSDT/Lead action plan and task force through which intensive member education efforts were made. **Blue Advantage Plus,** in addition to launching St. Vincent's Day Care school-based clinic, upgraded their PrevenTrac EPSDT reminder system. The upgrade created the capacity to generate reports by provider regarding EPSDT rates. **Community Care Plus** added additional staff to manage their revised EPSDT/Lead Program.

HealthNet developed a database to measure EPSDT rates stratified by CPT/ICD-9-CM codes. **Family Health Partners** contacted DMS for a presentation on the methodology utilized for calculating EPSDT rates [CMS 416 Report]. **Missouri Care** continued their efforts to educate both physician and member populations regarding the importance of EPSDT and well-childcare.

All MC+ health plans reported planned activities to reassess and monitor the effectiveness of their EPSDT improvement activities and EPSDT rates, excluding **FirstGuard**, who did not respond to the questions. **Missouri Care** plans to use a "hybrid method" to reassess the efficacy of quality improvement efforts and EPSDT rates. The results of their 2000 HEDIS review along with rates calculated for the CMS 416 review and their own internal data will be combined for comparative purposes on a quarterly basis. **Blue Advantage Plus** plans to focus efforts on individual physicians with their expanded capability to target physicians and members through PrevenTrac system enhancements. **Community Care Plus** will use the CMS 416 and internal reports to monitor the effectiveness of quality improvement initiatives. **Family Health Partners** will continue to monitor EPSDT performance monthly via reports to the Quality Action Committee and collaborations with medical directors and providers. **HealthNet** plans to implement a baseline in 2001.

The EPSDT Intervention 2000 Task Force identified a goal to increase the EPSDT rate to a compliance of 80% within a 5-6 year time span. The increase was to be implemented in increments of approximately 6% per year beginning with a baseline of 50% compliance. Other recommendations made by the task force included: uniform EPSDT screening forms, provider education (including office staff), and member education.

DMS's EPSDT incentive for 80% compliance was in effect for 2000 for plans in the Eastern and Central regions. In accordance with CMS guidelines, the state agency requires 80% of eligible members to have EPSDT screening and, accordingly, has included an 80% presentation rate in the rates paid to health plans. On a quarterly basis DMS must measure health plan performance regarding the percentage of eligible members having EPSDT screenings. In the event that more than 80% of eligible members have an EPSDT screening, as calculated using the CMS 416 reporting methodology, DMS will make a pro rata increase to the monthly capitation payment to the health plan for each percentage point over 80%. The pro rata increase is based on the portion of the monthly capitation payment related to EPSDT screening and is applied to each rate cell in which

screening is required. DMS will continue making increased monthly capitation payments until the next quarterly measurement.

DMS and the MC+ health plans are acutely aware of the challenges associated with increasing EPSDT screening rates and the need for ongoing education of providers and members. Plans are working to create systems that use data that is available to monitor the effectiveness of improvement activities. DMS has responded to the recommendations of the EPSDT Task Force and has implement incentives to increase EPSDT rates.

Immunizations

1999 Health Plan & DMS Recommendation

Immunizations should be improved throughout the state. A barrier analysis, which could include a targeted chart review, focused study, analysis of best practices in other states, and surveys should be conducted to determine the reasons (e.g., patient-based, provider-based, program-based) for these overall low rates. A Quality Improvement project should be designed and implemented based on the findings. Provider education and accountability for this important issue should be improved. HealthNet, with a very high sample rate, should be charged with developing an intra plan intervention to translate the successful strategy into statewide practice.

Although most health plans did not report developing a quality improvement project, many efforts have taken place to address low immunization rates. Like blood lead level screening, immunizations are a component of EPSDT screening. Efforts made to increase rates of EPSDT examinations have a spill over effect on immunization rates. However, MC+ health plans have given individualized attention and effort to increasing immunization rates. All health plans educated providers and/or members via direct mailings, reminders, health fairs, newsletters, provider handbooks and new member and other outreach calls and contacts.

Blue Advantage Plus conducted a quality improvement project with a targeted record review to identify barriers to immunizations. The project revealed that many members had more than one primary care provider from birth to 24 months and their immunization history was not always in the medical record. **Blue Advantage Plus** plans to work with providers to find a workable solution for tracking and retrieving immunization information.

Mercy began a dialog with their local department of health regarding billing and the use of MOHSAIC (Missouri Health Strategic Architectures and Information Cooperative) to improve immunization documentation and share HEDIS review results with providers. **HealthNet** was involved in community activities such as the Mid-America Immunization Coalition and BE WISE – Immunize. **HealthCare USA, FirstGuard**, and **Family Health Partners** gained access to MOHSAIC in 2000 and should be able to identify some members who have received immunizations recorded in that system. **FirstGuard** worked with the Missouri DHSS to improve reporting of pediatric immunizations using the MOHSAIC database and maintained their participation in the Kansas City Metro area "Get Hep B" Program for adolescents for the fourth year. **Care Partners** provided opportunity for all physician office managers to come together to share concerns and best practices for encouraging members to keep appointments to improve the immunization status of members.

While many initiatives were employed and/or continued in 2000, health plans were quite forthcoming with regard to the barriers and challenges they face in increasing immunization rates. Plans report that physicians' practice patterns with respect to immunization varies from group to group. Some physicians prefer to utilize the local health department for their patients. Most local health department clinics do not track patient insurance and thus are not able to bill the health plan for administration fees, or share service delivery information. Moreover, MC+ members access preventive services in a variety of settings ranging from the physician office to school-based clinics and public providers to emergency departments. Plans were unable to access information regarding many services due to perceived confidentiality prohibitions and payment methods that discouraged

encounter claim submission (e.g. capitated physician payments). One plan reported not being able to attend MOHSAIC training due to DHSS cancellations and availability of classes. Another plan reported the inability to use MOHSAIC to capture immunization data for children immunized at health fairs and local health department clinics. Yet another plan reported that local health department clinics had difficulty accessing MOHSAIC, as it was "frequently down for maintenance." Moreover, not all providers access MOHSAIC to update the state registry when immunizations are given.

All plans continued their efforts to increase member education in 2000. **Missouri Care** educated their provider network regarding blending preventive service delivery with sick-childcare to avoid missing opportunities to immunize children. As previously mentioned, there is some resistance to this concept due to time pressures in the doctor's office. **Care Partners** emphasized true contraindications for immunizations in provider and member education. **Community Care Plus** reports that immunization data is collected and reported to the state using HEDIS criteria. **Community Care Plus** reported that some members have been immunized, but due to strict HEDIS criteria relevant to timeframes, immunizations cannot be included in those rates.

Education and collaboration are the focus of improvement activities for increasing immunization rates for 2001. Health plans report education will be ongoing for providers and members. Plans will continue collaboration and participation in community task forces and coalitions working to better Missouri's overall immunization rates. **Family Health Partners** will collaborate with public schools to contract for access to school clinics and development of a relationship for data sharing. **FirstGuard** will collaborate with the DHSS/MOHSAIC to develop a quality improvement activity to identify process issues to eliminate discrepancies and improve the reliability of administrative data for childhood immunizations. **Blue Advantage Plus** has received an unrestricted grant to support information collection for their immunization project. Funds will be utilized to develop an electronic exchange of immunization information between **Blue Advantage Plus** and MOHSAIC that allows access to immunization data that is currently unavailable. By increasing the pool of known immunizations **Blue Advantage Plus** can focus on members who have not been immunized.

Care Partners invited DHSS office managers to physician office manager meetings to receive updates and share information. **Blue Advantage Plus** joined the Missouri Public Health Association to gain a better understanding of public health departments. **HealthCare USA** is actively pursuing contracts with St. Louis City and St. Charles County Health Departments and the State Laboratory. **Mercy** continued to work with DMS to obtain blood lead level testing reports from the St. Louis City Department of Health and began receiving reports in November 2000. Additionally, plans continue to be concerned about member compliance with preventive care. As with blood lead level testing and EPSDT examinations, members/parents share responsibility in assuring that appointments are made and kept.

DMS requested DHSS and health plans establish necessary linkages to MOHSAIC by June 2001, however, barriers have been identified that affect plan access and ability to use information within the system. Some plans have access to immunization records in MOHSAIC through an Internet connection. DHSS has been working for two years to get immunization data in a standard file format in MOHSAIC yet each health plan transmits files in a different format. DMS reports limited resources to create the standard file and to deal with rejected records for processing due to edits in the MOHSAIC system, this limits DHSS's ability to collect standard data. DMS speculates these

barriers may be improved with HIPAA (Health Insurance Portability and Accountability Act) implementation. Procedural coding is another barrier according to DMS. Private providers may not code all vaccines given during a visit. Some fee-for-service providers don't bill for Medicaid eligible services, therefore the data is missing or incomplete. DHSS is currently exploring, with a data clearinghouse, the potential of abstracting reportable immunizations, diseases, EPSDT services, blood lead level testing, and other conditions from the billing files.

A best practice program regarding increasing immunizations rates was presented to the Medical Directors group and QA&I Advisory Group. DMS developed a card to offer to plans for documentation of immunizations that could be used in the medical record and as a record for the member/family.

Asthma

1999 Health Plan Recommendation

Asthma disease education should be improved throughout the state. HealthCare USA (E) and Care Partners (C) may have strategies to share with other plans regarding asthma disease education. Plans should monitor records to ensure education regarding asthma treatment plans is documented in the record.

Plans should monitor records to ensure education regarding asthma treatment plans is documented in the record. All health plans should sample medical records of members with a diagnosis of asthma and determine if education is documented.

In 1998, MPCRF recommended that health plans adopt the National Institute of Health Asthma Treatment Guidelines. Since that time, all MC+ health plans have adopted the guidelines or implemented their own asthma treatment/disease management programs.

Few plans reported conducting a focused medical record review to measure asthma related documentation. **HealthNet** reported monitoring PCP office records with regard to asthma treatment and documentation and monitored the use of appropriate medications for members with asthma. **HealthNet** also identified children with persistent asthma. Case managers contacted PCPs to promote asthma action plans and the supporting asthma educational program. Each PCP was provided a copy of a patient approved asthma action plan. Copies of patient approved asthma action plans are also retained at **HealthNet** for case managers to reference for future contacts. **Blue Advantage Plus** also conducted an assessment of PCP asthma guideline use and focused on members with at least one emergency department visit or inpatient admission. Three indicators were assessed including medication use consistent with symptoms, diagnosis of persistent asthma and the presence of a written action plan in the record and consultation letter from a specialist present in the record when a referral was documented.

Other actions taken to improve asthma disease education documentation in 2000 included provider and member education. **Blue Advantage Plus** used a system that provided individualized education based on national guidelines. **Care Partners** sent postcards to PCPs to notify them of members enrolled in asthma case management. **Family Health Partners** collaborated with Children's Mercy Hospital to write a grant proposal for the development of an asthma disease management program. **HealthNet** contracted with AirLogic for telephonic member and provider education. **Missouri Care** recommended a space be added to the revised EPSDT forms for documentation of education. The EPSDT Task Force accepted the recommendation. The new EPSDT forms were slated for beta testing in mid-2001.

Missed Appointments

1999 Health Plan Recommendation

Missed appointment rates should be improved in selected plans. Health plans with high missed appointment rates should consider adopting strategies used by other plans throughout the state.

All MC+ health plans have systems in place to follow up with members who miss appointments. All the systems are retrospective with interventions occurring after appointments have been missed and most rely on the PCP offices to report repeated instances of missed appointments. To determine a rate of missed appointments, plans generally must conduct a medical record review. With so many other priorities needing evaluative resources, this type of review is frequently combined with other chart review activities.

Typically, when an MC+ plan learns of members who have missed two or more visits (or one missed appointment for a high-risk patient), attempts are made to contact the member to learn what issues or barriers exist that prevent them from keeping appointments. Most plans help members reschedule visits if a successful contact is made, offer transportation, if eligible, and reeducate the member regarding the importance of continuity of care and the need to contact the PCP office if an appointment cannot be kept.

A significant and perhaps the primary barrier for health plans in addressing missed visits is the issue of erroneous/outdated telephone numbers and addresses received from the state. If phone calls prove unsuccessful, plans sent letters and postcards. If a plan is not able to reach a member, their role as educator is completely curtailed until the member makes contact. Plans report MC+ members face a multitude of barriers to keeping appointments including, lack of child care for siblings, lack of transportation and/or the knowledge that transportation benefits exist, difficulties with transportation services, a lack of commitment and/or knowledge regarding self-care and wellness, domestic abuse and violence, etc. Health plans recognize that social barriers significantly affect how some members manage their health care needs.

Health plans appear to be doing all they can with limited financial and human resources to solve the social problems their members face in accessing health care. In addition to assisting in rescheduling appointments and arranging for transportation, most plans make numerous referrals to community agencies, authorize home visits (RN and social worker), and provide focused education to help clear the way to health care for their members. On the administrative side, plans continuously work with physicians and other providers to remind them to report members with multiple missed visits.

Prenatal Care Missed Appointments

1999 Health Plan Recommendation

A few women appear to have repeated missed prenatal appointments. Health plans should investigate reasons for these multiple missed prenatal visits and identify barriers that prevent these women from showing up for appointments (e.g., transportation problems).

The issues surrounding missed prenatal care visits are similar to those faced by the rest of the MC+ population, with some additional confounding variables. Many pregnant members are young and inexperienced in the health care delivery system. They may deny pregnancy, may not wish to reveal substance abuse to caregivers and may face heightened risks of domestic violence, which is often exacerbated with a pregnancy.

Recognizing the importance of early prenatal care to a positive pregnancy outcome, some plans expend even greater efforts to address the issue of multiple missed visits for pregnant women. Some plans case manage all pregnant women while others have opted to case manage only those with high risk. Most plans report OB/GYNs or PCPs report pregnant women with multiple missed visits to the plans. If not already in case management, these women are entered into case management and plans generally try to initiate contact with the member. Again, as contact via phone and mail fails due to faulty member demographic data, some plans authorize home visits to reach members.

Early Identification of Pregnant MC+ Members

1999 Health Plan & DMS Recommendation

Plans should continue with their efforts to identify pregnant women and educate them about the importance of early prenatal care. It appears many women are receiving prenatal care in the first trimester. Review results of a DHSS pilot study of an expedited enrollment process.

MC+ health plans identify pregnant members through a variety of means and several implemented new methods to identify pregnant women in 2000. Most plans use the state health assessment collected by First Health, the state's enrollment broker, as a mechanism to identify pregnant women. The health assessment is completed by the member at the time of enrollment and is voluntary. First Health electronically transmits the completed assessments to the health plans along with new enrollee information. Plans also rely on physician referrals and requests for prior authorization of obstetrical services to learn of pregnant members. All plans make new member welcome calls and use them as an opportunity to identify pregnant members. **Care Partners** METRO Outreach Program conducts a full family health assessment when contacting new members for EPSDT outreach. **FirstGuard** generates pharmaceutical reports to identify members receiving prenatal vitamins. **HealthNet** profiles claims by CPT, ICD-9-CM and laboratory codes to identify members using pregnancy related services. **Mercy** also reviews claims and encounter data for diagnostic and procedural codes associated with pregnancy and created an emergency department utilization report to find pregnant members who have visited an emergency department. **Missouri Care** reported working with the MC+ QA&I Maternal Child Health Group to facilitate the exchange of information from DHSS to plans indicating MC+ members receiving WIC (Women, Infants and Children) services. Some plans reported receiving WIC information in early 2001.

Early identification of pregnant members is clearly a challenge for MC+ health plans. There are many barriers MC+ health plans continuously work against to improve birth outcomes. Plans report some women do not seek health care until Medicaid benefits are in place causing delays to first appointment time and educational opportunities. Some women deny pregnancy until the pregnancy becomes outwardly noticeable and others lack knowledge regarding the importance and benefits of early prenatal care. Once again, erroneous telephone numbers and addresses interfere with plans' ability to make and keep contact with pregnant members. Late requests for preauthorization of pregnancy related services from physicians also delays identification of expectant members. Some physicians do not use the global OB billing form and some claims are bundled in such a manner that identification of individual ICD-9-CM and CPT codes related to pregnancy is difficult.

Many of the barriers described above reflect the need for ongoing education of MC+ members and health care providers. Education is the most effective device available to health plans to bring about change in health care practices, yet change comes slowly. Any educational endeavor conveys a unique set of challenges in reaching MC+ members and providers. The MC+ population tends to be transient, one barrier among many to effective teaching. Medical practices are busier than ever with physicians trying to meet the demands of their customers and contractors. Education is expensive, time and resource intensive and requires repetition. Health plans continuously search for new and better ways to reach members and providers with important information while continuing established methods of outreach. For 2001, **FirstGuard** will do a quarterly mailing to the households of females of childbearing age to encourage their identification of pregnancy and

initiation of prenatal care. **Mercy** will implement their early detection report to identify pregnant women.

DMS highlighted the implementation of a change in the Division of Family Services' enrollment process. Pregnant women are now enrolled with a health plan and PCP at the time of eligibility determination. Data has been collected by DHSS regarding birth weight and has been has been in effect since the beginning of the managed care program. The results have indicated that birth weight has increased. DMS concludes that DFS feels the training and education provided to the state local health departments resulted in improved access to prenatal care.

Smoking in Pregnancy

1999 Health Plan & DMS Recommendation

DMS, DHSS, and the health plans collaborate in developing strategies to decrease the rate of smoking in pregnant women, such as increased patient education or by offering smoking cessation programs.

Most plans report participation in the DHSS Interagency Workgroup on Substance Abuse in Pregnancy (IAWSAP) as their means of joining forces to tackle the issue of smoking during pregnancy. In this forum, MC+ health plans work in partnership with community and state agencies to recommend, by August 2001, strategies to improve identification, coordination and quality of services to reduce substance use during pregnancy by women in MC+, that DMH, DMS, DHSS and MC+ health plans will implement and establish as a policy. The goals of the IAWSAP include every health plan having a system in place for 1) screening for substance use in pregnancy, 2) treatment referral, 3) data collection, 4) outcome measurement and reporting, 5) quality improvement, and 6) integration and coordination of services with other agencies. The four Western region MC+ health plans, **Blue Advantage Plus, FirstGuard, HealthNet and Family Health Partners** worked together and developed a list of questions that all plans can utilize in their prenatal risk assessment.

Some plans teamed up with community agencies to reduce smoking in pregnancy. **Blue Advantage Plus** sponsored a lunch for a seminar entitled Perinatal Substance Abuse Training hosted by the Kansas City Healthy Start Program and Child Health Coalition of Greater Kansas City. Approximately 150 persons attended the seminar representing the health care and legal communities as well as social workers and state DFS staff. **Blue Advantage Plus** also worked with county health departments and the American Lung Association through their Healthy Start Program. **Family Health Partners** collaborated with Samuel Rogers Health Center and the Kansas City Community Health Coalition for the SIDS Task Force in the development of a community fundraiser for SIDS awareness. **Family Health Partners** case management staff participates in the Metro Maternal and Child Health Care Coalition.

While not all MC+ health plans collaborated with external entities to develop strategies to decrease smoking in pregnancy, all plans assess pregnant members for smoking. Once a member is known to be pregnant, most plans conduct health assessments beyond that completed at enrollment and provide members with information related to wellness in pregnancy. The information discusses the hazards and effects of smoking and encourages women to stop. Several plans report using informational materials provided by the DHSS. Some plans offer smoking cessation classes to members that indicate they smoke. Generally, if a member is enrolled in case management for pregnancy or high-risk pregnancy, most plans have case managers follow-up with members to see if they have cut down or stopped smoking and repeatedly encourage members to stop smoking.

Obstacles health plans encounter in relation to smoking in pregnancy include the philosophy that smoking is a personal choice. Plans report some members feeling offended by recommendations or literature that suggests they quit smoking. **Mercy** reports that apparently some women continue to smoke because they do not think smoking side effects will impact their life or the life of their unborn child. Plans report that smoking cessation does not seem to be a priority with some members and that offering cessation classes has proven ineffective. Locations and times of cessation classes was also a barrier as classes were not always convenient for members. **Missouri**

Care reports that many pregnant women seem to be interested in the pharmacological methods of smoking cessation (e.g., Nicotine patch and Nicotine gum), but lack an understanding of the need for behavior modification in conjunction with pharmacological treatments. Neither plans nor DMS in fee-for service, provide these drug therapies to the Medicaid population.

DMS highlighted a number of activities and collaborations to reduce smoking and other substance use in pregnancy:

- DMS, DHSS and health plans have collaborated through the Interagency Workgroup on Substance Abuse in Pregnancy Workgroup. Legislatively mandated, the committee was created to advise DHSS on strategies to reduce prenatal substance abuse including alcohol, tobacco and other drugs. Health plan representatives attend the quarterly meetings.

- DMS and health plan representatives will participated with the Bureau of Family Health (BFH), in collaboration with Developmental Systems Inc., in providing free pregnancy-specific smoking cessation classes for health care providers. Participants will learn the stages of change model, the 5A's System, and be provided pregnancy specific smoking cessation materials that can significantly increase the rates of smoking cessation among pregnant smokers. The goal of the training is to assist health care providers to integrate the Agency for Healthcare Research and Quality (AHRQ) guideline, Treating Tobacco Use and Dependence.

- The clinical practice guideline provides evidence-based, best practice recommendations. The recommendations seek to demonstrate that a simple 5-10 minute counseling intervention by a trained provider, paired with pregnancy-specific, self-help documents, may increase rates of cessation among pregnant smokers by 30 to 70 percent. The American College of Obstetricians and Gynecologists (ACOG), the Association of Maternal and Child Health Programs, and the Centers for Disease Control and Prevention (CDC), support using the guideline as a standard of care for providers that treat pregnant smokers.

- DMS and the health plans also participated in an interagency task force to promote health services for women released from the state prison system. The specific goals of the workgroup include: 1) processing of Medicaid status prior to release from prison, 2) identification of post-release health care provider, 3) initial appointment scheduling prior to release date, and 4) establishment of women's health education programs that would be completed prior to release from prison.

- Health Plans, DMS, and DHSS are collaborating to provide a statewide perinatal substance abuse conference featuring a speaker from the National training Institute, Dr. Ira Chasnoff.

- DMS also indicated that health plan representatives will attend an education program sponsored by DHSS, the March of Dimes and University of MO Extension Office titled "An Ounce of Prevention: Addressing Birth Defects Related to Folic Acid, Alcohol and Tobacco" which includes a training manual that participants can use to conduct individual or group training with clients.

- DHSS is conducting a research study with The University of Missouri at St. Louis. This study seeks to ascertain the knowledge, attitude, and behavior of physicians, nurse practitioners and

nurse midwives regarding perinatal substance use. Health plan network physicians are included in the study and the reporting.

DMS and the health plans are working individually and collaboratively to reduce smoking in pregnancy in the MC+ population. These efforts should be commended and continued.

Emergency Department (ED) Utilization

1999 Health Plan Recommendation

Emergency department rates are very high throughout the state and need to be improved. A study should be conducted to determine the reasons (e.g., patient-based, provider-based, program-based) for these overall high rates. HealthNet had the lowest rate of individual members visiting the ED and should be consulted by other plans for possible strategies.

All MC+ health plans worked in 2000 to reduce inappropriate ED utilization. All of the plans provide nurse triage call lines to assist members in determining the best treatment setting for health care problems. Additionally, all the plans have systems in place to identify members who frequently use the ED through claims analysis. Members who appear to over-utilize the ED are contacted and education is provided on the appropriate use of the ED, self-care and available treatment alternatives. Member health care needs are assessed by most plans to determine if needs are unmet or what barriers exist causing members to seek a potentially incorrect level of care. **Care Partners** implemented an Emergency Department Initiative in 2000 to address a high volume of ED visit rates using a three-prong approach. First, education is provided before care is needed through member newsletters. Second, at the point of access to care, Care Partners' nurse triage line is available to members to call after hours and on weekends for guidance on level of care. Lastly, profiles of members who use the ED were reviewed every two weeks. Members who frequently use the ED receive additional education in the form of a call, letter or home visit. **Community Care Plus** implemented a new policy to assist in identifying and educating members that utilize the ED three or more times in a quarter. Educational letters and the ED Utilization Guidelines brochure are sent to members with frequent ED usage. The member's PCP is also notified. Case management is also implemented for members who frequently use the ED. **FirstGuard** and **Blue Advantage Plus** worked to expand their urgent care center networks.

MC+ health plans report many barriers to reducing the rates of ED utilization. Member noncompliance with prescribed treatment, including, making and keeping appointments, filling prescriptions and taking medications, electing not to participate in disease management programs and waiting to seek care all contribute to a high overall ED visit rate. Many parents work during the day and cannot leave work to take children to the PCP's office. Lack of urgent care networks and limited knowledge regarding the urgent care setting also increase ED visit rates. Several health plans report that prudent layperson laws also seem to contribute to high ED use rates and limits their ability to control ED usage. Again bad addresses and phone numbers prevent plans from reaching some members for education.

Complaints & Grievances

1999 Health Plan & DMS Recommendation

Health plans should investigate the extent of these problems and consider a collaborative effort to identify opportunities for improvement and subcontractor interventions. DMS should provide assistance to the plans regarding the classification of inquiries, complaints, and grievances to ensure consistent transportation.

Transportation complaints nearly doubled from 1998 to 1999, covering issues such as rides arriving too early or too late, or not at all, lack of child seats, etc., creating one of the primary sources of member dissatisfaction. All MC+ health plans report monitoring complaints and grievances related to transportation and working with subcontractors to resolve member issues. Several health plans developed electronic databases to enable them to better track and trend transportation complaints.

DMS reports education regarding time frames and resolution of complaints, grievances and appeals has been provided to the health plans via telephone calls, FAX and on-site visits. DMS developed a database to track complaints, grievances and appeals reported by the plans. DMS reports reviewing the complaints, grievances and appeals reports submitted by plans on a quarterly basis for compliance requirements.

The DMS coding system for complaints, grievances and appeals has been improved by the addition of new codes according to DMS at the time of this report. The codes will assist in the identification of trends related to complaints, grievances and appeals.

All the health plans report to have systems and processes in place to address and resolve transportation issues. Due to the significant increase in complaints over the years, transportation complaints should be monitored by the health plan rigorously. DMS improved the coding system for identifying complaints, grievance and appeals and this improvement should bring greater consistency in reporting across plans.

Consumer & Provider Satisfaction

1999 Health Plan & DMS Recommendation

DMS and the plans should consider jointly conducting a provider satisfaction survey using a common tool so that results may be examined between plans and statewide. One method to consider is to use the External Quality Review contractor to coordinate the implementation of a survey with all health plans. Consider developing a consumer satisfaction survey that targets a sub-set of the MC+ population.

FirstGuard, **Family Health Partners**, **Missouri Care, Mercy** and **Blue Advantage Plus** reported conducting provider satisfaction surveys independently in 2000. All health plans anecdotally gauge provider satisfaction during provider representative visits. No collaborative provider satisfaction effort between DMS/health plans was undertaken in CY 2000.

A number of system and process changes were made by health plans in 2000 in response to provider feedback. **Blue Advantage Plus** implemented an administrative reimbursement fee in return for completed EPSDT exams and blood lead level screens. A Practice Managers Advisory Committee was established to assist **Blue Advantage Plus** with policy development and implementation and released a new Physician's Office Guide**. Care Partners** implemented improvement plans for each region and **Family Health Partners** made improvements in their provider visit/follow up phone process. **FirstGuard** eliminated preauthorization requirements for 40% of procedures and initiated a web site for provider access to member eligibility. **Missouri Care** made changes to their prior authorization process, and clarified some issues in their provider manual. It appears that plans made provider feedback a priority in 2000 and responded to concerns in a timely manner. All MC+ health plans report plans to repeat or conduct provider satisfaction surveys in 2001.

DMS stated no action has been taken regarding a provider satisfaction survey for 2000, but notes that during 1999, DHSS completed a dentist satisfaction survey. Aspects and barriers identified by that study were evaluated and some of the recommendations from that study are currently being implemented. A survey for foster children in the Western region was also conducted.

Encounter Claims

1999 Health Plan and DMS Recommendation

Investigations into reasons for claim rejection should continue and the results be made available to the plans. Profiling the number and types of suspended claims on a monthly basis would provide valuable feedback to plans that could result in error reduction. Identify the top two reasons for rejection of claims and develop a quality improvement process for reducing the errors.

In the 2000 health plan self-assessment questionnaire, plans were asked if they received feedback from DMS regarding rejected claims and what activities have been taken to address claim submission errors. Six of nine plans reported receiving information about suspended claims in 2000. **Blue Advantage Plus** and **Missouri Care** reported receiving information regarding "front and back-end" errors from the state. Front-end claims errors are claims transmitted to the State that cannot be accepted because they contain errors. Back-end errors are claims accepted by the state but contain errors and processing is suspended. **Blue Advantage Plus** notes a summary report is received weekly about these errors. Using the feedback system, enhancements needed to reduce errors were outlined.

Health plans performed a number of activities in 2000 to enhance encounter claims submission and acceptance, including taking on additional staff. **Care Partners** reviewed processes critical to the claim submission process and made corrections where necessary. **Family Health Partners** initiated simpler billing requirements more consistent with regular CPT4/HCPCS coding. **HealthCare USA** moved their entire claims submission process to a "paper-free" system. **Mercy** implemented a task force to work encounter claim rejects. A number of systemic issues were identified and corrected. **Blue Advantage Plus** developed mini-training courses for focusing on claims processing errors. **HealthNet** improved pricing and auto adjudication through acceptance of all modifiers. **FirstGuard** reported maintaining a 94.4% claim acceptance rate and may have best practices to share with other health plans regarding successful claims submission. Most plans report having systems in place to monitor rejected claims and are working to improve or enhance those systems.

Claims profiling is not routinely performed. However, information systems and claims processing are reviewed with the plans during annual reviews. DMS indicated HIPAA compliance requires continuity of claims processing; thus, this issue is a top priority for the state MMIS staff.

Administration

1999 DMS Recommendation

DMS should explore strategies to increase the sharing of information between state and local agencies/systems and health plans to provide better coordination and continuity of care for MC+ members, such as lead testing at WIC clinics, etc.

DMS, DHSS and DFS are collaborating to obtain special needs, ME code 80, high-risk pregnancies, lead, and WIC data to provide to the health plans for case management purposes. There have been numerous attempts to share mental health data. Although confidentiality barriers prevent the sharing of this data, DMS reports ongoing commitment to explore new strategies to meet this goal.

DMS reports a new process, implemented in 2000 within DFS enabling plans to determine eligibility, reflects a collaborative effort between DMS, DFS and the health plans to share information to better serve MC+ members and. When member eligibility is ending in one assistance category, an ex parte review is conducted to determine if the member is eligible in another category. Members are given an opportunity to submit other information that may make them eligible for continued benefits in a new assistance category. Eligibility is not be closed until other options have been explored. If the member is not determined to be eligible during the pre-closing review, a letter is sent to the member stating eligibility is no longer available on the basis in which it is currently being received. Certain criteria may change whether eligibility can be continued. Members are allowed ten days to return information before action is taken to close eligibility. DFS sends a listing of members who fall into this category to DMS on a monthly basis. The information is sorted by and sent to health plans for case management and eligibility determinations. The goal of this is to improve maternal and child health outcomes. DMS should be applauded for these efforts and continue to increase the sharing of information between state and local agencies/systems and health plans to provide better coordination and continuity of care for MC+ members.

1999 DMS Recommendation

DMS should have health plans monitor the receipt of the health surveys from First Health. DMS also should track statistics regarding the number and type of risk factors identified on surveys periodically. It is recommended that DMS collaborate with First Health regarding the addition of a date to the health survey so that data transmission may be monitored to ensure that all surveys are sent to health plans in a timely manner.

DMS has responded to this and health assessments are sent electronically to the health plans on a daily basis by First Health. Once assessments are sent to plans, the First Health system discards them. The health assessment was recently revised and the new form implemented in early 2001. DMS has not formally required health plans to monitor the receipt of health assessments, however, inquiries have been made during annual on-site reviews regarding the frequency of their receipt and content. As completion of the assessment by members is voluntary, monitoring health plan receipt and aggregating the contents of assessments has not been a primary focus. Further, with considerable efforts currently directed toward HIPAA compliance, DMS reports being unable to initiate additional system tasks at this time.

1999 DMS Recommendation

DMS should conduct a periodic review of the provider file and verify the integrity of the file.

DMS stated they are aware of problems with the provider file and have communicated information to the health plans for improvements.

Access to Care

1999 DMS Recommendation

Access to dental services continues to challenge the Medicaid program. DMS and health plans should continue efforts to request budget increases and simplify the billing process for dentists willing to serve this population. DMS should explore how other states address similar dental health care issues and examine best practices within other states and nationally.

DMS reports dental issues are being discussed at the QA&I Advisory Dental Subgroup. Subgroup members have participated in federal forums to discuss issues and obtain information from other states on best practices.

1999 DMS Recommendation

Based upon the findings of the CSHCN pilot study, a more comprehensive study of this population was recommended. Suggested issues to be reviewed are children with multiple diagnoses, comorbid conditions, care coordination, and prescription drug use.

DMS indicated a study of children with special needs is presently being considered. Currently, DMS provides a list of children to the health plans on a monthly basis that includes special needs population indicators. Health plans assess the children and provide case management for those who indicate a need and in turn provide information to DMS regarding case management activities. The information is collected in an electronic database at DMS.

1999 DMS Recommendation

When the QA&I committee and subgroups adopt various indicators and benchmarks, DMS should clearly explain to the health plans if the new benchmarks replace or add to those presented in the EQR report.

No action has been taken regarding the communication of adopted health care indicators to health plans; however, DMS indicated plans to evaluate this recommendation for future implementation.

1999 DMS Recommendation

Investigate the feasibility of requiring all computer systems (i.e., First Health, DFS, and health plan systems) to include additional mailing address field and phone fields by June 2001. Allow First Health and the health plans to update and transmit phone numbers and to protect those fields from DFS override. DMS should consider allowing First Health to permit health plans to conference in a phone call from a member with an address change.

First Health's enrollment files currently contain four telephone number fields, three of which may be updated, and two address fields, one of which may be updated. With the fiscal burden of changing the computer system of an entire state division (DFS), as well as the burden of meeting and implementing the HIPAA requirements. Further, DMS reports discussions with providers have indicated that many members have multiple address changes.

DMS reports that First Health and the plans have the capability to perform this task on an individual basis and that many of the plans have implemented systems to eliminate the system override.

DMS was also asked to comment on the feasibility of allowing First Health to do a daily electronic transfer of address data, rather than faxing updates to DFS daily, as is the current practice. DMS indicated the fiscal burden of an additional electronic feed would necessitate a contract amendment with First Health.

MC+ members are instructed, via the member handbook, to call First Health, DFS and their health plan if their address changes. DMS reported all of these entities have toll-free telephone numbers. Thus, the current system should not pose a burden on the member. First Health can record an address change. However, if the DFS does not process the same change before the automated system updates occur between the DFS and the DMS computer systems, First Health's new address will be automatically overlaid with the old information from the DFS. Resources to implement these recommendations are not feasible at this time, due to HIPAA compliance activities.

On-site Administrative Visits with Health Plans

Health plans were visited in May 2001 to clarify any outstanding issues with self-assessments and to solicit feedback about the EQR process. Additional questions were posed during the visits to facilitate discussion and gain the perspective of health plans with regard to quality improvement issues and recommendations for future EQR evaluations of MC+. This section presents findings and recommendations across all health plan visits. The questions asked are listed with bullet point responses.

What QI structures does your health plan envision as vital to QI in the future?

Administration

- Require DHSS health departments and lab services to bill health plans for blood lead level testing services.
- Revamp MOHSAIC. Require it to be in all health departments. The information that is available is often unreliable, incomplete, not entered timely or not easily accessible data. The health plans must hand match information.
- Bad addresses and phone numbers continue to hamper quality improvement efforts. DFS should conduct a semi-annual verification of member addresses and phone.
- Allow for health plans to provide address and phone updates to the state.
- DMS should resolve the provider identification process.
- The state lab should develop a process to report back all blood lead level test results conducted to the health plans.
- In-house data warehousing and analyst expertise is considered crucial for one health plan.
- Quality improvement efforts and a comprehensive provider relations program are key to a successful Initiative; all efforts should focus on reducing costs, increasing services, and increasing provider relationships. Increased payment to providers will not fix the EPSDT problem.
- Quality improvement efforts for pharmacy control are hampered by the carve-out of pharmacy services for foster care members. The plans have no control over escalating drug costs/use for this category of members.
- Multi-plan QI collaborations need a leader.

Quality Improvement Process

- Quality improvement efforts would be greatly enhanced with more focus and collaboration between schools, WIC sites, the Stellar system, MOHSAIC, the State Lab, Health Departments

and the health plans. Efforts need to be targeted to overcome the perceived bureaucratic gridlock. For the lead issue, one health plan recommends an ongoing multidisciplinary task force meeting to address blood lead level testing and its relationship to the whole scope of state services.

- QI efforts directed by DMS need to refrain from the "shotgun" approach. They need to be more thought out and longer term. Identifying and conducting root cause analysis prior to identifying the initiatives to be implemented and measured. More stability is needed in DMS quality improvement areas in order to examine indicators over several years.

- Quality improvement efforts need to be individualized in some cases. Rural practices have special challenges; some PCPs must refer patients to the emergency department because sometimes that is where the only available specialist is.

- Quality improvement efforts based on claims is hindered due to capitation payment. There is no incentive to submit claims and it often pays more than fee-for-service visits so PCPs are reluctant to go back to fee-for-service.

What feedback/comments do you have about benchmarks?

- Concern was expressed about the benchmarking of services based on claims and the comparison with the fee-for-service claims. It was reported that DMS adds modifier codes to the fee-for-service claims yet does not add them to the managed care claims. *DMS reports adding modifiers for payment purposed for fee-for-service claims, however, this does not affect CMS 416 reporting.*

- Concern was expressed about not accepting encounter claims that have been denied payment in the encounter claims file. Some health plans view this as DMS selectively getting involved in the financial relationships between the providers and the plans. They feel this action is inconsistent with DMS's previous position of not "interfering" in the plan's relationship with their providers. Claims are often denied due to filing problems (e.g., filing outside of timeframe), but the claims still represent a service to MC+ members.

- One plan considers the only benchmarks that are important are those described in their contract. Other plans recommend disregarding the benchmarks, considering it redundant with HEDIS measures. EQR benchmarks appear to be chasing little projects and issues with little value. The health plans focus on the 416 Report, as it is the basis for the sanctions. For example, DNKAs were not considered a useful benchmark by many plans. Many plans monitor DNKAs as part of a PCP audit tool, but not in record review.

- Many plans expressed a desire to actively participate in the DMS provider educational sessions. Plans reported they are waiting for the state to do provider training for the EPSDT form and want to collaborate with the training.

- A recommendation was made that it would be useful to include clear disclaimers on the reported data [EQR Report] and an explanation of the source data and methodology in the report.

- A recommendation was made to forgo use of small numbers from medical chart reviews. Focused record reviews of statewide issues, represented in multiyear analyses, was recommended.

- Some plans reported the focus on blood lead level testing was not in proportion to the disease.

What focused study topics do you believe should/could be considered for future EQR evaluations? (The number in parenthesis is the number of health plans that suggested the topic).

Children with special health care needs [with a more clearly defined definition] (5x)
Asthma (4x)
Domestic violence and abuse (2x)
Patient responsibility and the appropriate use of medical care (2x)
Preterm babies (e.g., danger signs) (2x)
Prenatal care (2x)
Dental care (1x)
Diabetes (1x)
Children in foster care (1x)
Balanced Budget Amendment requirements (1x)
Disease management process (1x)
EPSDT (1x)
Assisted living for mental health (1x)

What feedback/comments do you have for the EQR process?

- Recommendation to the EQR was made to revise language when a finding is "zero" to report it as "not reportable" instead of zero and express the values in a rate per 1000 whenever possible.

- Health plans reported they liked the ability to compare themselves with other health plans and liked the "success stories" or best practices.

- The MPCRF self-assessment questionnaire worked well.

- There are too many audits.

- There is little continuity on the benchmarks between the plans, DMS and the EQR.

- EQR was not timely in the response, plans receive the report too late in the year.

- The timing of the EQR was very difficult for health plan staff and confusing for physicians. The EQR timing is bad due to concurrent HEDIS and DMS reviews.

- One health plan would like the EQR to incorporate the 416 findings into the report.

- Health plans would like multi-year focused studies and population based data/comparisons.

- Consolidate the efforts of the reviews and better coordinate the timing of the reviews.
- Work more in concert with the HEDIS information and DOI; don't duplicate efforts.
- Increased focus and review on provider claims. Come up with ideas generated from the manipulation of pooled data.
- Conduct provider claims profiling among providers who are with multiple plans.
- Changing quality indicators takes time and the current EQR process is episodic. Focus more on consistent long-term measures. It may not be necessary to repeat study of every indicator every year. This recommendation was repeated by several plans.
- Conduct a thorough baseline assessment of indicators.
- Ask DMS to present a flow chart of the claims through the system and conduct a root cause analysis for claim rejection.
- Conduct MC+ population studies rather than plan-by-plan comparisons.
- Support community/health plan initiatives that develop one clinical guideline.
- Only look at DNKAs for the heavy end users.

Innovative Ideas

One goal of the EQR is to highlight innovative process improvements that translate into best practices in Missouri.

HealthCare USA

HealthCare USA reviewed claims for members who received asthma "rescue" drugs for eight and one half months during the prior year. Members meeting the criteria will be contacted, as well as the member's PCP, to request the PCP review the member's treatment plan. The member's case will be reviewed and referred to a specialist if necessary. Results of the pilot study are expected to be available in 2002.

Blue Advantage Plus

Blue Advantage Plus laid the groundwork for a school-based clinic at St. Vincent's Day Care Center. St. Vincent's serves over 500 children and will provide EPSDT and lead screening services as well as submit encounter claims data for Blue Advantage Plus members. Blue Advantage Plus also received an unrestricted grant to support information collection for their immunization information between Blue Advantage Plus and MOHSAIC that allows access to immunization data that is currently available. By increasing the pool of known immunizations, Blue Advantage Plus can focus on members who have not been immunized.

Missouri Care

Missouri Care plans to use a hybrid method to reassess the efficacy of quality improvement efforts and EPSDT rates. The results of their 2000 HEDIS review along with rates calculated for the CMS 416 review and their own internal data will be combined for comparative purposes on a quarterly basis. Missouri Care also educated their provider network regarding blending preventive service delivery with sick childcare to avoid missing opportunities to immunize children.

Mercy

Mercy initiated a quality improvement project to effect the gestational age of babies born to their members. The study design measured women with a pregnancy risk acuity level of 3 or more based on a risk screening and face-to-face assessments. These women were then eligible for prenatal home health workers to conduct home visits and postnatal follow-up. Member and home health workers determined the number and duration of the home visit. Approximately 33% of pregnant members were determined to be a Level 3 or higher, with 50% of them requiring psych-social support services including mother mentoring. The follow-up can continue for 18-24 months.

Findings: While the weight and APGAR scores have not changed significantly, changes have occurred in a longer gestational age of these babies. Cost savings has occurred due to increased lung development and decreased DRG payments that are based on gestational age.

Summary and Recommendations

It is clear that DMS and the MC+ health plans worked hard in 2000 to improve service delivery, quality of care, member and provider education, partnership development, communications and information sharing. During the on site visits much information was gathered about the plans' quality improvement activities and success stories, some that have been highlighted in this report. The health plans discussed their vision for quality measures in the future, feedback on the benchmarks, focus studies and the overall EQR process. DMS and future reports would benefit much from this feedback.

Successful quality improvement happens when the leadership is committed, goals are identified, communication clear, and resources available. In reality, we often don't get all of these in every project. Limited resources dictate narrowing the quality improvement focus for M+C health plans and DMS. Multi plan collaborative quality improvement projects focusing on prioritized discreet projects can best utilize both DMS and health plan human and financial resources.

2000 Health Plan and DMS Recommendation

DMS should provide regular information to health plans regarding the number and type of suspended/rejected claims. Health plans should continue activities to improve claims submission and acceptance rates. Encounter claims frequently have missing or incorrect data. Provider education regarding the importance of encounter claims submission should also be continued. The plans and DMS could consider collaborating on encounter claims training and education for providers to improve the integrity of the encounter claims data.

2000 DMS Recommendation

DMS should continue to survey health plans to determine if health assessment data is useful, such as the number and type of risk factors identified, and timeliness of receipt of the assessments. The timeliness of receipt of assessments affects health plan resource management.

2000 DMS Recommendation

Physicians and other providers do not have unique identifiers. Until HIPAA regulations are employed in this area, DMS should consider conducting periodic reviews of the provider file to verify the integrity of the information and implement improvement processes as necessary. Accurate physician information is critical for quality improvement and member tracking.

2000 DMS Recommendation

DMS should continue to explore best practices demonstrated by other states, such as dental reimbursement practices. DMS should consider addressing the issue of the shortage of dentists and its impact on the Medicaid population with leaders in higher education and dental universities in the state.

2000 DMS Recommendation

Quality improvement topics directed by contract requirements, or the Quality Assessment and Improvement Committee (QA and I) and its sub-committees, should be carefully considered to avoid duplication of efforts and promote consistent measurement methods. Topics should be able to respond to an intervention and a baseline measurement should be established. Specific interventions should be designed after identifying the barriers to care or a root cause analysis has been conducted. Benchmark goals should be consistent between DMS contract compliance and those of the EQR and QA and I Committee.

2000 DMS Recommendation

Many health plans have requested studies of children with special health care needs in future external quality reviews of MC+. Children with special health care needs continue to be a focus of concern for CMS and states. Studies of this population should be included in future EQRs.

2000 Health Plan and DMS Recommendation

DMS and the health plans should collaborate to develop a provider satisfaction survey that uses a common tool so that results may be examined between plans and statewide. Identifying and addressing common issues faced by providers may help to increase the willingness of providers to participate thus increasing access to care for members.