

### III. MEDICAL HOME / PREVENTION-ORIENTED CARE

A primary goal of the HealthChoice program is to establish, for each enrollee, a medical home to facilitate the delivery of comprehensive, prevention-oriented care. Since a medical home and prevention-oriented care are multi-faceted concepts, this chapter of the evaluation presents and discusses a wide-ranging set of analyses. Central to these analyses are extensive comparisons of HealthChoice encounter data for CY 2000 with fee for service data from the MAC Program for FY 1997. This chapter also reviews and summarizes the insights gained from the extensive efforts that were made over the summer of 2001 to gather input from consumers, providers and other interested parties about the HealthChoice program.

Since the analyses in this Chapter are wide-ranging, it is useful to gather them around a set of discrete analytical questions. Specifically:

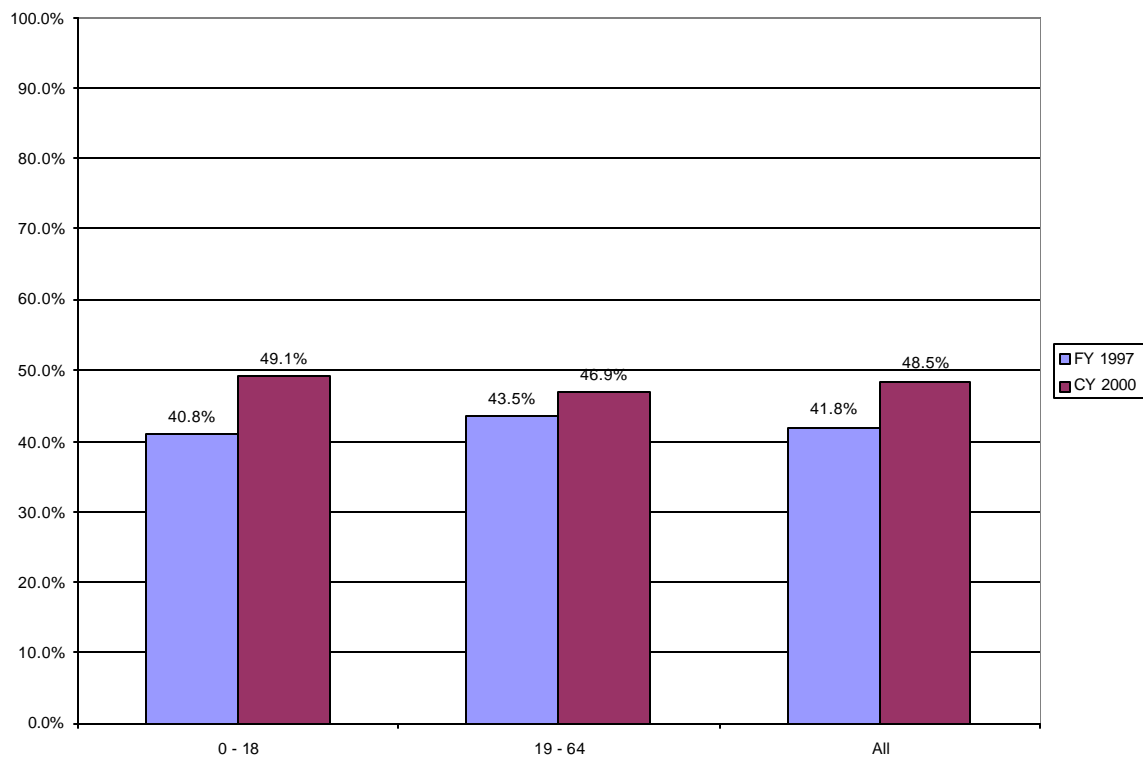
- *Have patterns of enrollee eligibility changed since HealthChoice began?* One aspect of continuity is coverage continuity. This section examines whether enrollee coverage experience has changed.
- *How has access and service utilization changed?* Changes in specific services such as ambulatory visits, well child visits and emergency room visits since the start of HealthChoice are examined.
- *How has service utilization for subpopulations within HealthChoice changed?* The service utilization patterns for vulnerable subsets of the HealthChoice population may differ from the population-wide patterns. These analyses examine the experience of specific subgroups of HealthChoice such as special needs children, individuals with chronic conditions, and different racial and ethnic groups.
- *What has been the utilization experience for specific services?* Specific important services, such as dental services, mammography, and well child services are important components of the HealthChoice program.
- *What are the perceptions of those who are involved in the program?* Based on qualitative data (particularly information gathered during the consumer and provider forums conducted during the summer of 2001), the analysis assesses the perceptions of the program that are held by those it serves and by those who provide services to them.

## **LENGTH OF ELIGIBILITY AND ENROLLMENT**

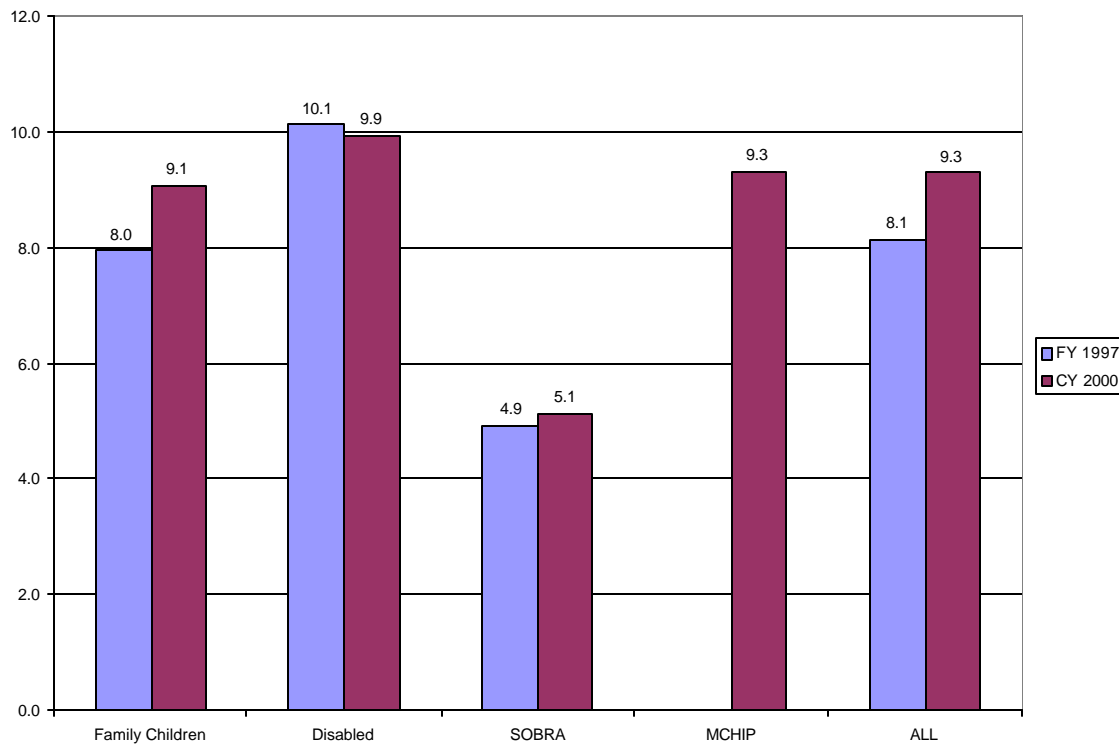
### **Overview**

A fundamental element of any individual's ability to secure regular and continuous health care services is acquiring and maintaining health insurance coverage. At the program's outset, the Governor, the legislature, and the Department recognized how important enrollees' maintenance of continuous coverage is to ensure that other program goals are met. Consequently, the program's eligibility provisions guarantee a minimum six months of eligibility for enrollees in all eligibility categories other than eligibility based on pregnancy. The tables below demonstrate the progress made under the HealthChoice program towards ensuring that eligible individuals can maintain public health insurance coverage, thereby allowing them to obtain needed health care services.

**Figure III-1: Percentage of HealthChoice Individuals With Twelve Months of Enrollment in a Specified Year**



**Figure III-2: Average Length of Enrollment in a Specified Year**



## **Findings**

The comparisons of the length of time individuals remain eligible are limited solely to the years being studied (FY 1997 and CY 2000). It is important to note that this section does not address the entirety of an enrollee's time in the program. It is focused strictly on the time spent during the specified twelve-month period. As such, an enrollee that entered the program in July 1999 and exited in June 2000 would register only six months of eligibility for CY 2000, reflecting only the months (i.e., January through June) of enrollment that occurred within CY 2000. When interpreting the findings presented in this section, it is important to remember that the percentages reflect the percentage of enrollees eligible for the entire year.

In FY 1997, 41.8 percent of all individuals enrolled at any time during the year were in the program for the entire year. In CY 2000, the proportion of all enrollees who were in the program for the duration of the year increased to 48.5 percent, a 16 percent increase. The increased duration of eligibility has been a trend since the beginning of HealthChoice, showing particularly marked improvement from 1999 to 2000.

The average length of enrollment during CY 2000 was just over 9 months, as compared to slightly over 8 months during FY 1997. For children under age two, the trend is even more positive, as their average length of enrollment for CY

2000 was nearly 1.5 months higher than for FY 1997. As expected, there are variations across coverage categories. During FY 1997, the average length of eligibility for the Family & Children population was 8 months. This increased to slightly more than 9 months during CY 2000. There was slightly less impact on the SOBRA and Disabled coverage groups with length of eligibility changing only marginally. There is no historical point for comparison of the MCHP population, which averaged just over 9 months of eligibility during CY 2000.

## **Discussion**

In this section, duration of eligibility refers only to the average length of enrollment for the study population during the study years. Although these measures do not seek to determine the totality of a given enrollees length of time in the program, they do serve as proxy measures by which to assess whether HealthChoice has afforded longer periods of enrollment to enrollees. The increased average duration of eligibility under HealthChoice is an encouraging finding, as it indicates that the program has been successful at increasing children's access to services. Several factors may account for the increasing period of eligibility, for example:

- Guaranteed six-month eligibility. As noted above, a key design feature of the HealthChoice program is the initial six-month guarantee of continuous eligibility.
- MCO financial incentives. Managed care organizations may have provided outreach to enrollees close to their redetermination date, encouraging them to submit all required information and evidence of eligibility in a timely manner.

## **SERVICE UTILIZATION - GENERAL**

### **Service Utilization Analysis**

This section and the ones following explore a number of service use comparisons between the HealthChoice program and the pre-HealthChoice fee-for-service program. These include comparisons of pre-HealthChoice and HealthChoice standard measures from various perspectives, as well as analyses of service-specific utilization. Before presenting these results, it is important to review the general approaches that will be used, as well as the challenges inherent in comparing pre-HealthChoice claims data with HealthChoice encounter data.

Challenges in comparing pre-HealthChoice Medicaid data with HealthChoice program data. Comparing the experience of the relevant population before and after HealthChoice implementation is complicated by a number of factors:

- Demographic changes in the eligible population. A central issue is how to conduct reasonable comparisons of two populations that are fundamentally different. As discussed earlier, the HealthChoice population has undergone dramatic changes since 1997. The most significant of these is the substantial increase in the adolescent population resulting from MCHP expansion and the concurrent decline in the adult population due to welfare reform. The analyses address the demographic changes by presenting totals that are weighted by age to account for the changed age mix.
- HMO-MA enrollment. The pre-HealthChoice voluntary HMO-MA program introduces a further complication. As was noted earlier, before implementation of HealthChoice, Maryland operated a voluntary Medicaid managed care program that served roughly 100,000 enrollees. Enrollment in these Medical Assistance HMOs was disproportionately higher in the Baltimore City and Washington Suburban regions. Enrollment in Medicaid HMOs was also significantly higher among recipients in “Families and Children” eligibility categories rather than those in a “Disabled” category. Consistent with the other states that operated voluntary HMO programs, Maryland collected no usable utilization data (encounters or claims) for individuals enrolled in HMOs. Therefore, no utilization experience for this population is available for analysis. The lack of these data is problematic since analyses have shown that the individuals enrolled in the voluntary HMO program were healthier than the Medicaid population generally.<sup>1</sup> Thus, the pre-HealthChoice comparison population (drawn primarily from the MAC Program) would be expected to have higher utilization of

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<sup>1</sup> Analysis by the actuarial firm of Mercer in 2000 found that individuals enrolled in voluntary HMOs had better health status than the population in general.

services because, overall, it was less healthy than the population currently enrolled in HealthChoice.

- *Claims data versus encounter data.* It should also be noted that the comparisons are based on two different types of data, claims data and encounter data. The HealthChoice program's introduction of risk-based managed care eliminated the traditional source of Medicaid health care utilization data, i.e., fee-for-service claims. In order to continue to receive information about the services provided to HealthChoice enrollees, the program requires MCOs to submit encounter data. Encounter data seek to capture every service provided to a HealthChoice enrollee by the enrollee's MCO, or by non-participating providers paid by the MCO, including information on diagnosis and the provider of the service.
- *Encounter data collection.* Encounter data include much of the same information as claims data: both identify the type of service provided and its associated diagnosis. Unlike claims data, however, encounter data are not associated with payments to providers. Consequently, encounter data tend to be less complete than claims data. The Department and the HealthChoice MCOs have made enormous strides in the collection of encounter data (particularly encounter data relating to physician services). In fact, Maryland is viewed as a national leader in this area.<sup>2</sup> This progress would not have occurred without the sustained effort expended by the MCOs and the Department. The data have improved significantly over time, such that the professional claims encounter data for CY 2000 are estimated to be between 90 and 95 percent complete. (Encounter data for earlier years of the program are less complete.) Inpatient data remain a significant problem, and therefore are not used in any of this report's analyses. For the purposes of presenting analyses, this report will make comparisons only between FY 1997 fee-for-service data and CY 2000 encounter data. In addition, the data are presented "as is." No adjustment is made to utilization measures to adjust for suspected under-reporting of encounter data. Therefore, the post-HealthChoice should be slightly higher.

Populations Studied. The population studied for CY 2000 consisted of all HealthChoice enrollees with any period of enrollment during the year<sup>3</sup>. The FY 1997 population was comprised of all Medicaid enrollees that would have been HealthChoice-eligible had the program existed at that time.<sup>4</sup> Data analyses included in the evaluation were based on the experience of the entire population studied – no population sampling was used. Because the data on which the findings are based include the experience of total populations rather than just samples, there can be no issue as to their statistical significance or levels of confidence in their accuracy. Except as expressly noted, the data presented in

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<sup>2</sup> Maryland is the lead State for CMS's risk adjustment forums

this evaluation represents the actual, documented experience of the entire HealthChoice-eligible populations of CY 2000 and FY 1997.

This does not negate the fact that the professional claims encounter data for CY 2000 are estimated to be between 90 and 95 percent complete, nor does it alleviate the potential for data volatility among studies of relatively small sub-populations where the experience of a small handful of outliers could dramatically impact overall utilization rates.

Standard Utilization Measures. Although the challenges just discussed are significant, comparing pre-HealthChoice and HealthChoice data can be useful, valid, and revealing. To make these comparisons, three standard measures have been developed for use in the majority of the comparative studies included in this report. These measures are:

- Ambulatory visits. The definition used for an ambulatory visit is the most inclusive “visit” definition used in the evaluation. An ambulatory visit is defined as any time an enrollee had a contact with a doctor (or a nurse practitioner) in an ambulatory setting. To address multiple services occurring during a single visit, ambulatory visits are reported as an unduplicated count that may not exceed one per day.
- Well child visits. A consideration of well child visits is important because there are many children enrolled in HealthChoice. Well child visits are defined by one comprehensive measure, inclusive of well child visits, EPSDT, and preventive services. This measure includes what the State uses to report EPSDT services for federal reports, and includes clinic services in an OPD that are accompanied by an appropriate diagnosis code. Well child visits are a subset of all ambulatory visits.
- Emergency room visits. Emergency room visits that do not result in a hospital admission are counted as ambulatory visits because they are likely to represent inappropriate ER utilization triggered by inadequate access to community-based primary care services.

Measurement Approaches. The standard measures identified above are examined in two ways, each of which yields different insights and conclusions:

- Percentage of eligible population receiving service. This measurement looks at the percentage of the population that had contact with a health care provider. As such, it serves as a measure of overall access to care. This measure reveals the relative success HealthChoice has had in bringing people into care.

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<sup>3</sup> Some studies included the FY 2000 population.

<sup>4</sup> The FY 1997 population does not include individuals enrolled in the voluntary HMO program.

- Visits per thousand member months (annualized). This is a standard method for presenting units of service (e.g., physician visits). This measure supports an assessment of the level of service provided, as opposed to simply the access provided.

Presenting the Data. To clarify comparisons of data representing services provided before and after the implementation of HealthChoice, most of the data are considered from several standard perspectives, primarily:

- By age. Looking at measures by age helps to control for the large demographic shifts that have occurred in the HealthChoice population since 1997. Some age groups, such as under age 5 and over age 40, have remained relatively stable in size, while others changed significantly, either by expanding (ages 6-20 years) or contracting (ages 21-39 years). Presenting the data by age allows better consideration of the changes.
- By region. The health care delivery system in Maryland (as in other states) is not uniform. Significant regional variations exist in access and local systems. Similarly, the substantial growth of the HealthChoice population since FY 1997 did not occur in a uniform manner throughout the State. Regional breakdowns allow closer examination of these effects. For presentation purposes, six regions are used:
  - Baltimore City;
  - Baltimore Suburban;
  - Washington Suburban;
  - Western Maryland;
  - Eastern Shore; and
  - Southern Maryland.<sup>5</sup>

Although the regional breakouts reflect important variations across the State, this approach can lead to some analyses of very small populations. Particularly in rural areas of the State (Western Maryland, Eastern Shore, and Southern Maryland) the resulting comparison may be based on relatively small numbers, and should be interpreted more cautiously.

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<sup>5</sup> These six designated regions include the following constituent jurisdictions:

- The “Baltimore City” region includes a single jurisdiction - Baltimore City;
- The “Baltimore Suburban” region includes Anne Arundel, Carroll, Harford, Howard, and Baltimore Counties;
- The “Washington Suburban” region includes Prince Georges, Montgomery, and Frederick Counties;
- The “Western Maryland” region includes Allegany, Garrett, and Washington Counties;
- The “Eastern Shore” region includes Caroline, Cecil, Dorchester, Kent, Queen Anne's, Somerset, Talbot, Wicomico, and Worcester Counties.
- The “Southern Maryland” region includes Calvert, Charles, and St. Mary's Counties.



- *By eligibility category.* The Maryland Children's Health Program is a completely new eligibility category that did not exist before HealthChoice. The MCHP population has a distinctly different makeup than the overall HealthChoice population. Compared to Medicaid-eligibles enrolled in HealthChoice, individuals whose HealthChoice eligibility is based on MCHP have more income and include proportionally more adolescents. In addition, a section of the analysis is devoted to the differences between eligibility groups such as Families & Children and Disabled. Presenting data by eligibility category allows differences between groups to be observed more closely.

*Accounting for Demographic Changes.* There are inherent problems with the comparison of the FY 1997 and CY 2000 data. The primary problem results from significant changes that have occurred in age distribution in the program's population. Even if the members of each age group were to receive the same number of visits in CY 2000 as they did in FY 1997, the total number of visits provided in CY 2000 would appear lower. This is because older children now account for a larger proportion of the population and older children receive fewer visits than do younger children.

Clearly, this can lead to potentially confusing and misleading interpretations as to the impact of the HealthChoice program on service utilization. In fact, it would be possible for every age group to receive more visits in CY 2000 than in FY 1997 and still have total utilization for CY 2000 appear lower than for FY 1997. In order to address this problem, the "All" categories reflect an adjustment to the age distribution of the populations in CY 2000 and FY 1997 so that they are more comparable. No changes are made to the utilization rates of the individual age, region or coverage groups. All that is changed is the proportion of the total population comprised of each age group. This is done in an effort to foster more meaningful comparisons between the study years.

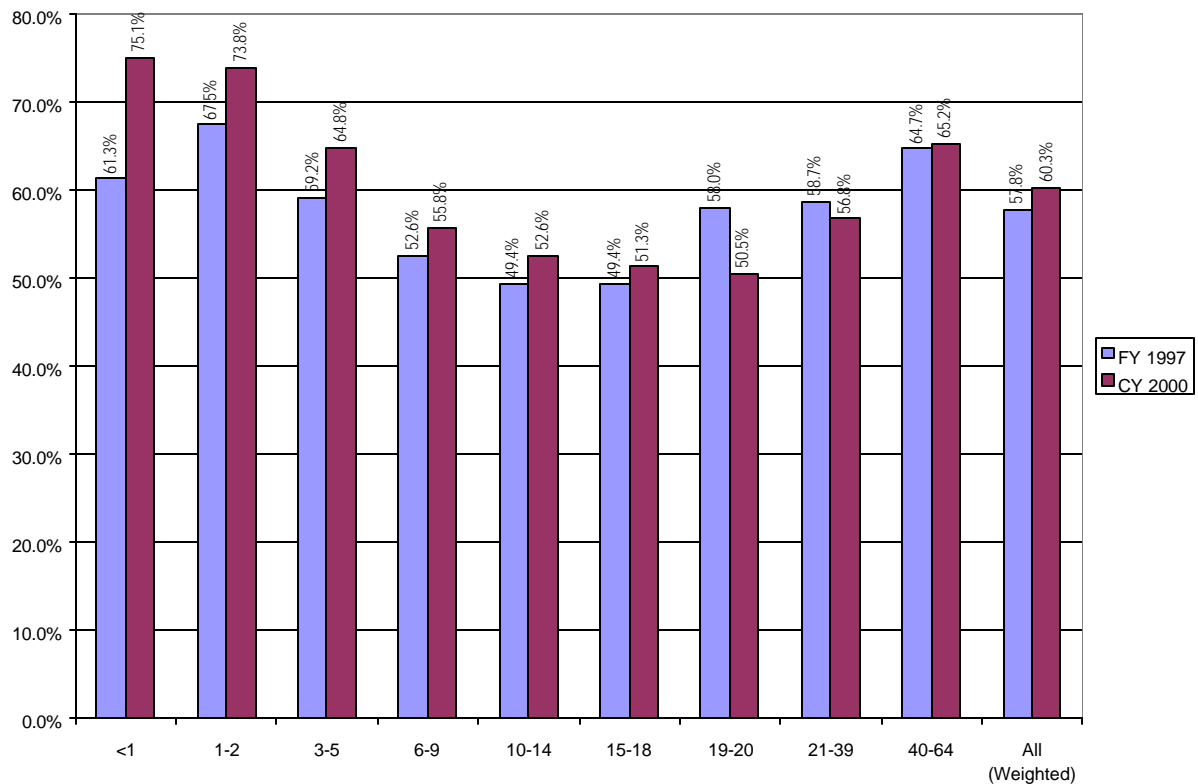
### **Ambulatory and Well Child Visits**

**Ambulatory Visits.** Ambulatory visits are the most inclusive measure used in this evaluation. Examining whether HealthChoice enrollees received an ambulatory visit and how many visits the typical enrollee received can provide important insights into utilization patterns in the HealthChoice program.

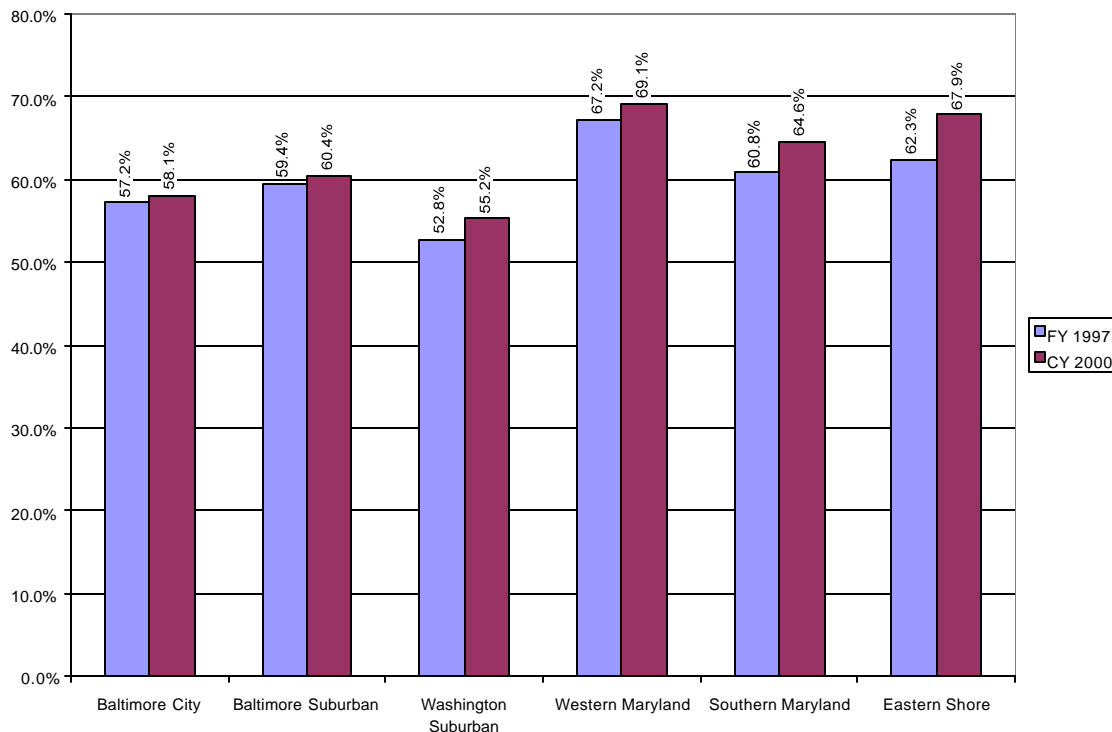
➤ Ambulatory visits - findings.

- *Ambulatory visits - percentage of eligible people receiving services.*  
The overall percentage of individuals receiving an ambulatory visit has increased from 57.8 percent to 60.3 percent. The increase was greatest for children aged 0-14. Among individuals aged 19-39 a smaller percentage received an ambulatory visit. Most encouraging is the finding that the percentage receiving an ambulatory service has increased in every region of the State with the greatest improvements in the typically underserved rural areas of Southern Maryland and the Eastern Shore.

**Figure III-3: Percentage of the Population Receiving Ambulatory Care Service by Age**



**Figure III-4: Percentage of the Population Receiving Ambulatory Care Service by Region**

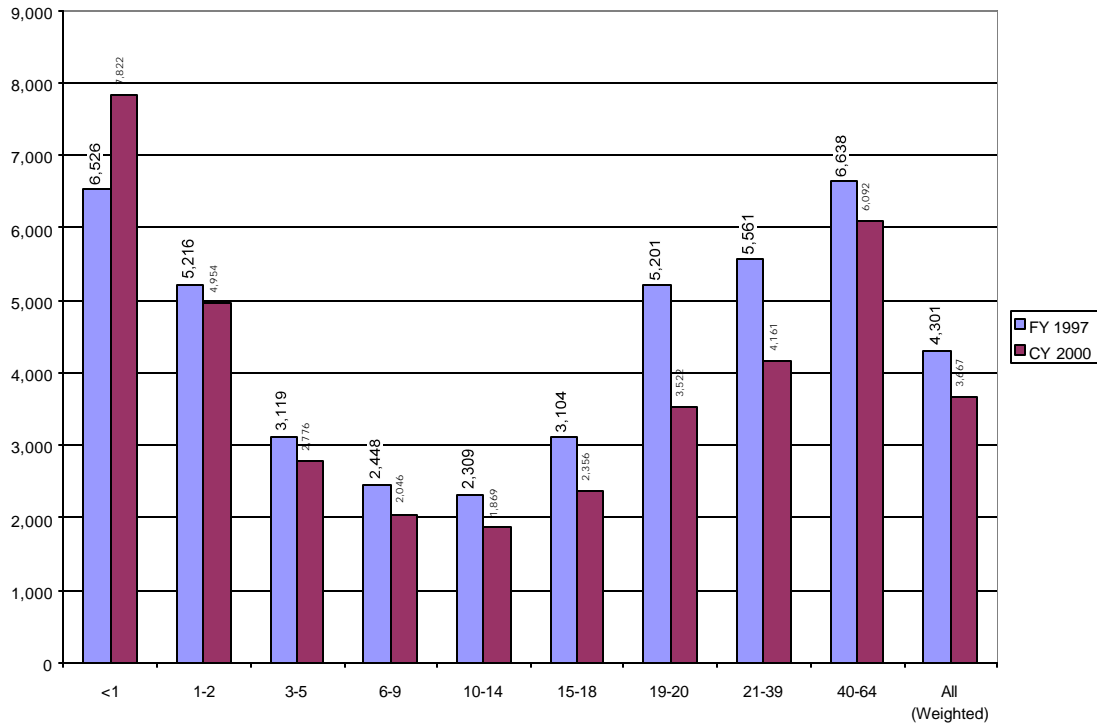


- Ambulatory visits – number per thousand annualized.* Overall there were fewer visits per thousand in CY 2000 (3,667) than there were in FY 1997 (4,301). The greatest difference in the number of visits per thousand during the two years under consideration was for individuals aged 15-39. In addition, the differences were greater in urban and suburban regions, with only modest differences in the rural areas of the state. Individuals in Baltimore City were more likely to be enrolled in voluntary HMOs in FY 1997 and not included in the FY 1997 comparison data. Because no data reflecting utilization by the relatively healthy Medicaid HMO-enrolled population in FY 1997, it could not be included in FY 1997 comparison data. Consequently, the FY 1997 utilization may be exaggerated, and the decline in visits less pronounced than available data indicate.

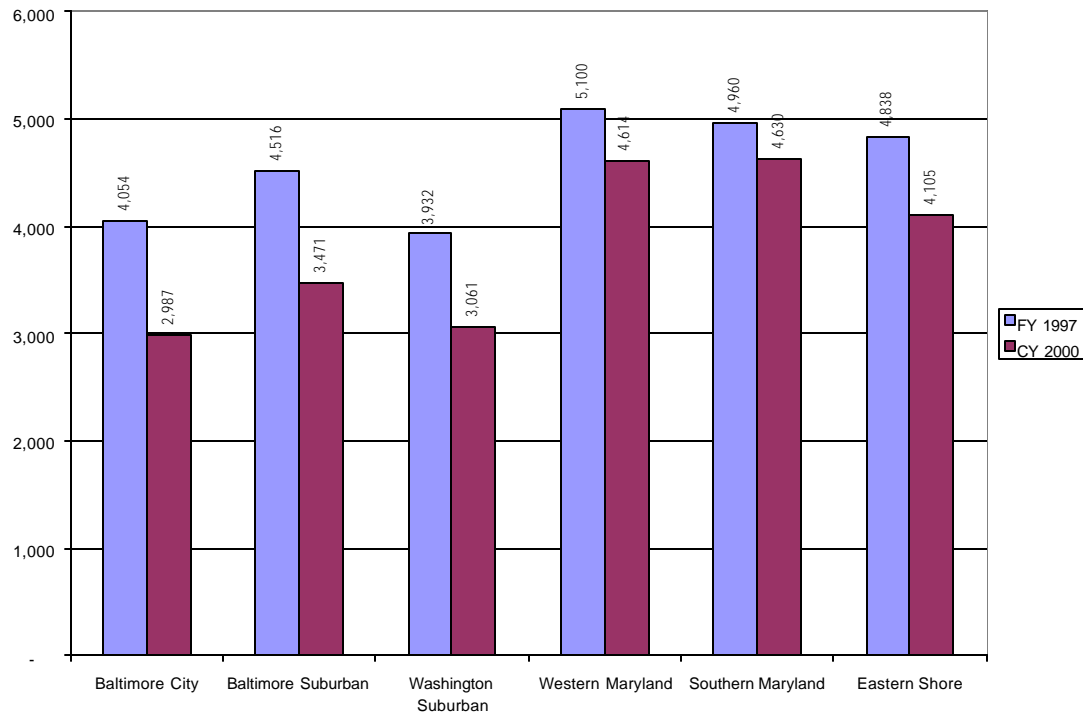
In contrast to the overall decline in ambulatory visits was the experience of children under age one. This age group received considerably more services than their pre-HealthChoice counterparts. This is particularly interesting as the under one population has changed little in size or eligibility standards since 1997 and there have been strong anecdotal criticisms that access to care for newborns has declined. This finding suggests that

linking newborns to their mothers' MCOs may have had a positive outcome by bringing more infants into care more quickly.

**Figure III-5: Ambulatory Care Visits per Thousand Annualized by Age**



**Figure III-6: Ambulatory Care Visits per Thousand Annualized by Region**



- Ambulatory visits – discussion. The HealthChoice program has been successful in improving access to ambulatory care for children under age 18. At the same time, individuals 19 to 39 have experienced slight declines in access. The number of visits per thousand reveals a more complex picture. Especially encouraging is the increase in services to children under one. This dramatic increase may be related to the HealthChoice program's success in increasing the average length of eligibility for children under one (since infants are seen very frequently, an increase in the duration of their eligibility is likely to result in a higher number of visits per thousand).

The fact that, on average, the overall HealthChoice population receives fewer ambulatory visits than the pre-HealthChoice population is difficult to categorize as either positive or negative. The MCHP expansion introduced a new population to the Medicaid program. A common assumption is that higher income individuals have better health status and, therefore, will use fewer services<sup>6</sup>. This assumption is borne out by the data presented here. The argument that the HealthChoice population has better health status is further strengthened by the results of the risk adjustment methodology used in the rate setting process. That process showed that overall the family and children category (including MCHP) has a lower risk score in 2000 than they did in 1997. (See Chapter IV for further discussion). The sharp differences observed in services received by adolescents seem to also be indicative of a different population mix in 2000 than compared to 1997.

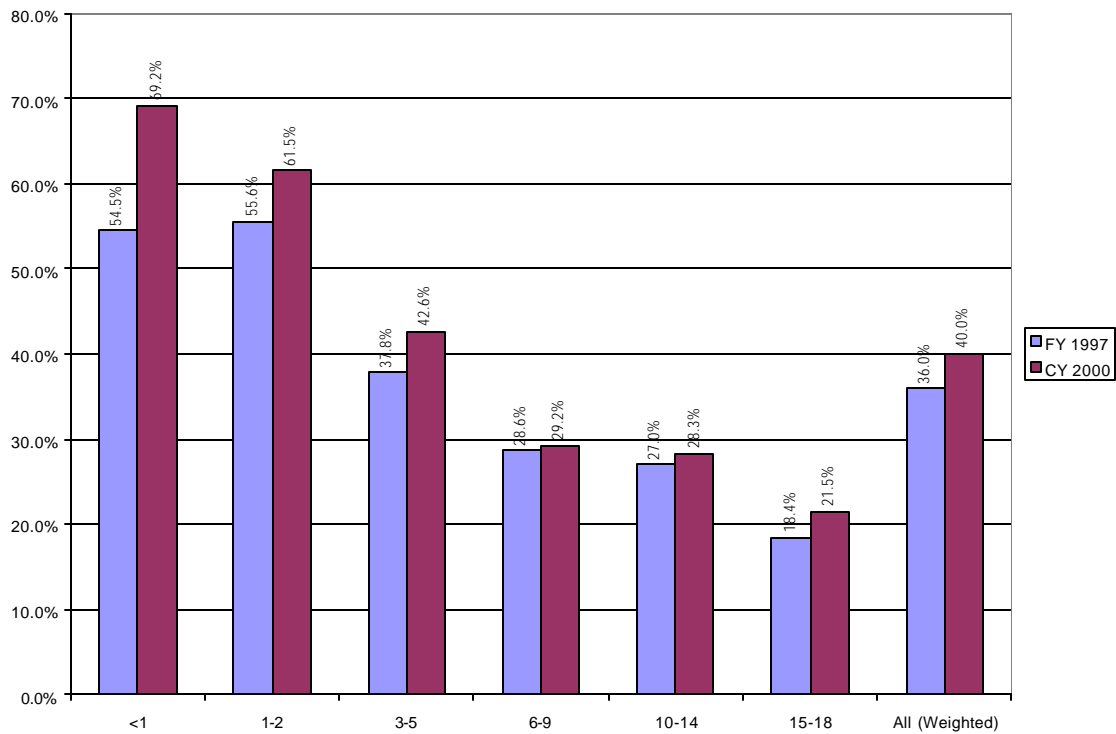
Well child Visits. Looking at well child visits addresses some of the problems of comparability that complicate the examination of all ambulatory visits. In theory, well child visits should be indifferent to health status. Well child service should be provided according to the periodicity schedule and not affected by the child's health status. In this way looking at well child visits presents a 'cleaner' comparison.

- Well child visits - findings.
- Well child – percentage receiving service. The percentage of the population receiving a well child services has shown an increase overall and across all ages. The increase was from 36 percent in 1997 to 40 percent in 2000. The progress was seen across the State, with only Western Maryland showing a small decline and Baltimore suburban showing no change.

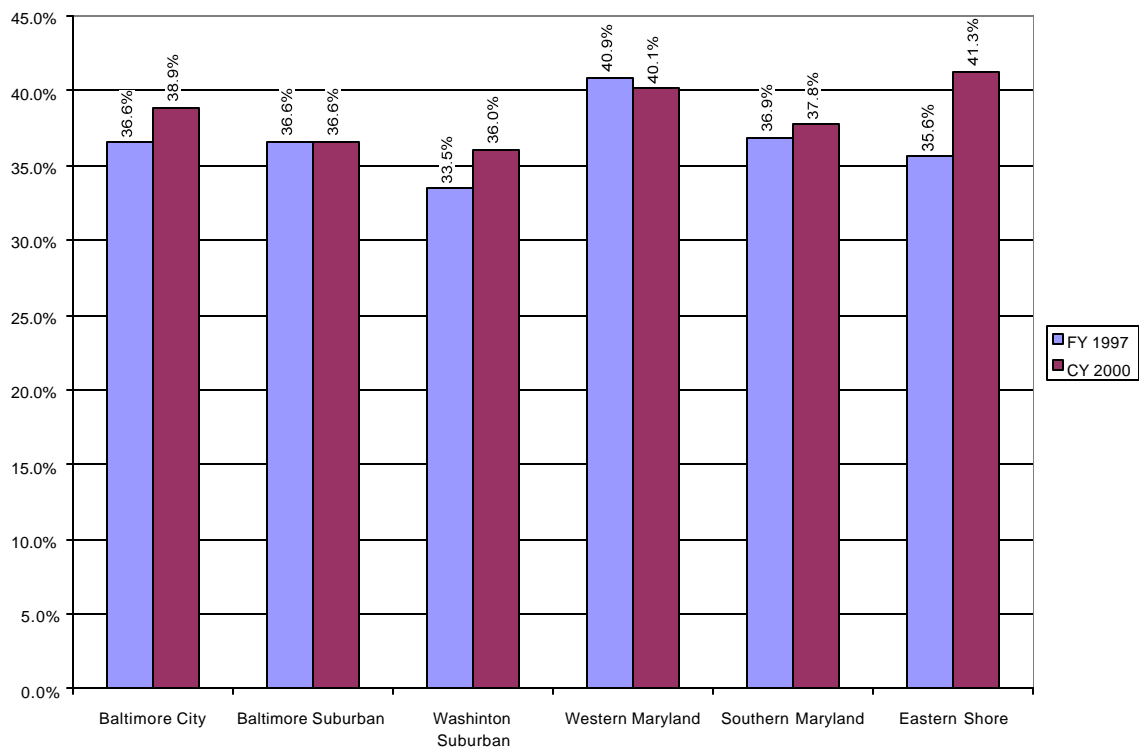
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<sup>6</sup> National Center for Health Statistics. *Health, United States, 2000: Adolescent Health Chartbook*. Hyattsville, Maryland: 2000.

**Figure III-7: Percentage of Children Receiving a Well Child Service by Age**

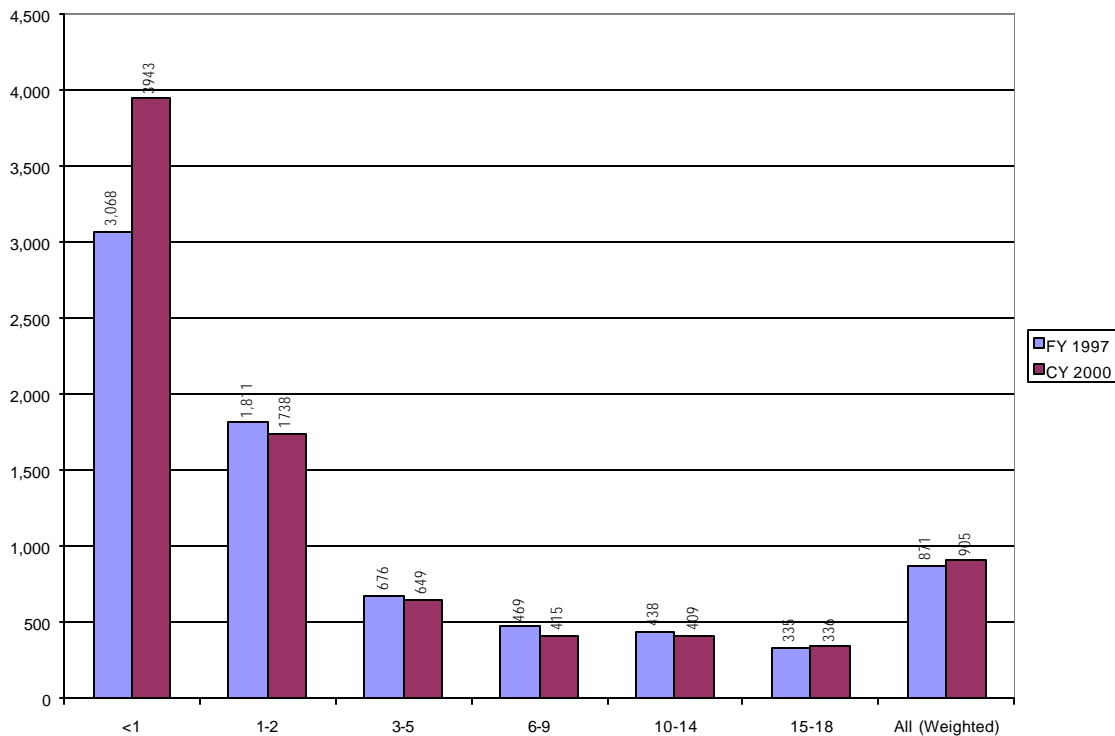


**Figure III-8: Percentage of Children Receiving a Well Child Service by Region**



- *Well child – visits per thousand annualized.* The number of well child visits per thousand, showed similar increases. When weighted to reflect the population distribution, the number of well child visits per thousand increased slightly from 871 to 905. The increase in well child visits in children under 2 offsets the modest declines in the number of well child visits for children 3 to 14.

**Figure III-9: Well Child Visits per Thousand Annualized by Age**



➤ *Well child visits - discussion.* The findings regarding well child services are among the most positive findings of the HealthChoice program review, especially when considering that children make up approximately 75 percent of all enrollees. Most encouraging was the growth in the percentage of children receiving Well Child Visits. This percentage increased significantly for children under age 5, and held steady for other age groups (less than a one percent decline). The provision of well child services is essential to the provision of comprehensive prevention oriented care. HealthChoice has been successful in significantly increasing the number of children who receive a well child visit. Possible reasons for the increase include:

- *Longer eligibility encourages primary and preventive care.* By allowing children to maintain eligibility for longer periods greater opportunity is available for them to seek out and receive preventive care.

- *Outreach efforts by participating MCOs.* Community forums and other meetings with consumers demonstrated that enrollees had received prevention-oriented outreach materials from their MCO. The results indicate a level of success for MCO outreach efforts.



## **EMERGENCY ROOM UTILIZATION**

### **Overview**

There is a general consensus that, unlike ambulatory care and well child visits, emergency room use (both the percentage of individuals who use ER services and the overall level of use) should decrease under managed care. This consensus is based on assumptions that emergency room services are expensive, and inappropriate except for 'true' emergencies, and that effective controls capable of restricting emergency room use to appropriate circumstances are implicit in a managed care system of care.

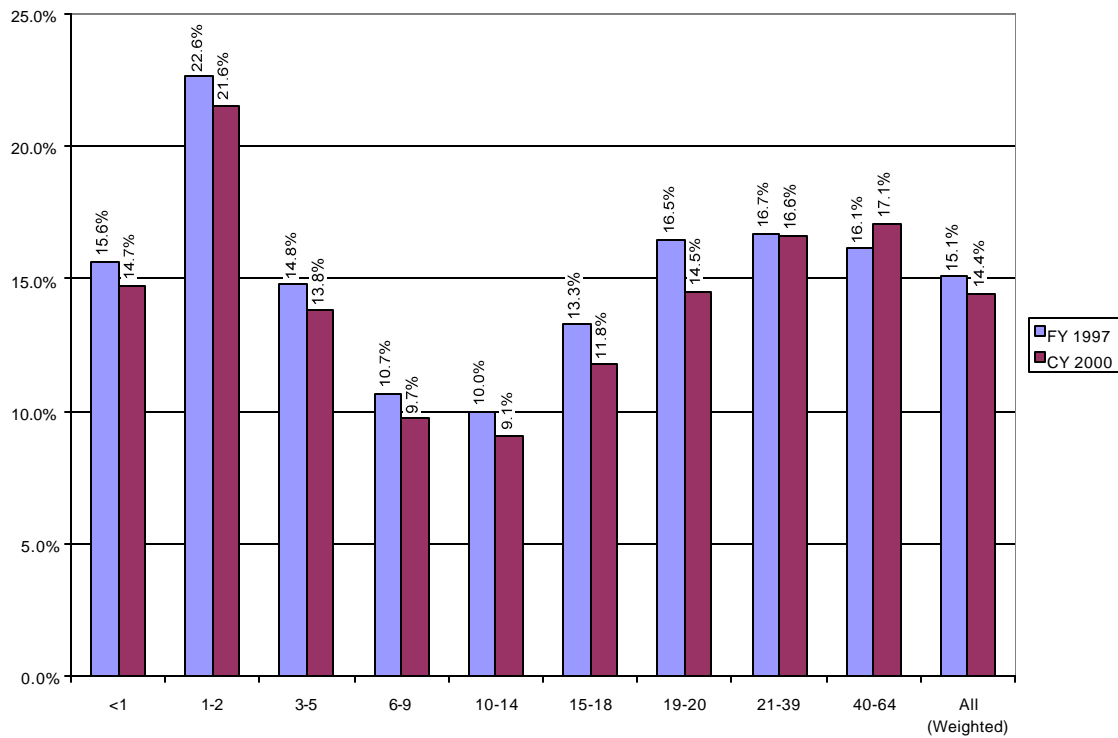
Our analysis of emergency room use under the HealthChoice program examined emergency room visits that did not lead to hospitalization, as these visits were the most likely to be sensitive to managed care controls. Furthermore, only paid claims submitted as encounters are included in the analysis. This analysis, however, cannot assess whether the implementation of HealthChoice has increased the number of denied claims or direct billing of patients, two scenarios that were cited during discussions with providers and consumers, which would mean that the delivery of such services was still occurring. Under federal law, MCOs are required to pay for screening services in an emergency room.

### **Findings**

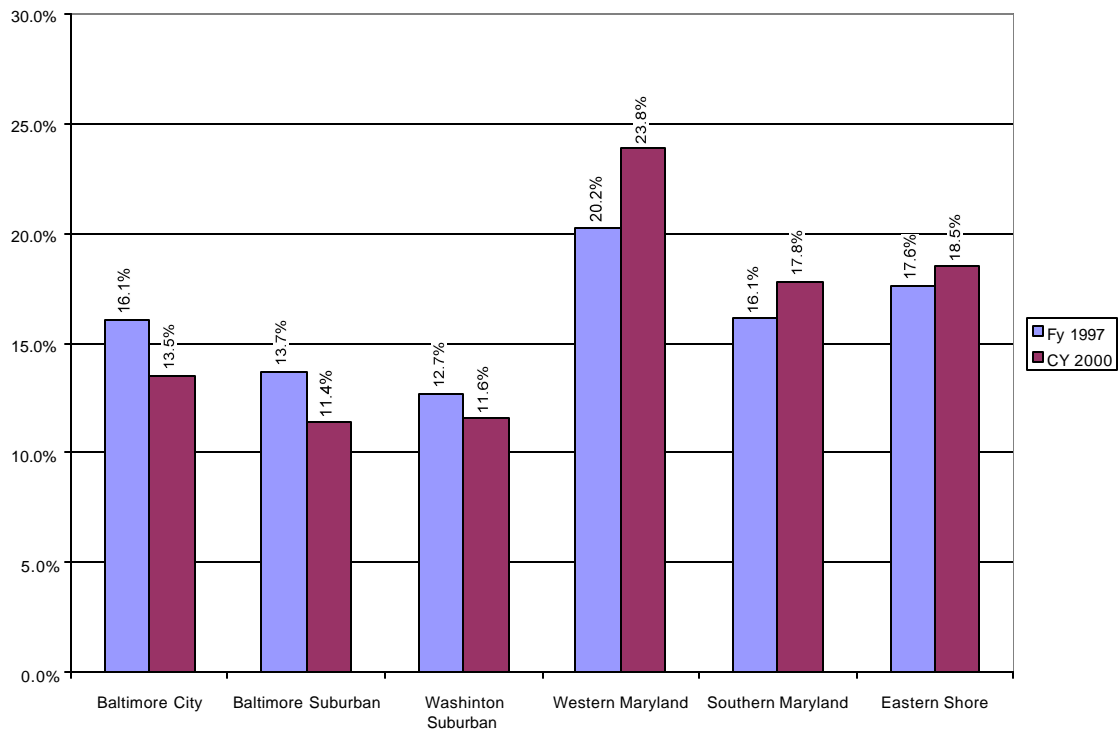
The patterns of emergency room use under HealthChoice are interesting and somewhat conflicting. Overall emergency room use is down, both in terms of the percentage of people who have an emergency room visit (15.2 percent in 1997 versus 14.4 percent in 2000) and in the number of visits per thousand (345 in 1997 versus 301 in 2000). By age, the analysis shows that emergency room use is down across all ages except individuals aged 40 to 64. Again, these declines are for both percent of eligibles receiving services and the number of services per thousand. This finding would indicate some success by MCOs in reducing inappropriate emergency room use.

The declines in emergency room use are regionally concentrated. Significant declines are observed in the urban and suburban regions of the State. In contrast, the highest areas of emergency room utilization and the smallest declines relative to pre-HealthChoice are in the more rural parts of the State (Western Maryland, Southern Maryland and the Eastern Shore), a pattern that also existed in Maryland's Medical Assistance fee-for-service system prior to the implementation of HealthChoice.

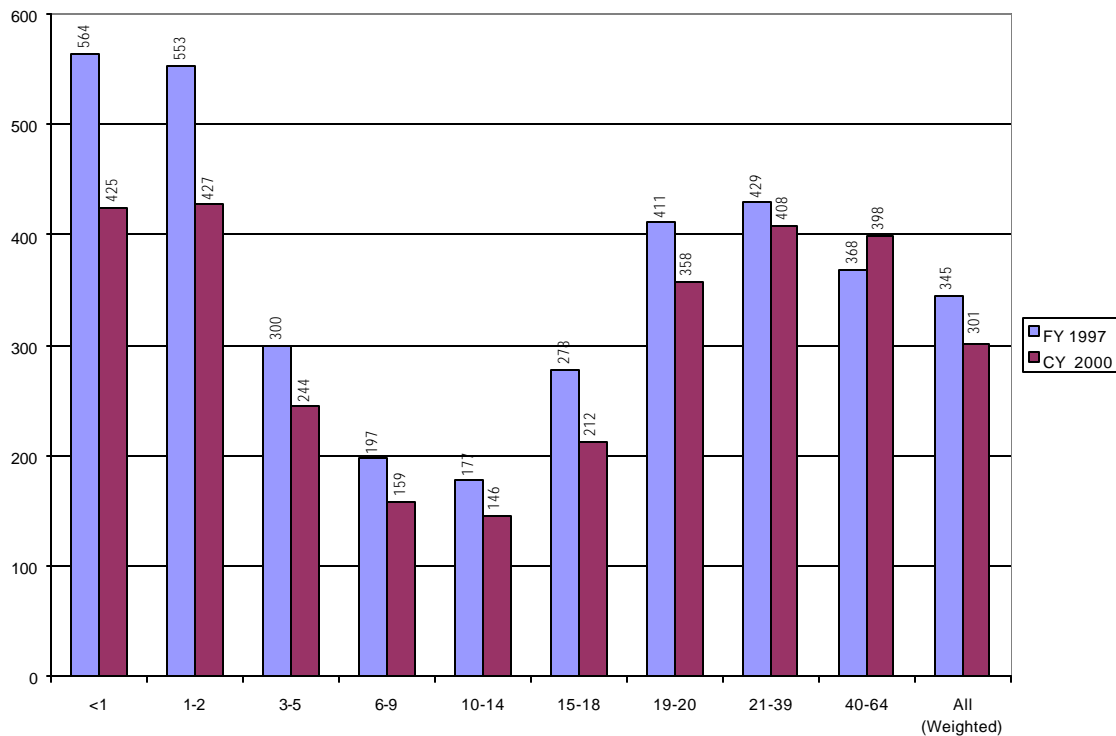
**Figure III-10: Percentage of Population Receiving an Emergency Room Service by Age**



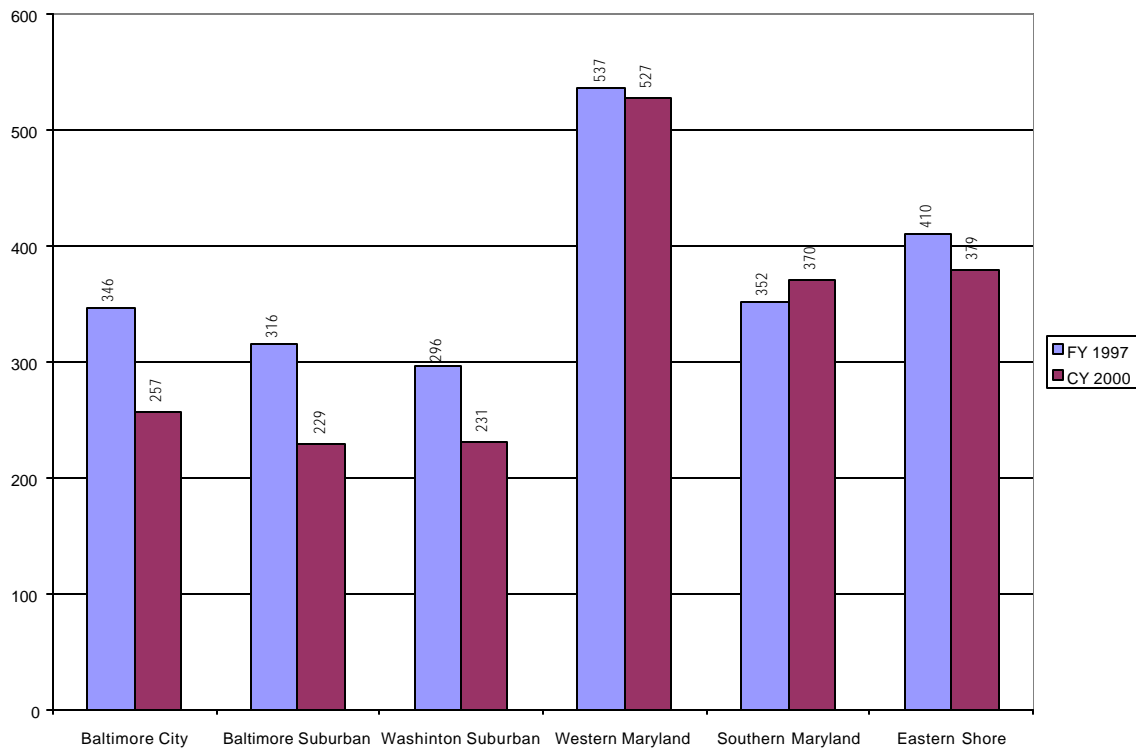
**Figure III-11: Percentage of Population Receiving an Emergency Room Service by Region**



**Figure III-12: Emergency Room Visits per Thousand Annualized by Age**



**Figure III-13: Emergency Room Visits per Thousand Annualized by Region**



## **Discussion**

Overall, the declines in emergency room use through the encounter data analysis are a positive finding for the HealthChoice program. It is also important to look at the emergency room experience in light of other utilization trends. Reductions in emergency room use were most dramatic for children under age two. It is encouraging that this is the same age group that experienced the most substantial improvement in access and service delivery for ambulatory and well child services. This may be an indication that HealthChoice MCOs have been successful in directing young children to more appropriate sites for care.

The regional nature of the reductions in emergency room use is also an interesting finding. A combination of local factors may account for this. For example:

Emergency Room Costs Are Lower in Rural Hospitals. Because emergency room visits are less costly in rural hospitals than in urban and suburban hospitals, MCOs have less financial incentive to divert patients in from emergency rooms in rural hospitals.

Alternatives to Emergency Rooms May Be Less Available in Rural Areas. Emergency rooms in more rural parts of the State may play a different role in local delivery systems. Urgent care centers and primary care sites with extended hours may be less available. Given the lower costs (relative to urban and suburban areas) of emergency room visits generally, there would be less financial incentive for MCOs to establish alternative acute care delivery sites in rural areas. In these areas patients may perceive emergency rooms as the most accessible source of urgent specialty care services available locally.

## **UTILIZATION BY COVERAGE CATEGORY**

### **Introduction**

The HealthChoice population is comprised of several distinct coverage groups. Enrollment in these groups is determined by a host of factors including age, income level, pregnancy and disability. Enrollees in these distinct groups are likely to have differing needs and utilization patterns. For example, individuals with Supplemental Security Income (SSI)/Disabled eligibility who have coverage due to their disability are likely to use more services than children with MCHP coverage whose eligibility is based on income. This section will examine those patterns. It is important to note, however, that the MCHP program did not exist in FY 1997 so there is no pre-period for comparison.

### **Findings**

As expected, there is a high degree of variation in utilization among different HealthChoice coverage groups. The SOBRA group (comprised for purposes of this analysis only of pregnant women)<sup>7</sup> consistently experiences higher ambulatory visits per thousand than the other eligibility categories. SOBRA enrollees had 7,376 visits per thousand in CY 2000 as compared to 5,004 for the Disabled/SSI group, 3,025 for the Family and Children group, 2,734 for MCHP and 3,667 for the HealthChoice population as a whole. This same pattern existed in FY 1997 where the SOBRA group had 10,506 visits per thousand as compared to 5,269 for the Disabled/SSI group, 3,729 for the Family and Children group and 4,301 for the population as a whole.

When the 1997 experience is compared with the CY 2000 experience by eligibility category some interesting patterns emerge. In CY 2000 the percentage of the population who received an ambulatory service clustered around 60 percent for all coverage groups, with a high of 63.5 percent among the SSI/disabled and a low of 58.3% among the Families and Children group. In FY 1997 there was still a clustering around 60 percent, but the high was at 71.2 percent for the SOBRA enrollees and the low was 56.2 percent for the Family and Children group. The data show that the percentage of the population receiving service increased for every coverage group except for SOBRA.

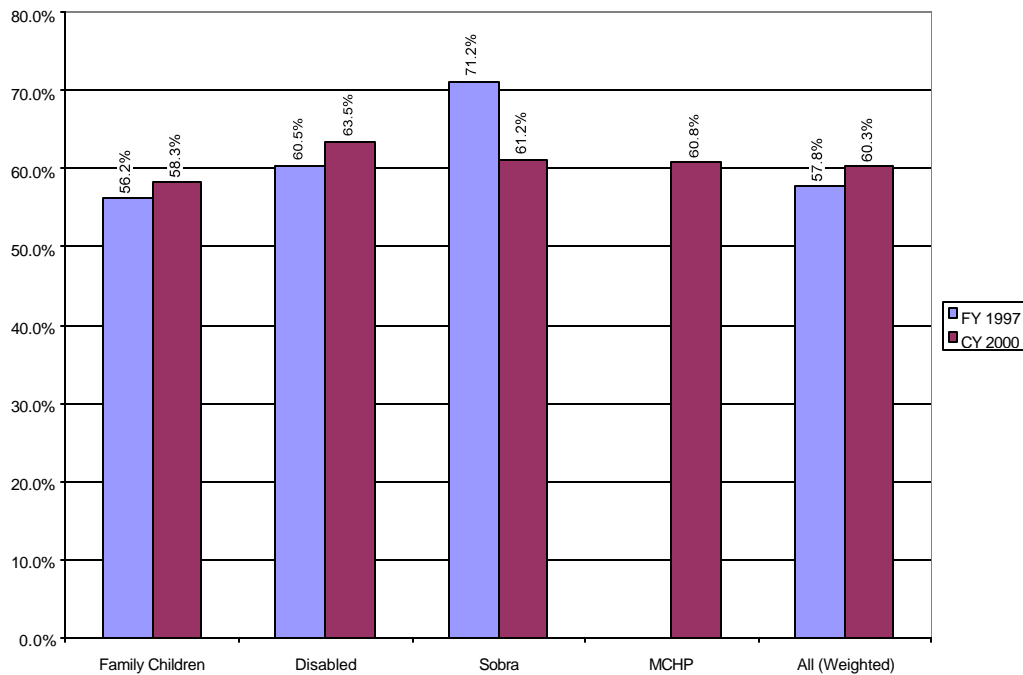
The SOBRA results should also be interpreted carefully for two reasons. First, they are by far the smallest distinct population with fewer than 20,000 enrollees in FY 1997 and fewer than 30,000 in CY 2000, thus the rates of service calculation may be more volatile. Second, since that eligibility category is linked specifically to pregnancy, enrollees may receive a higher volume of pre-

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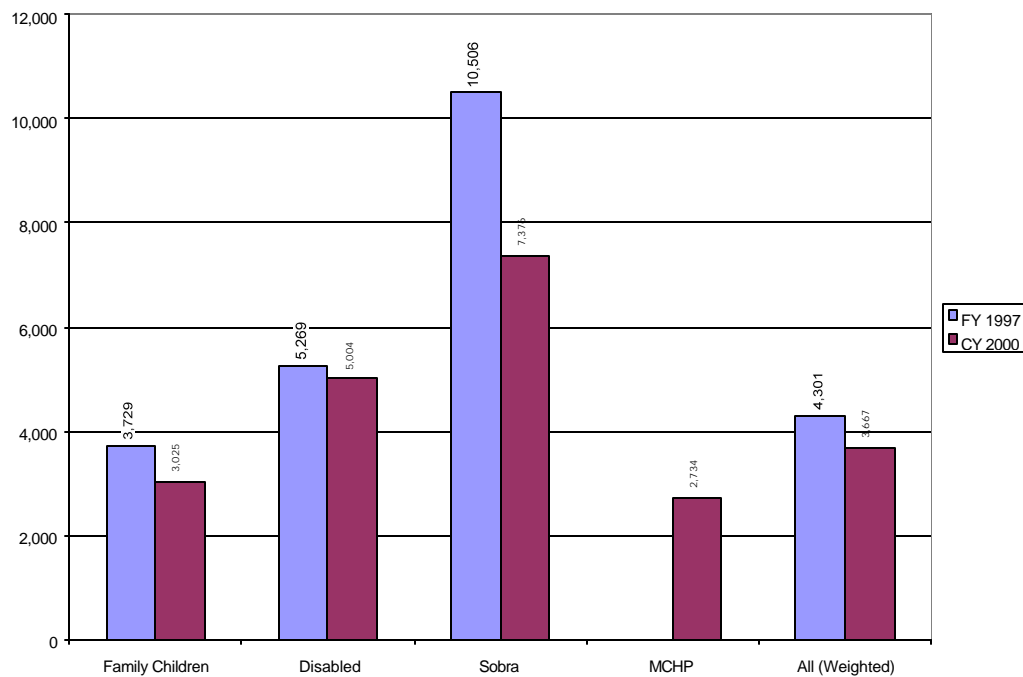
<sup>7</sup> Pregnant women's children whose Medicaid eligibility is based on their mother's eligibility through SOBRA are, for purposes of this analysis, included in the Families and Children eligibility category.

HealthChoice enrollment fee-for-service visits, which are not included in this study, as compared to other coverage groups.

**Figure III-14: Percentage of the Population Receiving Ambulatory Care Service by Coverage Category**

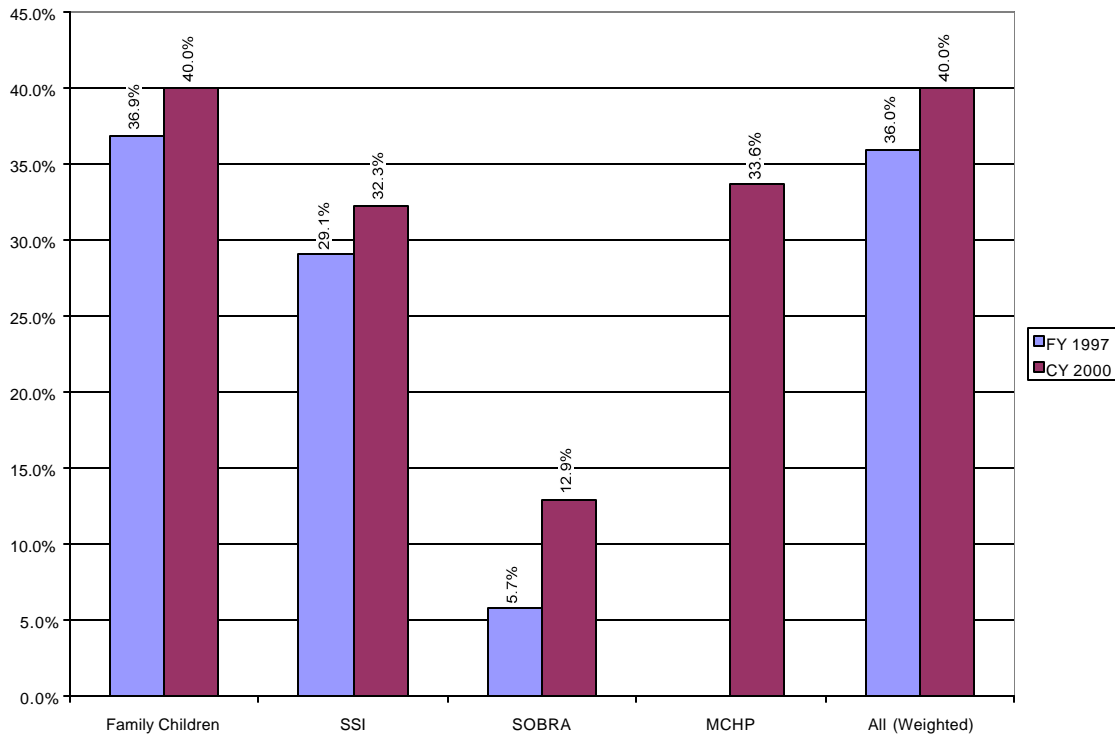


**Figure III-15: Ambulatory Care Visits per Thousand Annualized by Coverage Category**

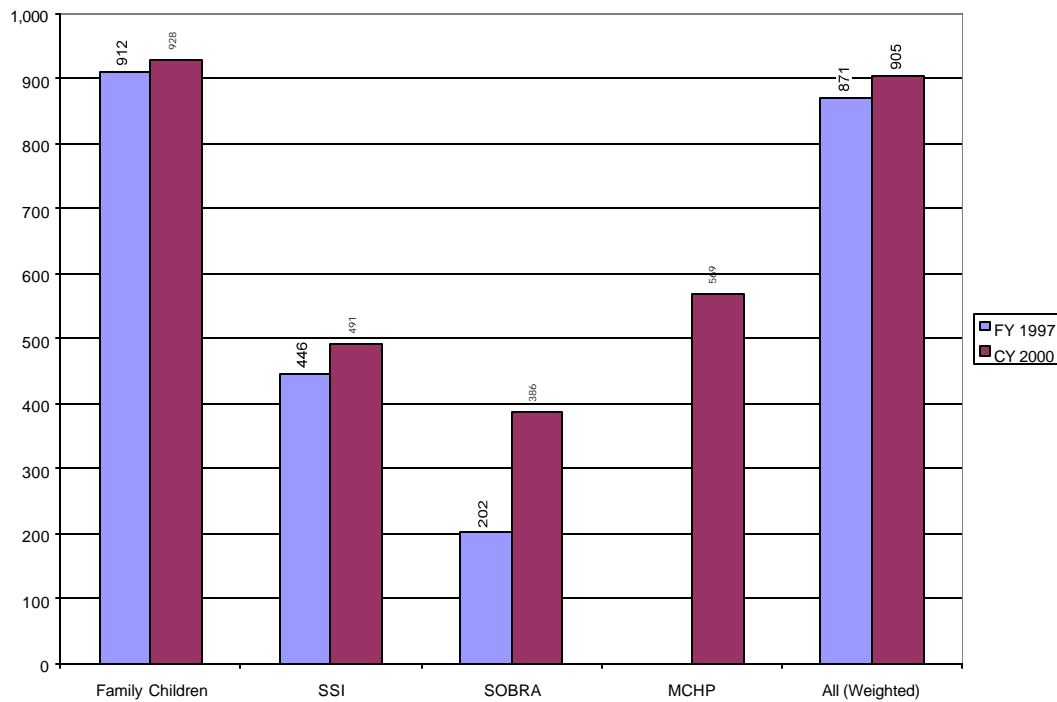


The utilization patterns for well child visits reveals some very intriguing trends not necessarily captured by the earlier aggregate discussion. When compared by coverage group, the well child visits per thousand increases for all categories when compared to FY 1997. The Family and Children group saw visits increase from 912 in FY 1997 to 928 in CY 2000. For the SSI/disabled group visits rose from 446 to 491. The MCHP group, with no period for comparison, was at 569 visits. The percentage of the population receiving service followed a similar trend, increasing for every group when compared to FY 1997 levels.

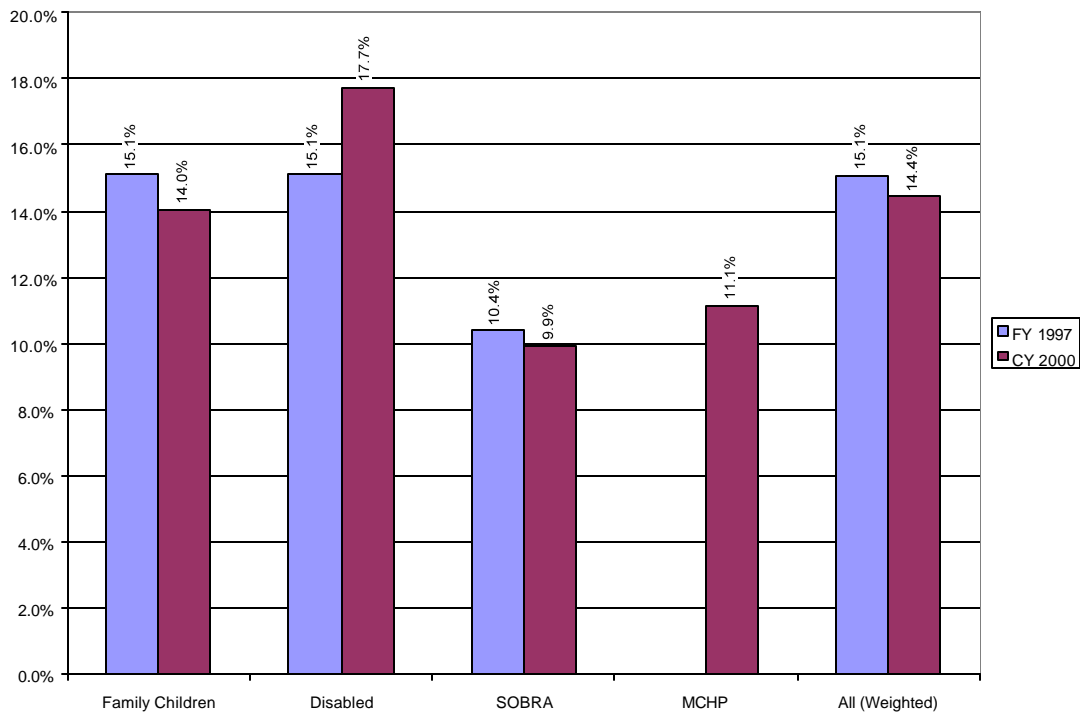
**Figure III-16: Percentage of Children Receiving a Well Child Service by Coverage Category**



**Figure III-17: Well Child Visits per Thousand Annualized by Coverage Category**

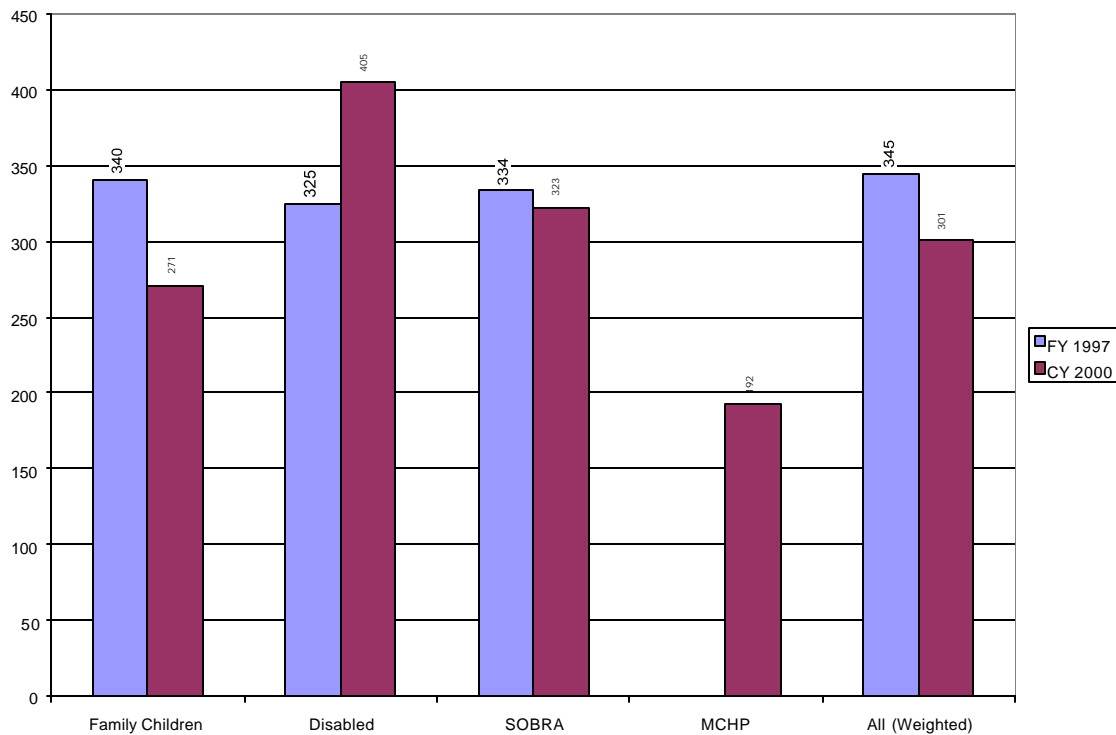


**Figure III-18: Percentage of Population Receiving an Emergency Room Service by Coverage Category**





**Figure III-19: Emergency Room Visits per Thousand Annualized by Coverage Category**



### **Discussion**

These variations are what would be expected based on the composition of the coverage groups. One would expect the disabled and pregnant women to use a higher volume of ambulatory services than those enrolled in Family and Children and MCHP. The MCHP population, with a higher income threshold and largely adolescent population, would be expected to use fewer ambulatory services.

The Families and Children population have higher well child service utilization than do any other group. This can be explained, however, by considering that the Disabled and MCHP populations are more heavily adolescent than is Family and Children. Therefore, the high volume of well child services used by those aged two and under has a far greater impact on the overall utilization rates for that coverage group.

The prior discussion regarding the impact of the demographic shifts that have occurred under the HealthChoice program also become evident in the study. As shown, well child visits per thousand increased for every coverage group under HealthChoice. The collective rate, however, is below that of FY 1997. This is a direct result of the MCHP population utilizing services at a volume below that of the Family and Children group. Due to the size of the MCHP population, their

impact on overall utilization rates gives the impression that visits per thousand has declined under HealthChoice.

## **SUBPOPULATION ANALYSIS - CHILDREN WITH SPECIAL HEALTH CARE NEEDS**

### **Overview**

Special Needs Children. Serving special needs children has been a primary goal of the HealthChoice program from its inception. Children with special health care needs are identified in program regulations as a special needs population. The Department also established the Special Needs Advisory Committee at the outset of the program to provide regular feedback and guidance on issues related to special needs children.

Special Needs Children – Categories. The challenge for the evaluation with regards to this HealthChoice subpopulation is how to define and examine it in a way that yields useful insights. Clearly, both a child in foster care and a child enrolled in the REM program have special health care needs, but the nature of their special needs are likely to be very different. Rather than attempt a “one size fits all” analysis of special needs children, the evaluation groups together a series of analyses to examine the provision of care to specific categories of special needs children. The analyses include:

- Services to foster care children. The experience of children in foster care is compared to the overall HealthChoice population and the experience of children in foster care pre-HealthChoice. This analysis relies primarily on claims and encounter data.
- Services to SSI-eligible children. The experience of children who are eligible for SSI is compared to the overall HealthChoice population and the experience of SSI children before the HealthChoice program was implemented. This analysis relies primarily on claims and encounter data.
- Services to children enrolled in the REM program. The composition (e.g., by age, eligibility category, etc.) and utilization patterns of REM enrollees (who are predominantly children) is compared to that of the overall HealthChoice population. Since services provided to REM enrollees are in effect “carved-out” of the HealthChoice benefit package for which MCOs are responsible, the analysis of REM utilization is based entirely on providers’ fee-for-service claims.
- Therapies analysis. Using encounter and claims data, this analysis looks at the effect that the carve-out of occupational, physical and speech therapies had on access and utilization of these services.
- Other analyses. In addition to the analyses presented here, the Department has previously conducted other targeted studies of special needs children. These studies concerned:

- *Services to children with sickle cell disease.* This study, conducted in 1998, used chart reviews and pharmacy data to examine the provision of prophylactic penicillin for children in HealthChoice. It found that compliance with the standard of prescribing prophylactic penicillin was similar before and after implementation of the HealthChoice program.
- *Services to children with cerebral palsy.* In November 1997, in response to concerns raised by the special needs advisory committee, the Department conducted chart reviews and interviews of families of children with cerebral palsy during the early days of the HealthChoice program. The study found that children with cerebral palsy selected for this review received good quality preventive care and continued to receive the specialty care services that had been prescribed to them prior to enrollment in an MCO. More specifically, it found that:
  - ❖ Eighty percent of children with cerebral palsy remained with the same PCP they had prior to HealthChoice;
  - ❖ The subjects of the review were receiving good quality preventive health care, including immunizations and lab tests;
  - ❖ In general, the children studied continued to receive the specialty services ordered prior to their HealthChoice enrollment;
  - ❖ MCOs reported that after a child in the sample became enrolled in an MCO, 80 percent of services and therapies ordered prior to enrollment continued to be authorized ; and
  - ❖ MCOs reported that new treatment plans were developed for 61 percent of sampled enrollees.

Considered together, the analyses described above provide an instructive picture of service delivery to special needs children in the HealthChoice program.

## **Foster Care Children**

Overview. Children in foster care are particularly vulnerable and they often have “unique and complex health issues.”<sup>8</sup> They are at increased risk for acute and chronic medical conditions, behavioral and emotional problems, developmental delays, and mental health and substance abuse conditions.<sup>9,10</sup> Foster care children, therefore, generally require a heightened level of health services.

Although health problems are prevalent among foster care children, there are significant barriers to providing the health care services that are needed to address these problems. Recognized barriers to care for this population include: multiple placements; large caseloads; incomplete health records; lack of training of foster parents, health care providers, and caseworkers; Medicaid enrollment difficulties and delays; service limitations of Medicaid managed care; medical consent problems; and inadequate coordination of services.<sup>2,11,12</sup> In Maryland, the health care of foster care children is managed by two systems, the Department of Health and Mental Hygiene and the Department of Human Resources, which creates challenges for care coordination.

Foster care children are included in the HealthChoice program. They were not eligible, however, for either of Maryland's earlier managed care programs – MAC or voluntary HMOs. By comparing utilization data for ambulatory care services and well child visits, the experience of children identified as being in foster care can be contrasted with that of all children in the HealthChoice population. It is also useful to examine the percentage of all HealthChoice foster children who have been enrolled in more than one MCO as compared to the percentage of all children enrolled in more than one MCO.

The analysis is complicated by the fact that foster care children have longer periods of fee-for-service eligibility than most HealthChoice children do. Foster care children are given 60 days to select a MCO, whereas other HealthChoice enrollees are given 21 days to choose a MCO. Foster care children are allowed

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<sup>8</sup> Kaye, N.; Horvath, J.; Booth, M. Monitoring the Quality of Health Care Provided to Children in Foster Care. Technical Report. Portland, ME: National Academy for State Health Policy; May 1998.

<sup>9</sup> Silver, J.A.; Amster, B.J.; Haecker, T. Young Children and Foster Care: A Guide for Professionals. Baltimore, MD, Paul H. Brookes Publishing Company.

<sup>10</sup> Health Conditions, Utilization and Expenditures of Children in Foster Care. U.S. Department of Health and Human Services, Office of the Assistant Secretary of Planning and Evaluation; September 2000.

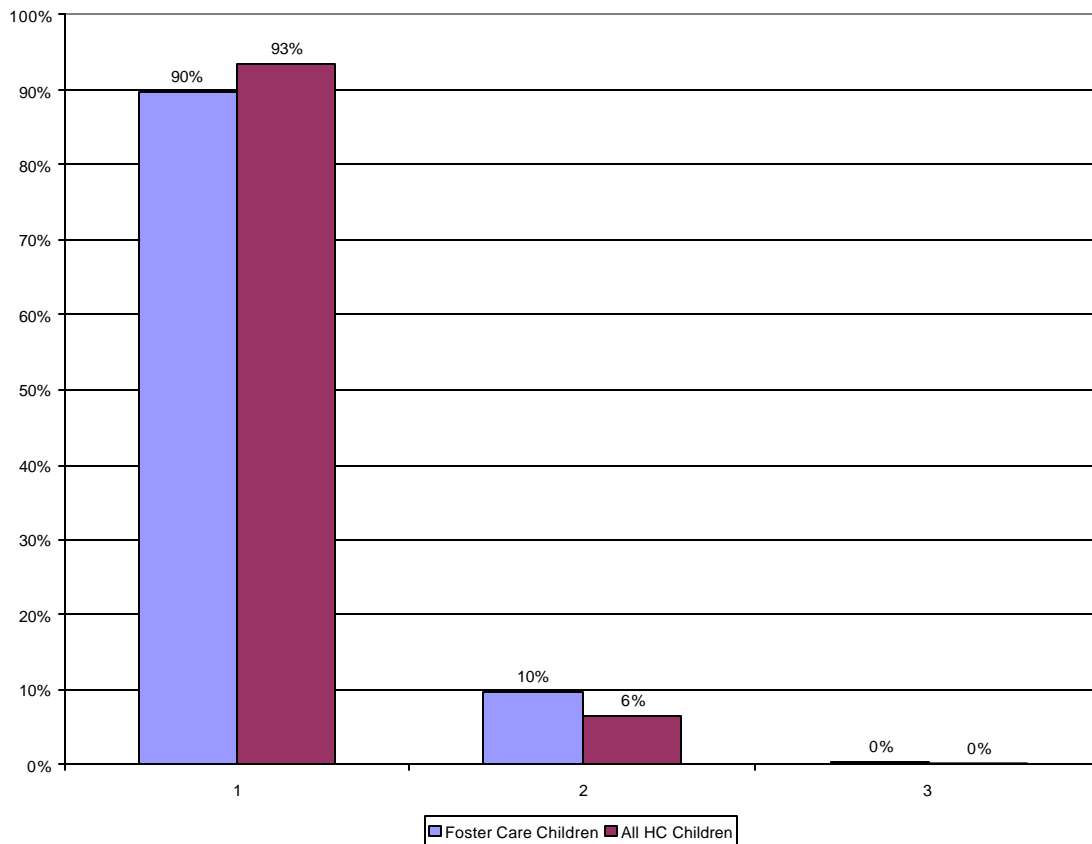
<sup>11</sup> Battistelli, E.S. The Health Care of Children in Out-of-Home Care: A Survey of State Child Welfare Commissioners. CWLA Press; 1998.

<sup>12</sup> Code Blue: Health Services for Children in Foster Care. Sacramento, CA: California State University Institute for Research on Women and Families; 1998.

the additional time for MCO selection in order to give the foster care workers time to work with the foster parents to choose a MCO. In addition, there are often delays in processing eligibility applications for foster care children, which results in longer fee-for-service periods once eligibility is completed since eligibility is back-dated to entry into foster care. The analysis presented in this report considers only services provided to foster care children who are MCO-enrolled. As a result data representing services delivered to foster care children do not include any utilization occurring during a period of time that is longer than it is for the rest of the HealthChoice population. The period of time following a foster care child's application for Medicaid benefits and before the child's MCO enrollment is significant not only because it lasts so long, but also because of when it occurs. For foster care children, the period before encounter data can be collected coincides with the two months immediately following their entry into foster care. During this period, any services received by foster care children are paid for through fee-for-service. For example, within five working days of a placement, a foster care child is required to have at minimum a partial health exam, and within 60 days of entering care, a foster care child must receive a comprehensive physical examination. Initial examinations for foster care children often occur during the fee-for-service period, and are therefore not reflected in MCO encounter data.

Findings. The experience of foster care children receiving MCO services contrasts with the overall HealthChoice experience. First of all, foster care children are slightly more likely to experience enrollment in multiple MCOs over the course of the year: ten percent of foster care children experience multiple enrollments, but just six percent of children in the general HealthChoice population do. Foster care children spend longer periods of time enrolled in fee-for-service before enrolling in a MCO.

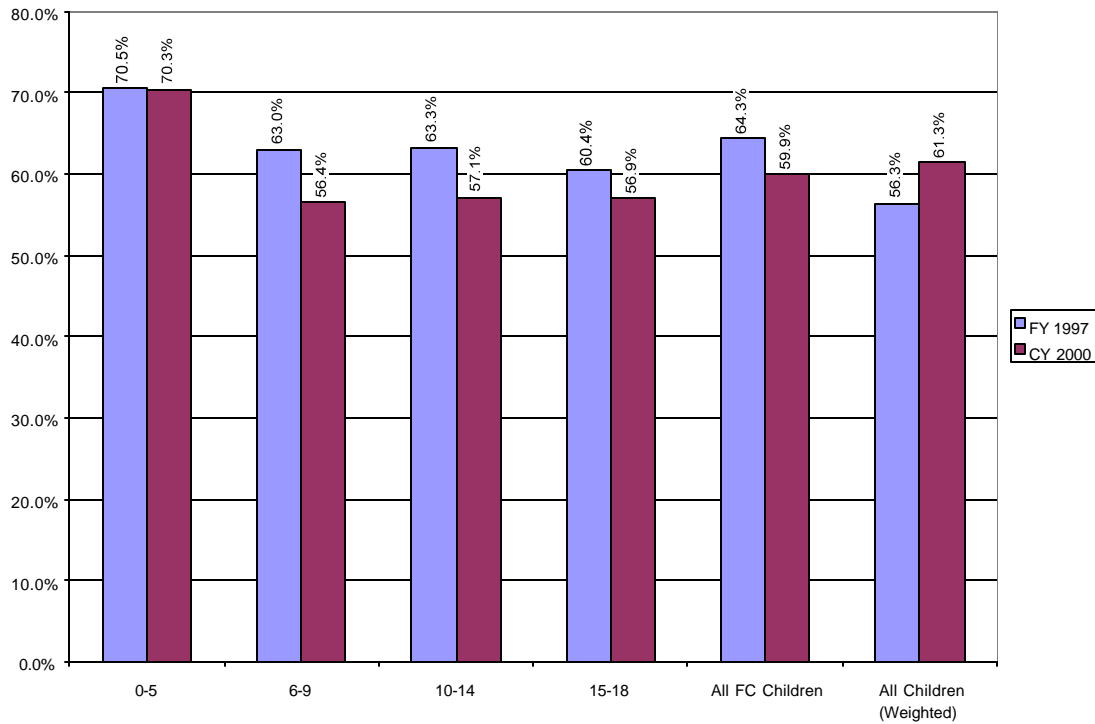
**Figure III-20: Percentage of Children Enrolled in One or More MCOs - CY 1999**



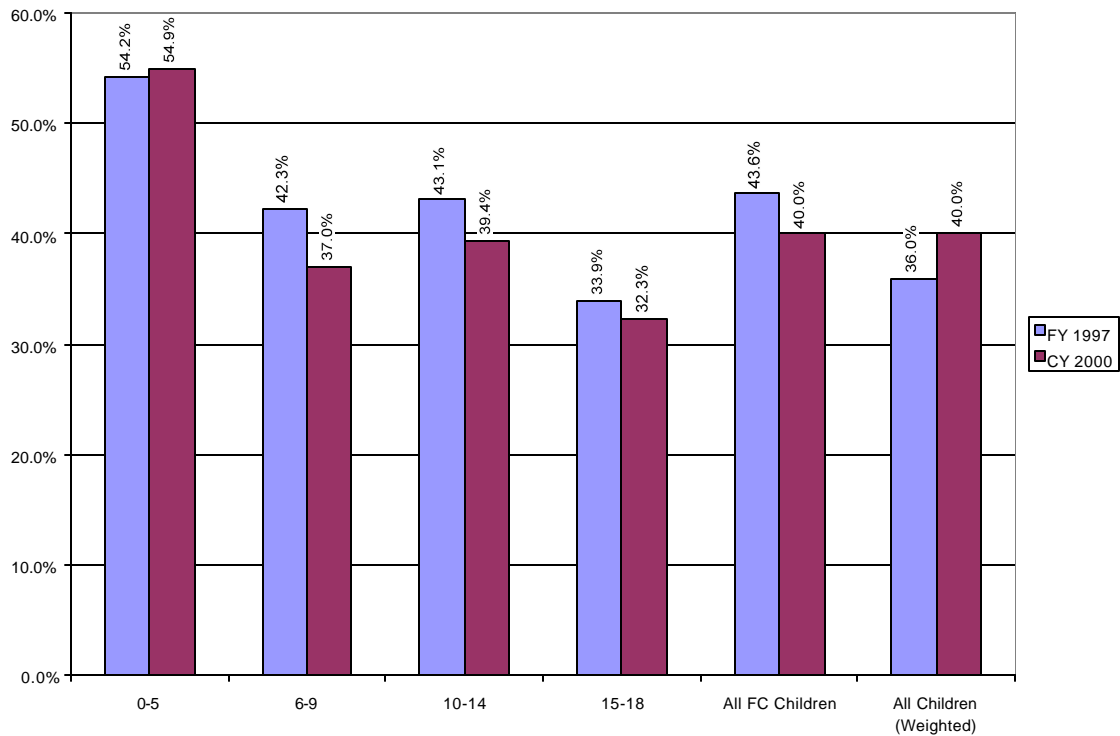
According to MCO encounter data, the percentage of foster care children receiving an ambulatory service has declined, from 64 percent in FY 1997 to 59 percent in CY 2000. The trend for foster care children is the opposite of the ambulatory care utilization trend of the general HealthChoice population, in which the percentage of children receiving an ambulatory care service increased between FY 1997 and CY 2000. The percentage of foster care children who received a well child visit also declined from 44 percent to 40 percent, again in contrast to the general HealthChoice population.

An analysis of fee-for-service utilization for foster care children enrolled in HealthChoice MCOs indicates that there is a significant level of service being provided through fee-for-service before the children are enrolled in MCOs or carved-out services. This finding indicates that the above encounter data analysis represents just a portion of the range of services provided to foster care children, and that a more comprehensive analysis of this issue is warranted.

**Figure III-21: Percentage of Foster Care Children Receiving an Ambulatory Service**



**Figure III-22: Percentage of Foster Care Children Receiving a Well Child Service**





Discussion Several factors may account for the disparity in services provided to foster care children through the MCO:

- Foster care children spend longer periods of time in fee-for-service before being enrolled in a MCO and therefore the encounter data do not provide a complete picture of service utilization.
- Because foster care children are more transient than the general population, common managed care practices, such as assigning a child to one primary care provider, present greater barriers to care.
- MCOs cannot perform the same direct outreach activities when targeting foster care children that they have used with the general population. Instead, MCOs must outreach to foster care children through foster care caseworkers at local departments of social services. This makes it challenging for MCOs to get foster care children into needed services because they often have difficulties finding the children.
- Rules and practices that are unique to foster care children (such as determining responsibility for choosing a PCP or MCO for the child) add additional barriers to making service arrangements.

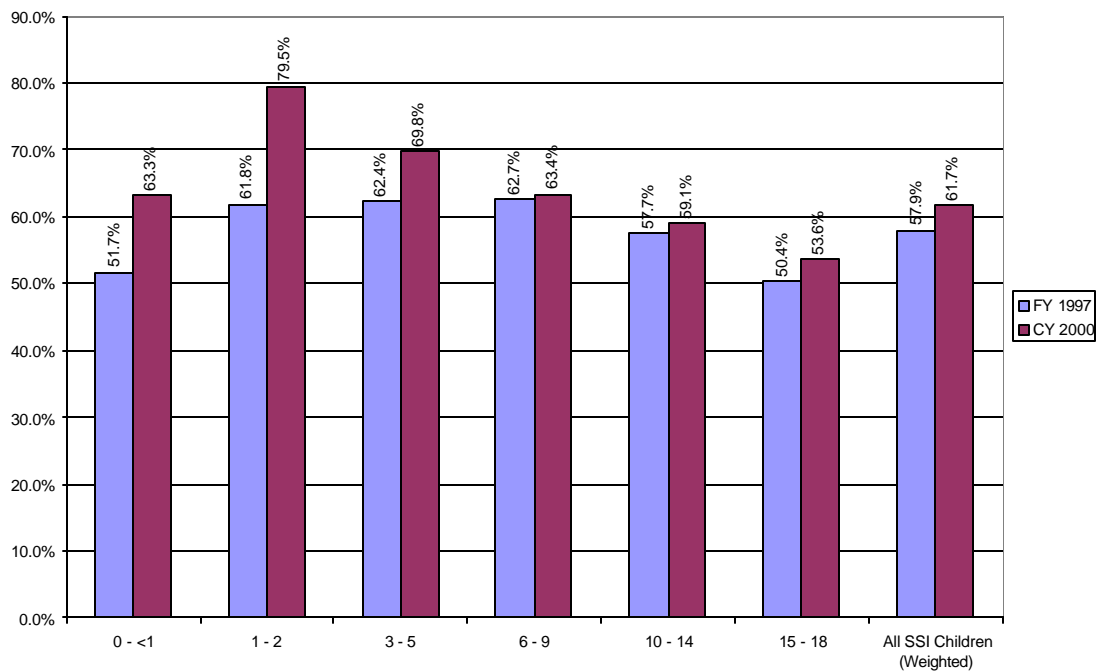
The instability of foster care children's residential arrangements may also understate their actual utilization of services. Foster care children entering HealthChoice have longer periods of fee-for-service eligibility than most HealthChoice children. It is possible that a significant number of foster care children received services after coming into foster care and becoming Medicaid-eligible, but before enrolling in HealthChoice. The encounter data analysis does not capture services provided to foster care children during the transitional period before HealthChoice enrollment, when the child would access health care services through fee-for-service Medicaid. Thus, foster care children may be receiving as many services, if not more, than the general population. This is an area in which continued study is needed.

### **SSI-Eligible Children.**

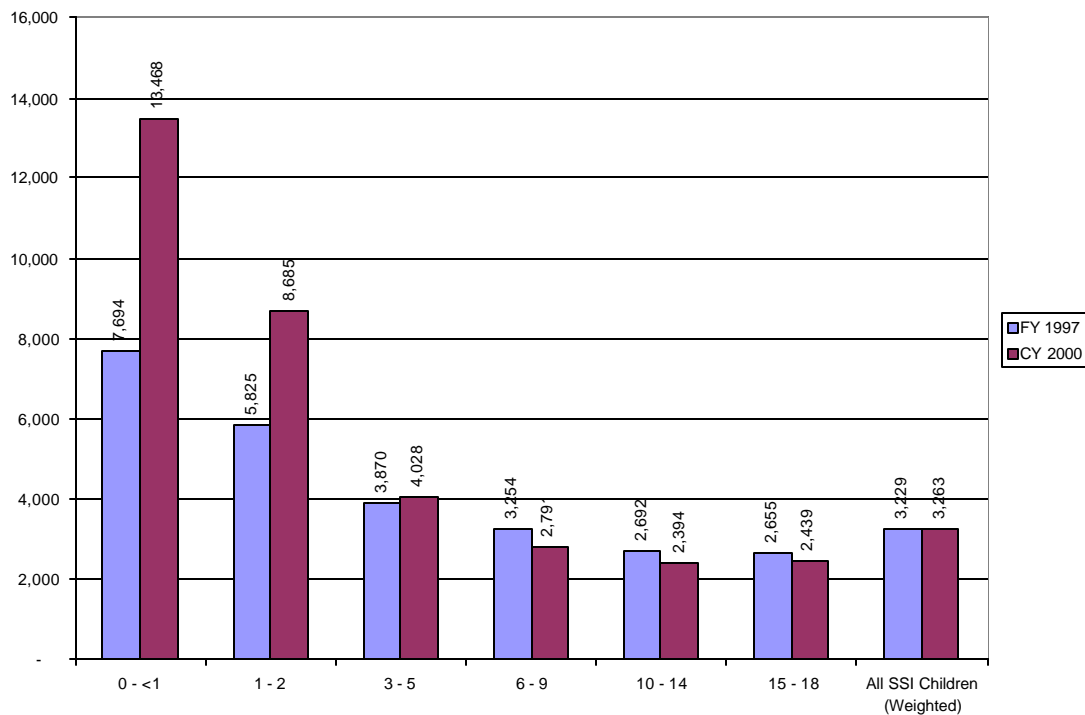
Overview. Like children in foster care, children who are eligible for SSI benefits eligibility are a HealthChoice subpopulation that is distinctly different from the HealthChoice population as a whole. By definition, children eligible for SSI have an identified disability. They have more health problems and need more services than the general population. This assumption is borne out by the large number SSI children enrolled in the REM program.

SSI Children in MCOs. The number of SSI eligible children in HealthChoice has remained relatively constant, from approximately 12,000 to 13,000 from FY 1997 to CY 2000. The percent of the eligible SSI population receiving an ambulatory visit has increased from 58 percent in FY 1997 to 61 percent in CY 2000, an increase that is very similar to that noted for the overall HealthChoice population. Similar to the trends observed in the general HealthChoice population, these increases were most dramatic among children under age two. With regard to well child visits the percentage of SSI children receiving a visit increased from 29 percent in FY 1997 to 32 percent in CY 2000. This rate of increase was equivalent to that experienced by all children in the program. It is possible that some ambulatory visits are not coded as well child visits since physicians for most disabled children may find a medical condition even during a well child visit.

**Figure III-23: Percentage of SSI Children Receiving an Ambulatory Service**

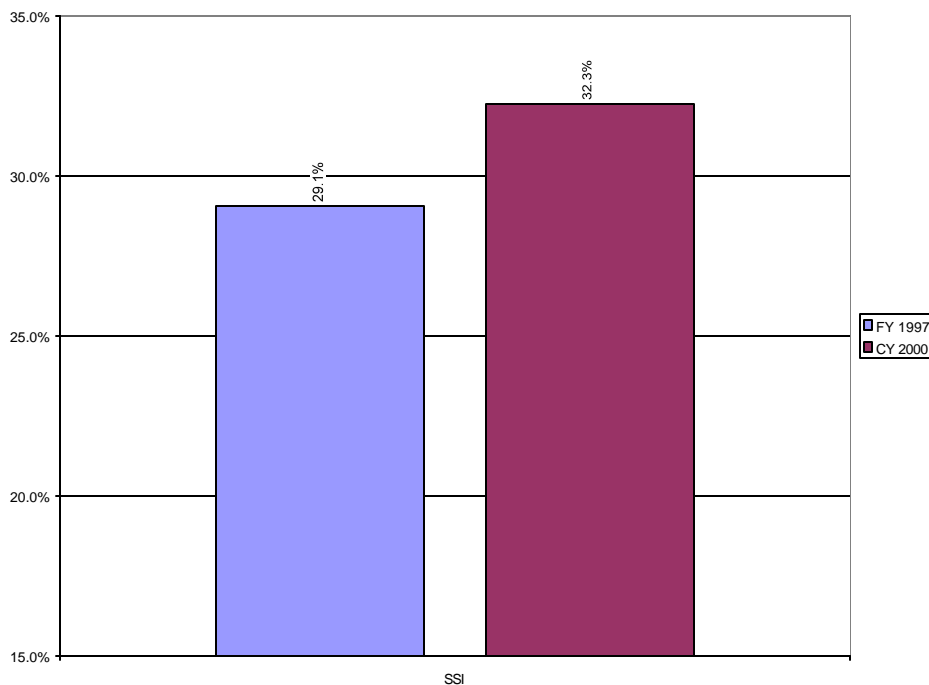


**Figure III-24: Ambulatory Visits per Thousand Annualized, by Age**



SSI children enrolled in MCOs did experience marginal increases in ambulatory visits per thousand, a trend that contrasts with what was observed in the general population. Well child visits per thousand also increased slightly for SSI children enrolled in HealthChoice MCOs, rising from 446 to 491.

**Figure III-25: Percentage of SSI Children Receiving a Well Child Service**



SSI Children – MCO and REM Combined. In most of the analyses in this evaluation that compare experience before and after HealthChoice implementation, measures based on CY 2000 encounter data are compared to fee-for-service data from FY 1997. These comparisons ignore the fact that the utilization of individuals in the REM program is not captured by encounter data (encounter data does not include carved-out services) utilization for the REM population is in the FY 1997 fee-for-service data. Because the REM population is very small compared to overall HealthChoice enrollment (less than 1 percent), in most of the analyses presented, the ‘missing’ REM population has no significant effect.

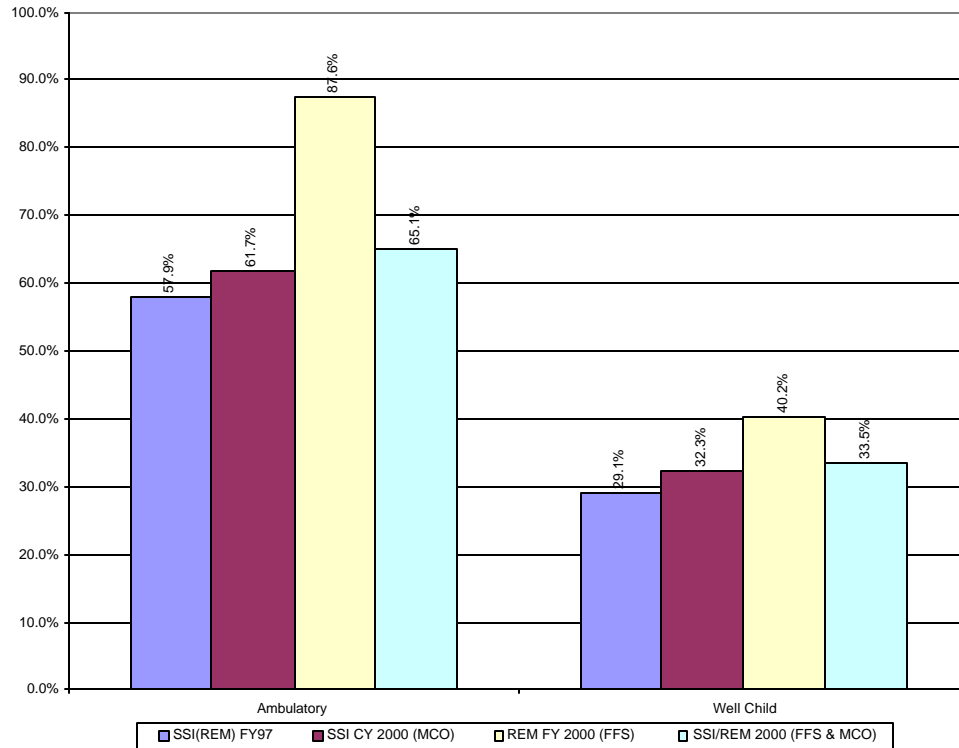
This is not the case for children with SSI eligibility. In CY 2000, the REM population accounted for nearly 10 percent of SSI children enrolled in HealthChoice. Failure to account for the REM population, therefore, can skew comparisons of services utilization by SSI children before and after the implementation of HealthChoice. This is especially important since, as the following section shows, REM enrollees use significantly more services than SSI children do. Although there is no methodology for removing the REM population from the FY 1997 data, theoretical adjustments can be made to the CY 2000 data in an effort to assess their impact on utilization rates.

As the following tables show, combining the utilization of the CY 2000 SSI children with that of the FY 2000 REM children demonstrates that these children receive a higher volume of service under HealthChoice. Overall, 65 percent of SSI/REM children received an ambulatory visit in CY/FY 2000 as compared to 58 percent in FY 1997<sup>13</sup>. With respect to visits per thousand, the SSI/REM children received 3,740 in CY/FY 2000 as opposed to 3,229 in FY 1997.

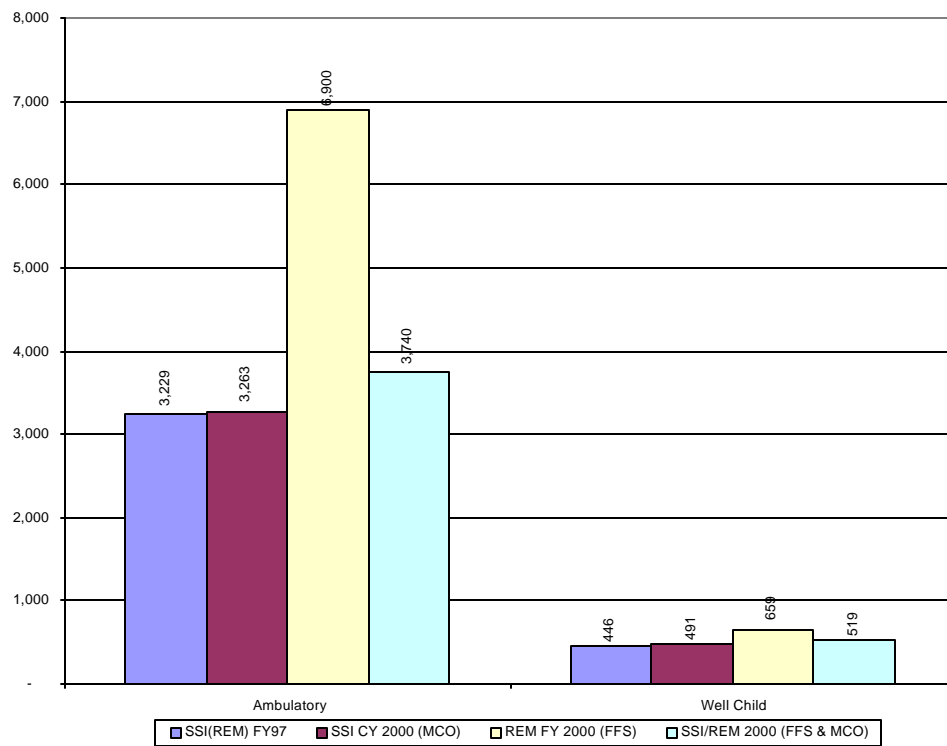
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<sup>13</sup> REM data was calculated based on fiscal year as opposed to calendar year. All other methodologies were the same.

**Figure III-26: Percentage of SSI/REM Children Receiving an Ambulatory Care or Well Child Service**



**Figure III-27: Ambulatory Visits per Thousand Annualized**



Discussion. Although the SSI population has remained relatively constant over the evaluation period, the carve-out of the REM program has had a noticeable impact. In FY 1997, approximately 10 percent of the SSI child population was comprised of future REM enrollees. The result would be seemingly depressed levels of service use among CY 2000 SSI children. The combination of SSI and REM data, as presented in the tables above, demonstrates the impact of merging the two populations.

The examination of this data suggests that the HealthChoice program has been successful at service delivery for special needs children. Special needs children, as defined by SSI and REM eligibility, have had improved access to care, including preventive services. Furthermore, these children have seen increases in the level of services they receive with the greatest increases among those below the age of five.

### **Rare and Expensive Case Management**

Introduction. The REM program is a carve-out of HealthChoice created to provide intensive case management services to a select group of individuals with rare, expensive, and chronic medical conditions. The specific goals of REM case management are: 1) to facilitate access to quality health care through a varied provider network, 2) to promote coordination of services, and 3) to optimize the REM enrollee's functional ability and quality of life. To be eligible for the REM program, the individual must qualify for HealthChoice and, in addition, meet specific diagnostic and age criteria. REM enrollees receive medical care on a fee-for-service basis from Maryland Medicaid providers. The REM program is administered by the Department through a contractual relationship with the Center for Health Program Development and Management (the Center) at University of Maryland, Baltimore County (UMBC).

The REM program has experienced a number of changes over time. Initially, the REM Unit at the Center employed some of its own case managers. As of December 31, 1998, all direct case management responsibilities were transitioned to five private agencies selected through a competitive bid process. There were also changes with regard to the qualifying diagnoses. During the first year of the program (FY 1998), 138 ICD-9 codes covering 10 condition types qualified for the REM program. This list was expanded to cover 31 condition types in FY 1999 as new ICD-9 codes were added to the list and others were dropped. For some conditions, the age eligibility criteria also changed. Finally, the mandatory enrollment requirement was eliminated in FY 2000 to allow people to stay in MCOs if they choose.

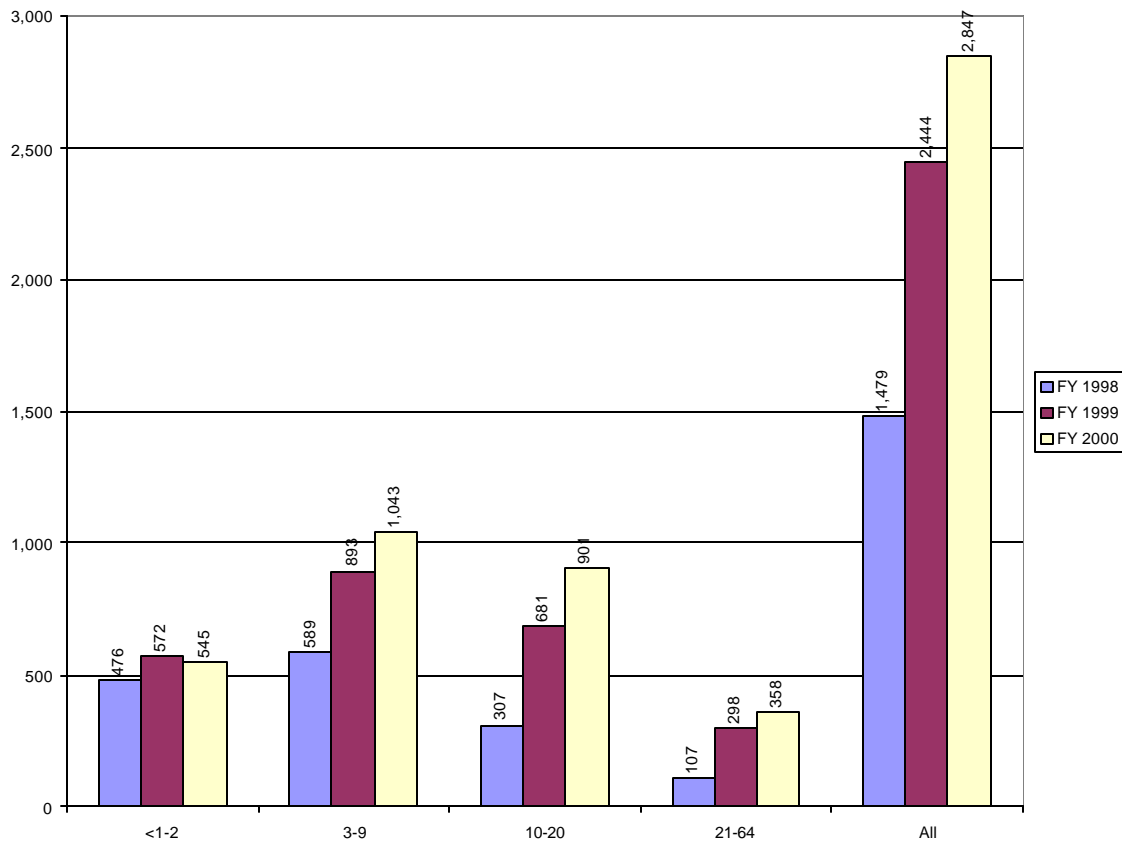
Methodology. Although the methodology used to calculate services utilization by the REM population is the same as for the other measures presented in this section, there are two caveats that merit consideration. First, the time frames for

comparisons (i.e., FY 1997 for Medicaid fee-for-service, CY 2000 for HealthChoice, and FY 2000 for REM) do not match precisely. The data available for the REM population were based on claims data for FY 2000. The data available for the fee-for-service population in FY 1997 are based on FY 1997 claims data, which includes claims for services provided to REM-eligible individuals. The data available for the HealthChoice population were based on encounter data from CY 2000 and did not include the REM-eligible individuals. Second, the measures of service utilization expressed herein are appropriate to summarize the data of large populations. The REM population, however, is made up of less than three thousand people. Since the majority of the REM population is children under the age of 21, those in the 21 to 64 age range were aggregated in order to increase the sample size for extrapolation to visits per thousand.

The REM Population. Like the HealthChoice program as a whole, Rare and Expensive Case Management is in its fourth year of operation. During the first year 1,479 individuals were enrolled in REM. Enrollment increased 65 percent to 2,444 members in FY 1999. This large enrollment increase has been attributed to intensive outreach efforts, the qualifying diagnoses, and the expansion of age eligibility for some diagnostic conditions. There were 2,847 REM enrollees in FY 2000, representing a 16 percent increase from FY 1999. The majority of the REM enrollees were children under age 21. In FY 2000, 87 percent of the REM enrollees are children under the age of 21. This represented a small decline from the 92 percent in FY 1998. Some of the changes in the distribution of the REM enrollees by age group are due to programmatic changes made with regard to age eligibility criteria for a number of diagnoses.

The percentage of REM enrollees in the Families and Children eligibility category declined from 48 percent in FY 1998 to 34 percent in FY 2000, and the percentage of REM enrollees in the Disabled eligibility category grew from 50 percent to 59 percent during the same period. REM enrollees eligible through MCHP increased from three percent in FY 1999 to six percent in FY 2000. For all three years, less than two percent of REM enrollees were in the "Other" eligibility category.

**Figure III-28: Changes in REM Population 1998 to 2000**

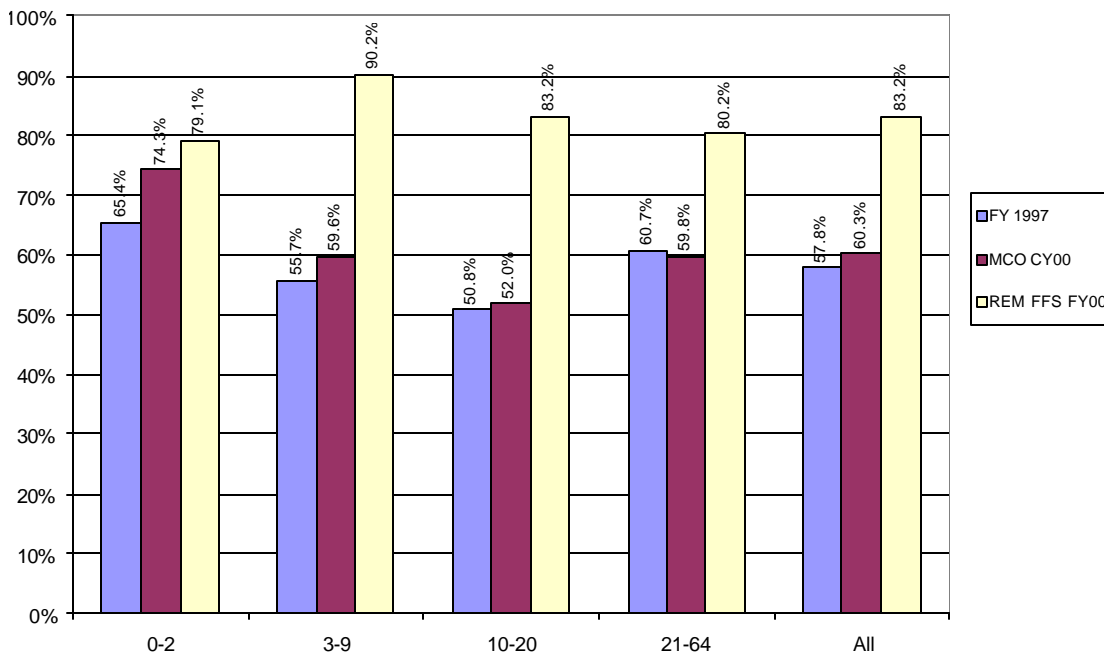


REM Ambulatory Care Visits. Overall, the REM population in FY 2000 had a higher percentage of individuals with ambulatory care visits than the HealthChoice population in CY 2000 and the fee-for-service population in FY 1997. Within the REM population in FY 2000, 83.2 percent of the enrollees received health care services compared to 60.3 percent of the MCO-enrolled HealthChoice population in CY 2000, and 57.8 percent of the fee-for-service population in FY 1997. The REM population in FY 2000 had a higher percentage of ambulatory care visits in all age groups compared to the other two populations.

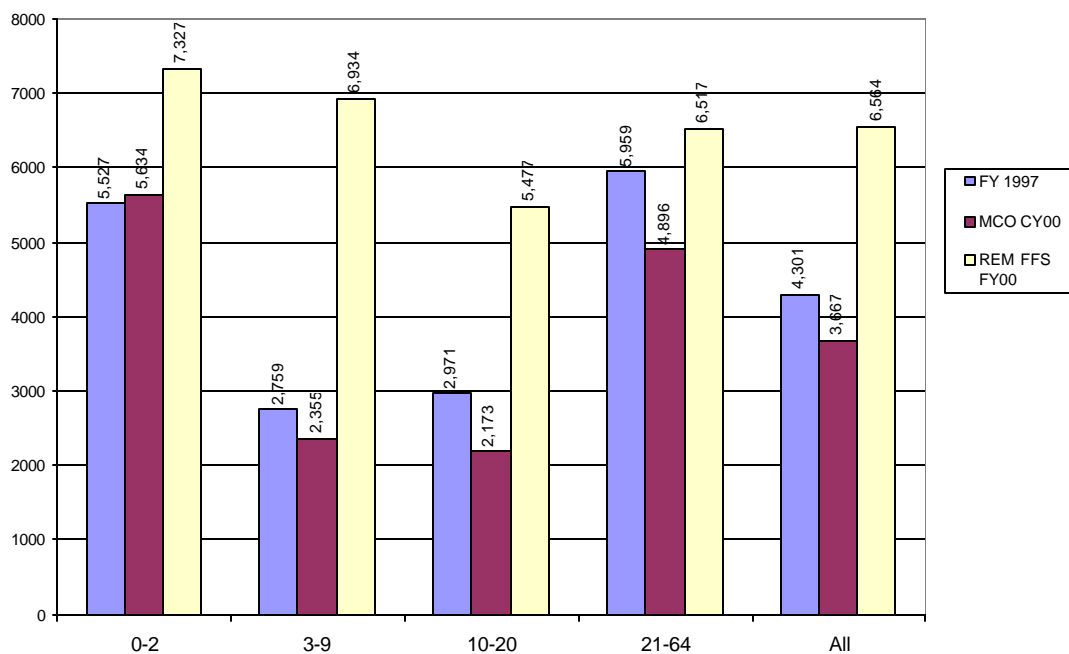
There were large differences in the number of ambulatory care visits per thousand among the three populations. Overall, the REM population in FY 2000 received 6,664 visits per thousand compared to 3,367 visits per thousand for the HealthChoice population in CY 2000 and 4,301 visits per thousand for the fee-for-service population in FY 1997. The REM population in FY 2000 had more ambulatory care visits per thousand in all age groups than the other two populations. The higher utilization of ambulatory care visits for the REM population, however, was expected because this is a targeted population with chronic conditions that are likely to have higher levels of service needs.



**Figure III-29: Percentage of REM Population Receiving an Ambulatory Service by Age**



**Figure III-30: Ambulatory Visits of REM Population per Thousand Annualized by Age**

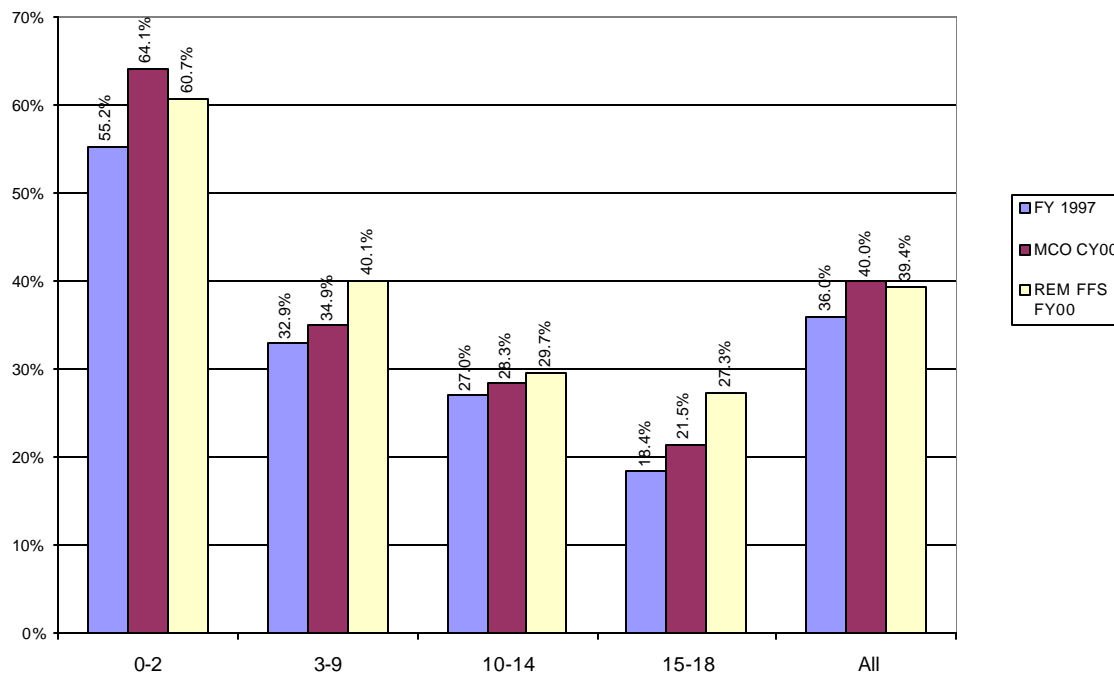


REM Well Child Visits. The percentage of children receiving well child visits was slightly higher for the REM population compared to the other two populations. For FY 2000, 39.4 percent of children enrolled in REM had well child visits, compared to 40.0 percent of children enrolled in HealthChoice MCOs for CY 2000, and 36.0 percent of children in the fee-for-service population for FY 1997.

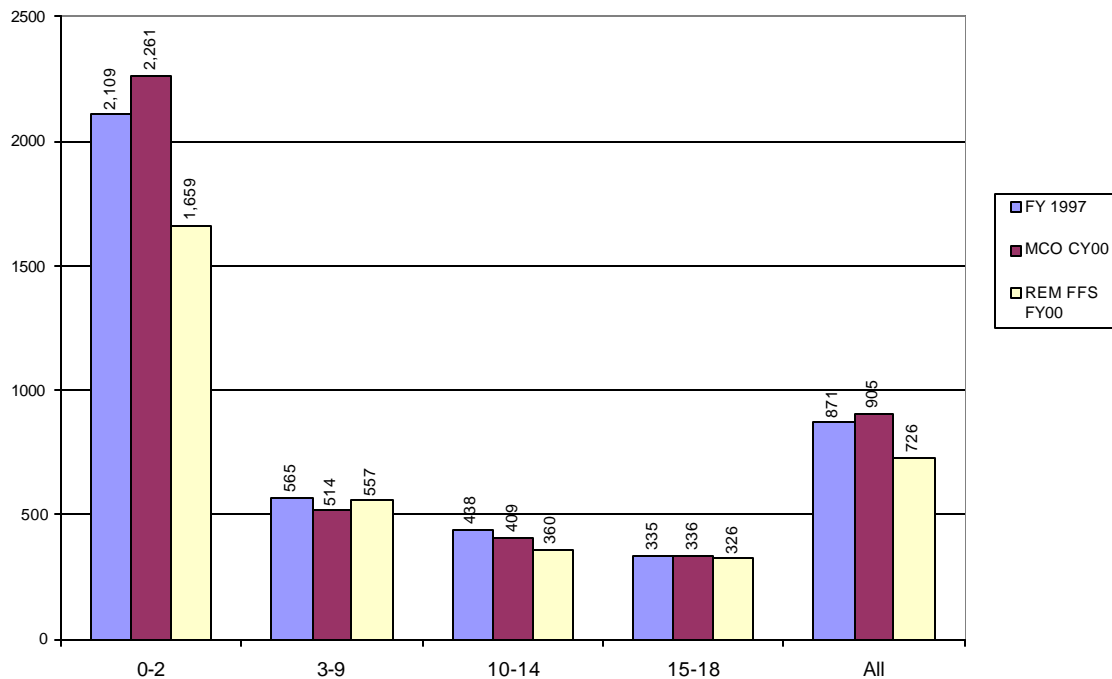
The number of well child visits per thousand, however, was slightly lower for the REM population than for the other two populations. In FY 2000, the REM population had 726 visits per thousand, as compared to 905 visits per thousand for the MCO-enrolled HealthChoice population in CY 2000, and 871 visits per thousand for the fee-for-service population in FY 1997. For all three populations, the largest number of well child visits per thousand was for children aged 0-2. For those aged three to 18, the number of well child visits dropped sharply for all populations.

The utilization of well child visits were expected to be about the same for the all three populations since the children were treated according to the same periodicity schedule for well child care. The slightly higher percentage of REM children receiving well child visits may be attributable to case managers' reminders. A possible explanation for the smaller number of well child visits per thousand for REM children is the likelihood that a substantial number of visits for periodic preventive care also address a disease issue. Under these circumstances, the PCP would code the service as a "sick" visit rather than a "well child" visit.

**Figure III-31: Percentage of REM Population Receiving a Well Child Service by Age**

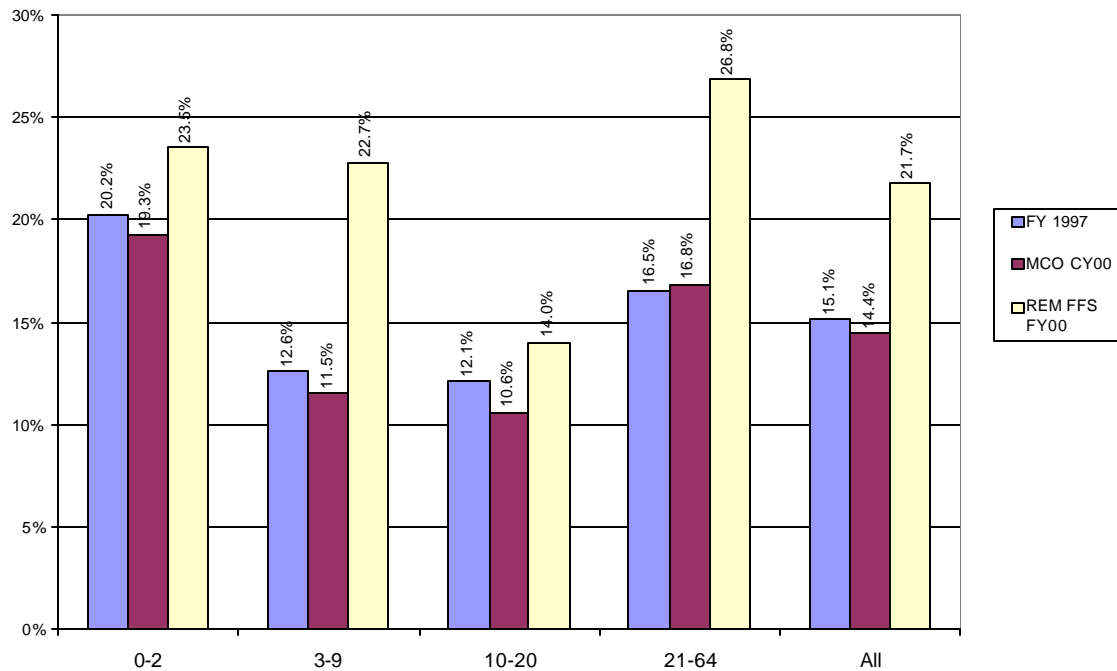


**Figure III-32: Well Child Visits per Thousand Annualized by Age**

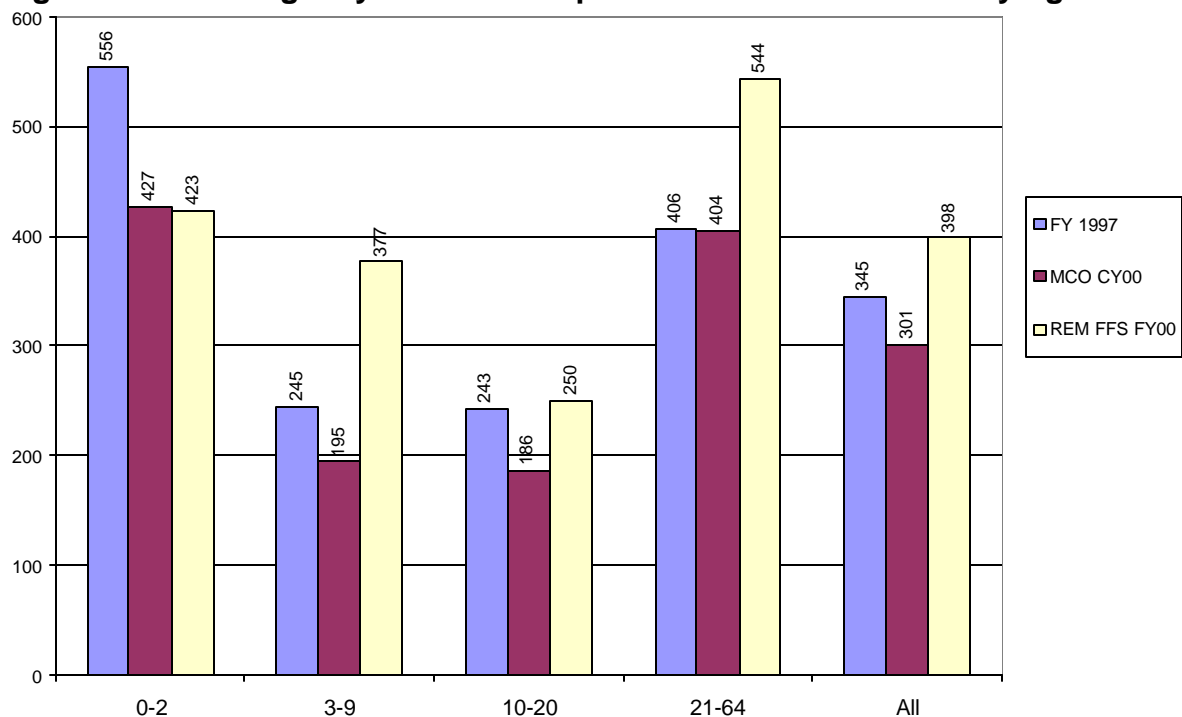


REM ER Visits. Overall, a higher percentage of REM population had ER visits compared to the other two populations. Within the REM population in FY 2000, 21.7 percent of the enrollees had an ER visit compared to 14.4 percent in the MCO-enrolled HealthChoice population in CY 2000, and 15.1 percent in the fee-for-service population in FY 1997. The REM population also had higher numbers of ER visits per thousand. The REM population in FY 2000 had 398 ER visits per thousand compared to 301 ER visits per thousand for the MCO-enrolled HealthChoice population in CY 2000, and 346 ER visits per thousand for the fee-for-service population in FY 1997. Within the REM population, those in the 21-64 age group had the highest percentage of ER visits and the highest number of ER visits per thousand. For the other populations, the 0-2 age group had the highest percentage of ER visits and the highest number of visits per thousand. The REM population may be at a higher risk for emergency services compared to the general HealthChoice population.

**Figure III-33: Percentage of REM Population Receiving an Emergency Room Service by Age**



**Figure III-34: Emergency Room Visits per Thousand Annualized by Age**



The utilization patterns for the REM program were consistent with what would be expected from a chronically ill, high-risk population that would potentially benefit from intensive case management. Overall, a higher percentage of the REM population in FY 2000 received ambulatory care visits, ER visits, and well child

visits compared to the MCO-enrolled HealthChoice population in CY 2000 and the fee-for-service population in FY 1997.

The REM Cohort Study. The previous discussion considered the REM population relative to the HealthChoice population overall. Not surprisingly, the REM population used services at a considerably higher rate than the general HealthChoice population. This section will focus on how individuals within the REM program have fared over time.

- Introduction. In FY 2000, a cohort design was used to study the cost and utilization in the REM program. In this study, 450 REM enrollees were found to have two years of continuous enrollment in the MAC program (FY 1996 and FY 1997) and two years of continuous enrollment in the REM program (FY 1998 and FY 1999). Continuous enrollment was defined as less than six months break between MAC disenrollment date and REM enrollment date, and no more than three months break in enrollment during any program year.
- Findings. The results from this study show that the total medical cost was lower in FY 1999 than in FY 1997 and the average per member per month (PMPM) medical cost declined from \$3,044 in FY 1997 to \$2,907 in FY 1999 (case management cost not included). Compared to FY 1997, both the medical cost and service utilization for the REM cohort in FY 1999 were lower in six of the eight claim types, including dental, home health, inpatient hospital, long-term care, outpatient, and physician services. Two areas of increases in medical cost and service utilization were in pharmacy and special services. Since REM enrollees are by definition a chronically ill population that includes many individuals with degenerative diseases, it is expected that the need for medication and special services would increase over time. Many of the service provisions under special services address educational needs, which are likely to reduce duplication of services and lead to early detection and treatment of symptoms. It is hoped that the shift to increased utilization of pharmacy and special services would lead to further decline in medical cost in the long run by reducing complications and the use of inpatient and ER services.

### **Occupational Therapy, Physical Therapy, Speech Therapy and Audiology Services.**

Introduction. At present, HealthChoice MCOs are not responsible for providing physical therapy, occupational therapy, speech therapy or, audiology to enrollees less than 21 years old. When the HealthChoice program was implemented, these services were an MCO responsibility, and MCOs could require enrollees to access them through in-plan providers. HealthChoice regulations were changed

in 1998 to allow special needs children the flexibility of being able to access “medical services such as physical therapy, occupational therapy, or speech therapy” by self-referral under certain circumstances. MCOs would then have to reimburse the self-referred providers of these services at applicable Medicaid fee-for-service rates. Effective November 1999, the regulations were changed again to create a carve-out for physical therapy, occupational therapy, speech therapy, and audiology services.

Except when delivered as part of an inpatient hospital stay, medically necessary physical therapy, speech therapy, occupational therapy, and audiology services may be accessed by enrollees under 21 years old through any willing Medicaid provider, who then looks directly to the Department for reimbursement on a fee-for-service basis. To assess the effectiveness of this ‘carve-out’ a study was conducted to examine the pattern of therapy service utilization and provider networks before HealthChoice, during HealthChoice, and after the carve-out of therapy services.

*Methodology.* As the purpose of this analysis is to examine what happened when a set of services was removed from the HealthChoice benefit package, it uses a different methodology than many of the other analyses in this evaluation. The population selected for this study consisted of children less than 21 years of age that were HealthChoice eligible in FY 1997 and HealthChoice enrolled from FY 1998 through FY 2001. In addition, these children must be receiving one or more of the following services: 1) occupational therapy (OT), 2) physical therapy (PT), 3) speech therapy (ST), and 4) audiology services (AU).

The study uses fee-for-service claims from FY 1997 and FY 2001. Encounter files from FY 1998 to FY 2000 are used to capture MCO services utilization. Three time periods were defined:

- *Fee-for-service period.* The fee-for-service period is FY 1997 (7/1/1996 through 6/30/1997).
- *HealthChoice period.* The HealthChoice period consists of FY 1998, FY 1999, and FY 2000 (from 7/1/97 through 10/31/1999). During the HealthChoice period, the program’s capitation payments to MCOs included therapy services, which were part of the benefit package for which MCOs were responsible at that time. A small subset of the HealthChoice population, however, was enrolled in the Rare and Expensive Case Management program (REM) rather than in MCOs. Services for the REM population were paid on a fee-for-service basis by the Medicaid program. Thus, the HealthChoice period included both MCO and fee-for-service payments.
- *Therapy carve-out (fee-for-service) period.* The carve-out of therapy services became effective on November 1, 1999. The time period

covering November 1, 1999 through April 30, 2001 made up the therapy carve-out (fee-for-service) period.

There are two caveats that merit consideration. The first relates to the count of the number of providers during the different time periods. It is important to note that many of the therapists provide services through agencies that bill using only one provider number per discipline. Thus, the number of different providers billing for service may be an underestimate of the true number of individual providers. This was, however, true for the entire study period and did not differentially affect one year. The second relates to changes in the eligibility criteria for the REM enrollees in FY 1999. REM children with cerebral palsy (ICD-9 codes 343.0 and 343.2) could choose to leave MCOs and be enrolled in Medicaid fee-for-service. This choice was selected by 373 children in FY 1999 and 166 children in FY 2000 and would likely impact the number of children being served in MCO versus fee-for-service settings.

Occupational Therapy and Physical Therapy - Findings. There appears to be a small declining trend in the percentage of children receiving therapy services over the years. The number of children receiving occupational and physical therapy services increased following the implementation of HealthChoice, from 1,264 in FY 1997 to a high of 1,763 in FY 1998, although the population of children enrolled in HealthChoice decreased in FY 1998. After the carve-out, the number of children receiving occupational and physical therapy services appeared to have declined to roughly 1,000 children receiving services. The average number of occupational and physical therapy services increased from 5.4 in FY 1997 to a high of 9.7 in FY 1999, and then dropped to 8.3 after the carve-out. It is important to note that the utilization of occupational therapy, physical therapy, speech therapy, and audiology services during the carve-out years all represent full-year estimates based on partial-year data. The claims data for FY 2001 were still being updated at the time of this study, and the utilization numbers were likely to be underestimated.

Speech Therapy and Audiology Services - Findings. The number of children receiving speech therapy and audiology services declined after implementation of the HealthChoice program, from 3,692 in FY 1997 to a low of 3,022 in FY 1998. After the carve-out, 2,029 children received speech therapy and audiology services. Utilization did not return to the pre-HealthChoice level. The average number of speech therapy and audiology services decreased from 3.3 visits in FY 1997 to 2.7 visits in FY 1998 and then increased after the carve-out to an average of 5.2 visits. Many more children received speech therapy/audiology services than children that received occupational or physical therapy services. The average number of occupational or physical therapy services received per child per year was higher than the average number of speech therapy/audiology services per child.

Provider Network. A number of findings were suggestive of provider shifts. First, physician claims increased for occupational/physical therapy and speech therapy/audiology services during HealthChoice years then declined after the therapy carve-out. Second, Special Services claims for occupational/physical therapy and speech therapy/audiology services were lower during HealthChoice years but increased after the therapy carve-out. This may be due to therapists billing under their own provider number rather than through a physician after the therapy carve-out. Third, the number of providers increased during HealthChoice years then decreased after the therapy carve-out. In general, the number of providers was likely to be underestimated, assuming that multiple individual therapists practiced in professional groups, with all providers in the group billing under a single provider number. To the extent that this assumption is valid, however, group billing should not affect claims experience in one year more than in another. Finally, there were fewer fee-for-service providers in FY 2000 and FY 2001 than there were in FY 1997.

Discussion. The analysis of therapy services before and after their removal from the HealthChoice benefit package indicates that the strategy of “carving-out” specific services was unwise. With respect to both occupational/physical therapy and speech therapy/audiology services, the number of children receiving services declined following the carve-out. Although carve-outs are sometimes suggested for specific services as a way of improving access, this carve-out appears to have the opposite effect. Several reasons may account for this. First, Medicaid rates for community-based therapy services are quite low; MCOs may pay higher rates to secure a broader network of providers. Second, some enrollees may be confused about whether these therapies are carved out, whether they have coverage for them, or how and where they can access these services.



## **SUBPOPULATION ANALYSIS - INDIVIDUALS WITH CHRONIC ILLNESS**

### **Overview**

The preceding analyses focused on the utilization and experience of special needs children. Individuals with long-term chronic illness are another sub-population meriting special analysis. These individuals are likely to have great need for services. In some managed care systems, individuals with chronic illness have been viewed as patients to avoid. They are, therefore, the type of population that the risk adjustment mechanism used in HealthChoice was intended to address. Risk adjusted capitation is designed to ensure that MCOs are paid more for individuals with poorer health status.

### **Subpopulations of Individuals with Chronic Illness**

Subpopulations Identified. This section looks at three separate subpopulations, of individuals with chronic illness. The targeted subpopulations include:

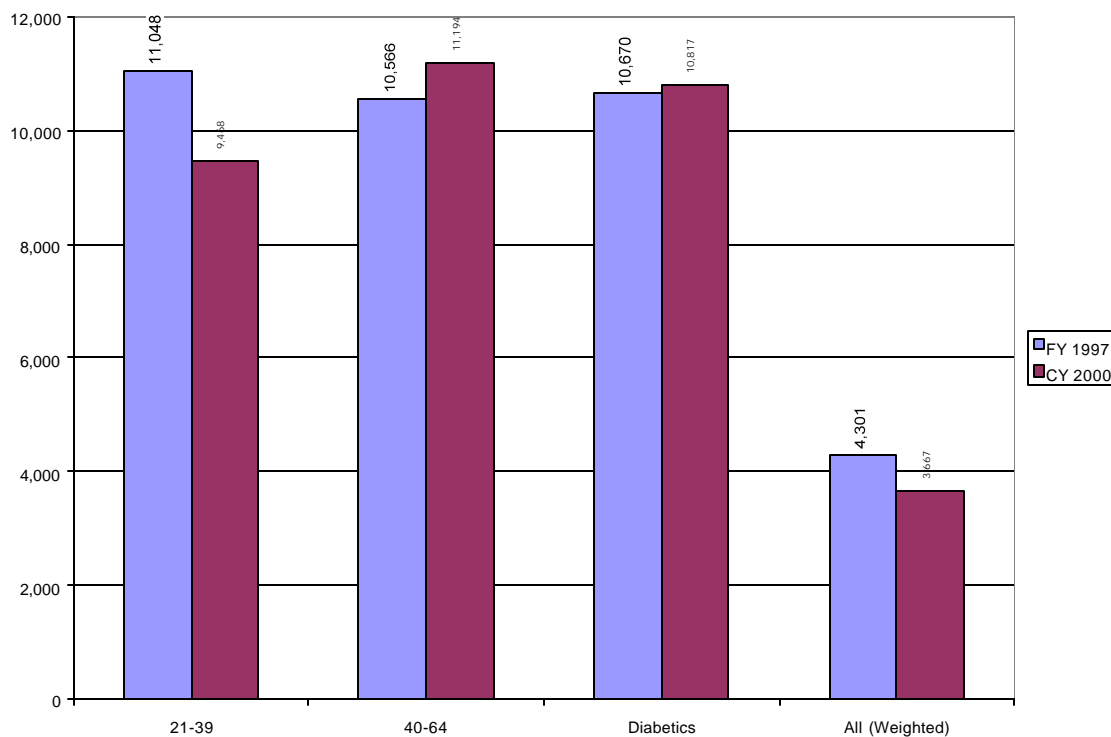
- Individuals with diabetes. The utilization patterns of individuals with diabetes before and after implementation of the HealthChoice program are compared below. This subpopulation is interesting in that its size has remained relatively constant since HealthChoice was implemented at the beginning of FY 1998.
- Individuals with asthma. Like those of individuals with diabetes, the utilization patterns of individuals with asthma are compared before and after the beginning of the HealthChoice program. Unlike individuals with diabetes, however, the individuals with asthma subpopulation has grown markedly since 1997.
- Individuals with HIV/AIDS. Since the implementation of the HealthChoice program, two separate, medical records-based reviews were conducted to assess services to individuals with HIV/AIDS. The results of those studies are reviewed and analyzed below.

Individuals with Diabetes. Diabetes is a long-term chronic condition that affects primarily adult HealthChoice enrollees. In view of demographic differences in HealthChoice enrollment in FY 1997 and CY 2000 (i.e., the disproportionate increase in children, especially adolescents, enrolled in HealthChoice), HealthChoice utilization data for diabetes may be more comparable to pre-HealthChoice utilization data than other measures are. The percentage of HealthChoice-eligible individuals with a diagnosis of diabetes on a physician encounter was 2.1 percent in FY 1997 and 1.5 percent in CY 2000. The diabetic population is predominantly age 21 and older. Because the number of diabetics under age 21 enrolled in HealthChoice is too small to provide reliable estimates,

results for that age group are not presented. The regional distribution of individuals age 21 and older with diabetes closely mirrors that of the general population. The analysis of diabetes focuses on the number of ambulatory visits per thousand.<sup>14</sup>

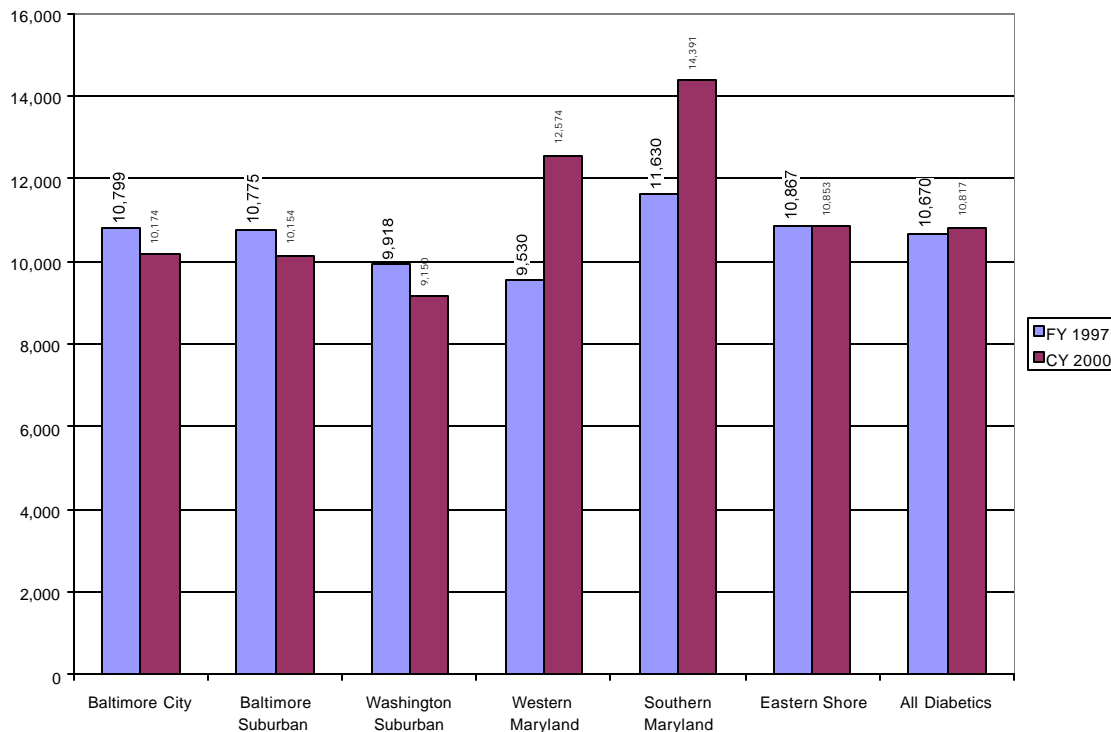
- **Findings.** Overall, service use by individuals with diabetes has remained virtually unchanged before and after HealthChoice implementation. The average number of visits per thousand increased by just over 1 percent (10,670 in FY 1997 to 10,817 in CY 2000). While overall utilization by individuals with diabetes was essentially unchanged, an analysis of the data by age presents a slightly different picture. Among those individuals ages 21-39 with diabetes, service use was down (from 11,408 in FY 1997 to 9,468 in CY 2000). Those declines were offset by increases among individuals aged 40-64 with diabetes (10,566 in FY 1997 to 11,194 in CY 2000).

**Figure III-35: Ambulatory Care Visits for Diabetics per Thousand Annualized by Age**



<sup>14</sup> Since individuals with diabetes are identified by a diagnosis associated with a visit, it would be inappropriate to examine the percentage who had a visit.

**Figure III-36: Ambulatory Care Visits for Diabetics per Thousand Annualized by Region**



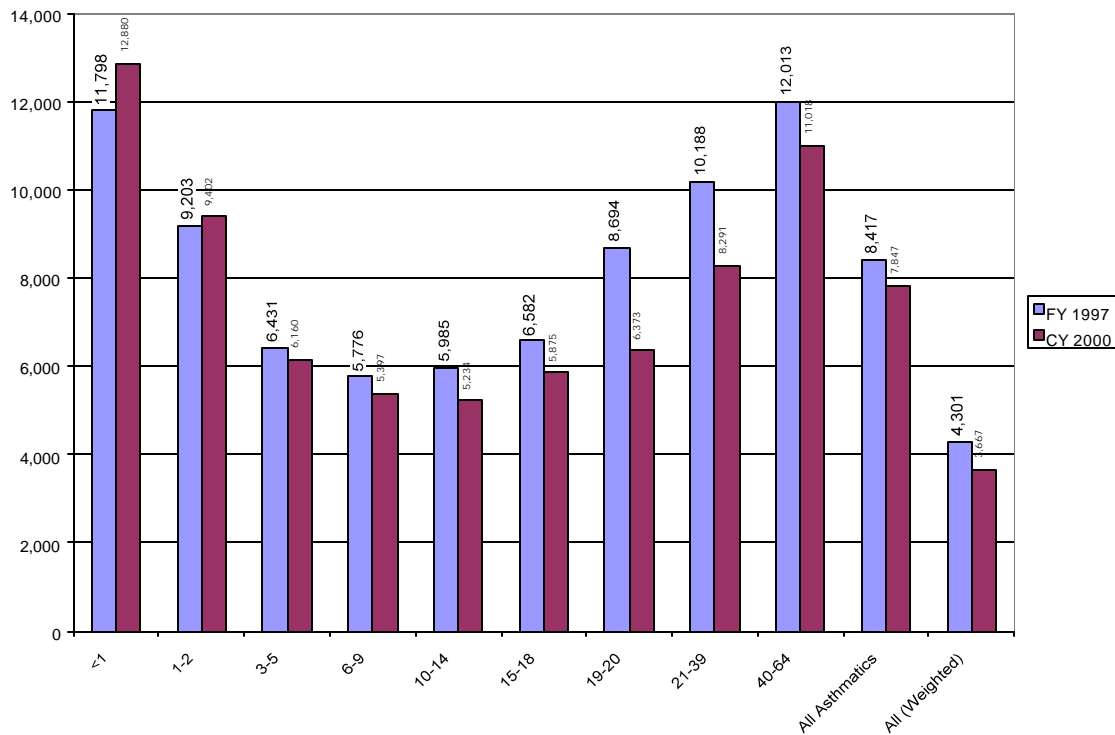
- **Discussion.** Utilization patterns of individuals with diabetes were virtually unchanged between FY 1997 and CY 2000. For individuals with a chronic condition, managed care has not led to measurable reductions in the amount of care (as measured by the number of visits). It should also be noted that prior to the introduction of HealthChoice, Maryland operated the Diabetes managed care program, which provided additional services for individuals with diabetes who enrolled in the program. The program served approximately 2,500 individuals in 1997. It is reasonable to conclude, therefore, that a portion of the HealthChoice diabetic population was already being served through a managed care system of care before the HealthChoice program was implemented.

**Individuals with Asthma.** Like diabetes, asthma is a chronic condition that requires regular and close monitoring. Unlike diabetes, however, the experience of this population before and after the implementation of HealthChoice is considerably different. The number of individuals with an asthma diagnosis grew by 48 percent from FY 1997 to CY 2000, and the adolescent proportion of the individuals with asthma population became significantly greater. This increase in adolescent asthma mirrors the growth in the overall HealthChoice adolescent population resulting from the MCHP expansion, as discussed earlier.

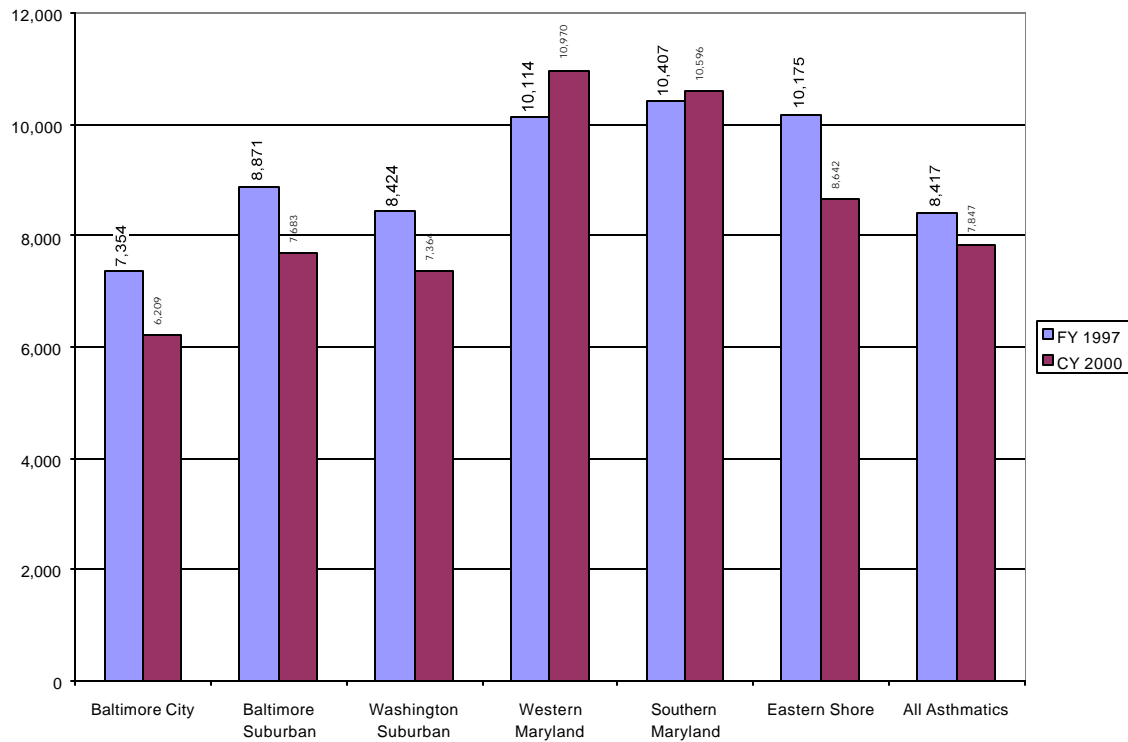
- **Findings.** The population consisting of individuals with asthma is located predominately in the city and suburban regions, and is spread across most

age groups. It experienced the same growth as the overall HealthChoice population, but there was less decline in utilization by individuals with asthma than in the overall HealthChoice population. Utilization declined in the urban/suburban regions, and increased slightly in the rural regions. The improved access in rural areas is significant, given that the HealthChoice subpopulation of individuals with asthma is growing at a faster rate there than in urban areas. With respect to ER visits, utilization by this population has declined at a rate similar to that experienced by the overall HealthChoice population.

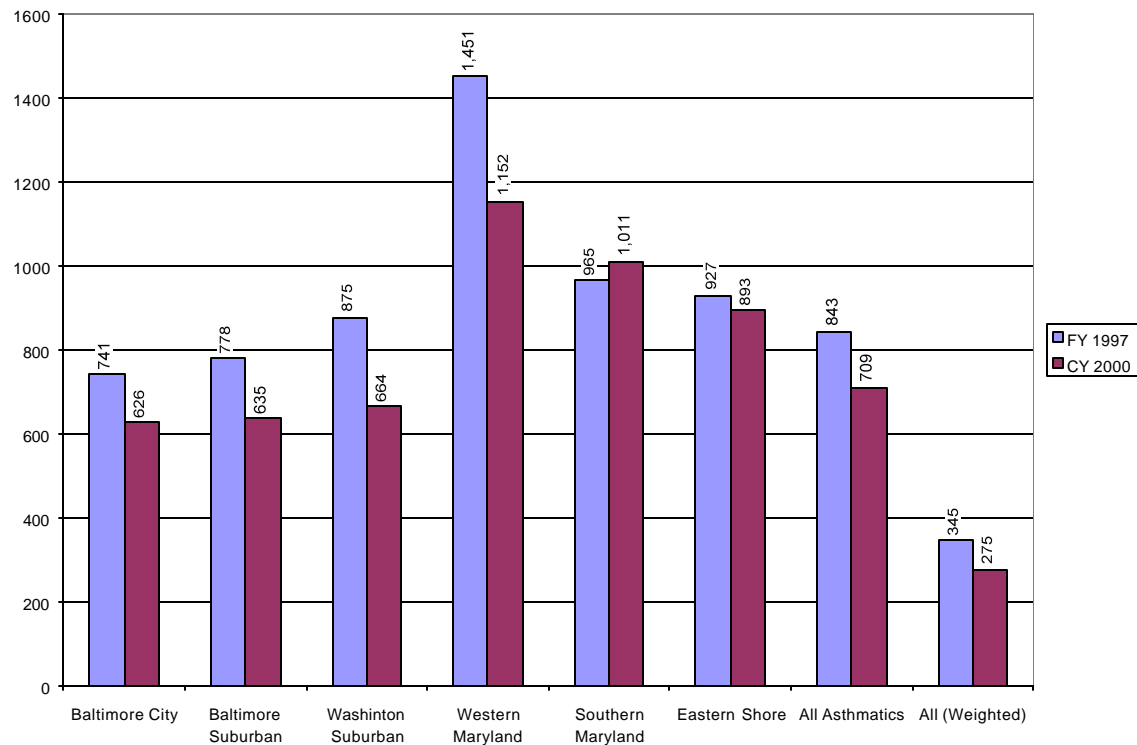
**Figure III-37: Ambulatory Visits for Asthmatics per Thousand Annualized by Age**



**Figure III-38: Ambulatory Visits for Asthmatics per Thousand Annualized by Region**



**Figure III-39: Emergency Room Visits for Asthmatics per Thousand Annualized by Age**



Discussion. The decline in services utilization may be indicative of a combination of factors, including:

- Managed care disease management practices that have reduced utilization;
- General changes in the treatment of asthma that may have led to overall reductions in the number of visits required by asthmatics. For example, better management of asthmatics through new pharmaceuticals;
- The substantial entry into HealthChoice of MCHP-eligible adolescents has added to the program's preexisting Medicaid population a substantial number of children with higher incomes and perhaps less acute conditions that require fewer services than HealthChoice-enrolled children in the "Family and Children" Medicaid eligibility category; and
- Pediatric asthma is one of the quality indicators monitored by the State's contracted External Quality Review Organization (EQRO). The EQRO's calendar year 2000 Annual Quality of Care Audit determined that HealthChoice MCOs had seen improvement of three of the four tracked quality indicators for pediatric asthma including, confirmation of diagnosis, annual health assessment, and the prescribing of quick relief medication.