The Hilltop Institute

analysis to advance the health of vulnerable populations

An Evaluation of the HealthChoice Program 2003 - 2007

May 14, 2009

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The Hilltop Institute was formerly the Center for Health Program Development and Management.

An Evaluation of the HealthChoice Program, 2003 -2007

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Introduction

HealthChoice Evaluation Background

HealthChoice, Maryland's Medicaid managed care program, was implemented in 1997 under authority of Section 1115 of the Social Security Act. In January 2002, the Maryland Department of Health and Mental Hygiene (DHMH) completed the first comprehensive evaluation of HealthChoice as part of the 1115 waiver renewal.[1] This evaluation examined the performance of HealthChoice by comparing service use during the program's initial years with utilization during the final year without mandatory managed care (fiscal year 1997). In November 2007, DHMH conducted another comprehensive evaluation, which focused on guiding principles for a mature program and demonstrated how the program had progressed since the first evaluation. These evaluations found that HealthChoice had successfully improved access to care while controlling costs and had served as a platform for major program expansion. These evaluations also identified areas that need improvement to ensure that enrollees have access to care. DHMH is committed to working with managed care organizations (MCOs) and other stakeholders to identify and address necessary programmatic changes to improve access to and quality of care.

In addition to conducting these comprehensive evaluations, DHMH has continued to regularly monitor a variety of HealthChoice performance measures. The purpose of this report is to provide an update on overall HealthChoice performance regarding key access and utilization indicators. This update focuses on HealthChoice performance for calendar years (CYs) 2003 through 2007. The report begins with general information about the HealthChoice program and key findings from this evaluation. This introduction is followed by analyses of a variety of performance measures, including overall service utilization trends and access to care for selected populations. The report concludes with a discussion of DHMH's ongoing quality assurance activities.

HealthChoice Overview

The HealthChoice program currently enrolls over 80 percent of the state's Medicaid population. HealthChoice program also enrolls children in the Maryland Children's Health Program (MCHP, the Maryland iteration of the State Children's Health Insurance Program). [2] Participants in the

[1] The January 2002 HealthChoice Evaluation and subsequent updates are available online at www.dhmh.state.md.us/mma/healthchoice/hcevalpres.html

[2] MCHP generally covers children with family incomes between 100 percent and 300 percent of the federal poverty level. MCHP starts at higher income levels for children between the ages of 0 and 6. Children with family incomes below the MCHP levels are covered under Medicaid.

program choose one of seven MCOs and a primary care provider from the MCO's network to oversee their medical care.

This evaluation focuses on the Medicaid eligibility groups that enroll in HealthChoice MCOs, including:

- Families with low income that have children
- Families receiving Temporary Assistance for Needy Families (TANF)
- Children under age 19 who are eligible for MCHP
- Children in foster care
- Pregnant and 60-day postpartum women
- Individuals receiving Supplemental Security Income (SSI) who are under age 65 and not also eligible for Medicare

Not all Maryland Medicaid beneficiaries are enrolled in HealthChoice MCOs[3]. Groups that are not eligible for HealthChoice enrollment include:

- Medicare beneficiaries
- Individuals aged 65 years or over
- Individuals in "spend-down status," who are only eligible for Medicaid for a short period of time
- Individuals residing in long-term care facilities or institutions for mental diseases for more than 30 days
- Individuals residing in intermediate care facilities for mentally retarded persons (ICF-MR)

HealthChoice enrollees receive the same comprehensive benefits as those available to Maryland Medicaid enrollees in the fee-for-service system. Services in the MCO benefit package include, but are not limited to:

- Inpatient and outpatient hospital services
- Physician care
- Laboratory and X-ray services

[3] Although beneficiaries enrolled in the Rare and Expensive Case Management (REM) Program, Family Planning Program and Primary Adult Care Program (PAC) are part of the HealthChoice waiver, they are excluded from this report because they are not enrolled in HealthChoice MCOs.

- The first 30 days of care in a nursing home
- Home health care
- Durable medical equipment and disposable medical supplies
- Most Early and periodic screening, diagnostic, and treatment (EPSDT) services for children
- Clinic services
- Dialysis
- Substance abuse treatment
- Vision services
- Prescription drugs, with the exception of mental health and HIV/AIDS drugs, which are provided under the fee-for-service system
- Dental care for children and pregnant women

Some services are carved out of the MCO benefit package and instead covered by the Medicaid fee-for-service system. A key carve-out benefit is specialty mental health care, which is administered by DHMH's Mental Hygiene Administration Public Mental Health System. Dental services will be carved out in 2009.

Key Findings

Between CY 2003 and CY 2007, utilization of health services improved under HealthChoice in a number of important areas, including ambulatory care, well-child visits, dental services, prenatal care, and lead testing. Increases in utilization within these categories occurred even as the number of HealthChoice enrollees continued to grow. Enrollee utilization rates have shown the greatest gains for children. Other notable findings include:

- Since CY 2003, HealthChoice enrollment has increased by about 4 percent.[4]
- Most program enrollment growth during the study period has occurred among children enrolled in MCHP.
- In CY 2007, nearly 80 percent of all HealthChoice enrollees were children under age 19.[5]
- The percentage of enrollees receiving an annual ambulatory care visit increased from 68.6 percent in CY 2003 to 73.3 percent in CY 2007.

[4] Enrollment data as of December 31, 2003, were compared with enrollment data as of December 31, 2007.
[5] This percentage reflects enrollment as of December 31, 2007.

- The percentage of children receiving a well-child visit increased from 50.4 percent in CY 2003 to 56.0 percent in CY 2007.
- The percentage of children aged 4 through 20 years enrolled for at least 320 days who received a dental visit increased from 43.2 percent in CY 2003 to 51.5 percent in CY 2007.
- The percent of children aged 12 through 23 months receiving a lead test increased from 46.8 percent in CY 2003 to 52.7 percent in CY 2007.
- Children in foster care continue to receive preventive services, such as well-child and dental visits, at higher rates than other children enrolled in HealthChoice.
- Overall emergency department (ED) use among HealthChoice enrollees increased between CY 2004 and CY 2006 and remained stable between CY 2006 and CY 2007.
- Racial and ethnic groups that have historically experienced health disparities, such as Black/African American (Black) and Hispanic populations, continued to experience increases in access to preventive services. Access to preventive services for White/Caucasian (White) and Asian enrollees increased as well.
- The proportion of Black and White racial and ethnic groups enrolled in the program decreased during each year in the study period, whereas the proportion of Hispanic and "Other" racial and ethnic groups increased.

HealthChoice Enrollment

There are several methods of measuring enrollment in the HealthChoice program. One methodology is to count the number of individuals with any period of enrollment during the calendar year, including individuals who were enrolled for short periods of time due to turnover in eligibility. Another methodology counts the number of individuals who were enrolled at a point in time. Although this methodology yields a smaller number, it provides a snapshot of typical enrollment in the program on a given day. Unless specified otherwise, this report utilizes the point in time methodology and calculates enrollment for individuals as of December 31 of the measurement year. These analyses pertain to enrollees aged 0 through 64 years[6] and include enrollees with an out-of-state address.

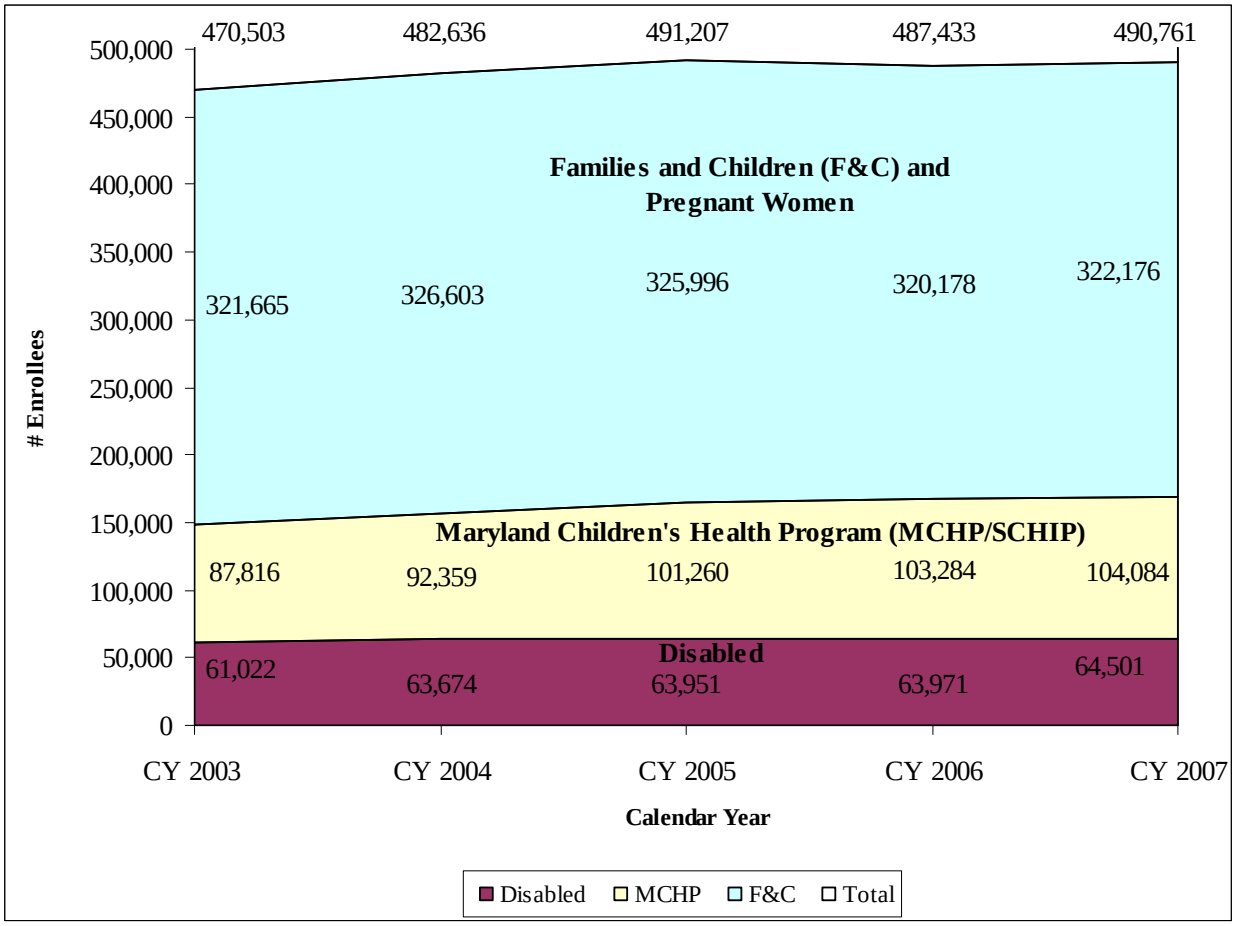
HealthChoice currently enrolls all of the state's MCHP population and over 80 percent of the state's Medicaid population. The HealthChoice population grew steadily between CY 2003 and CY 2005, from 470,503 enrollees to a high of 491,207 enrollees, respectively. Enrollment declined by nearly 4,000 individuals in CY 2006, but increased again in CY 2007 to 490,761 individuals[7] (see Figure 1).[8]

Figure 1 displays HealthChoice enrollment by coverage group between CY 2003 and CY 2007. Most program growth during the study period occurred for the MCHP coverage group, which increased by more than 18 percent (16,000 enrollees). This figure also shows that, as of December 31 of each year, the majority of beneficiaries were enrolled in the families, children, and pregnant women (F&C) category, followed by enrollees covered under MCHP. Individuals with disabilities had the lowest enrollment in HealthChoice during each of the five years under review. [9]

[6] Age is calculated as of December 31 of the measurement year.
[7] The number of individuals with any period of enrollment in CY 2007 is 623,444.
[8] The decline in enrollment between CY 2005 and CY 2006 coincided with new Medicaid rules under the Deficit Reduction Act of 2005, which require all individuals to supply citizenship documentation upon application for and renewal of Medicaid coverage.

[9] Individuals who are covered under both the Medicare and Medicaid programs are not enrolled in HealthChoice.

Figure 1. HealthChoice Enrollment by Coverage Group, CY 2003 – CY 2007



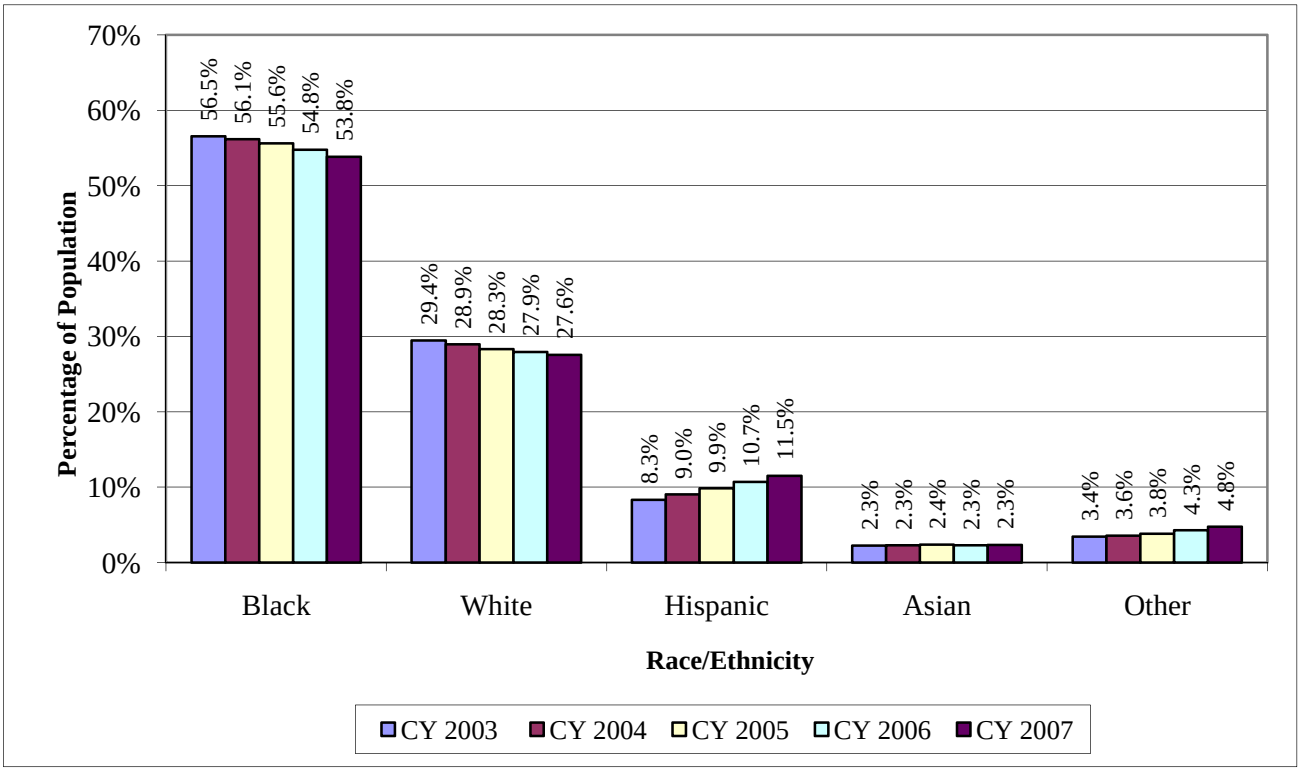
The remainder of this section of the report presents HealthChoice enrollment by various demographic characteristics. Figure 2 presents HealthChoice enrollment by race/ethnicity. Slightly more than one-half of all HealthChoice enrollees are Black, and approximately 30 percent are White. It is noteworthy that the proportion of Blacks and Whites who are enrolled in the program decreased slightly during the study period.

There has been an increase in the proportion of Hispanic individuals in Maryland and across the United States in recent years.[10] This increase is also observed in the HealthChoice program. The

[10] Source: Maryland Department of Planning. Retrieved on February 17, 2008, from http://www.mdp.state.md.us/msdc/pop_estimate/estimate_00to07/CensPopEst00_07.htm

percentage of Hispanics enrolled in HealthChoice increased by 44 percent during the study period, from 39,245 individuals in CY 2003 to 56,457 individuals in CY 2007. The proportion of enrollees in the Other[11] racial and ethnic category also increased.

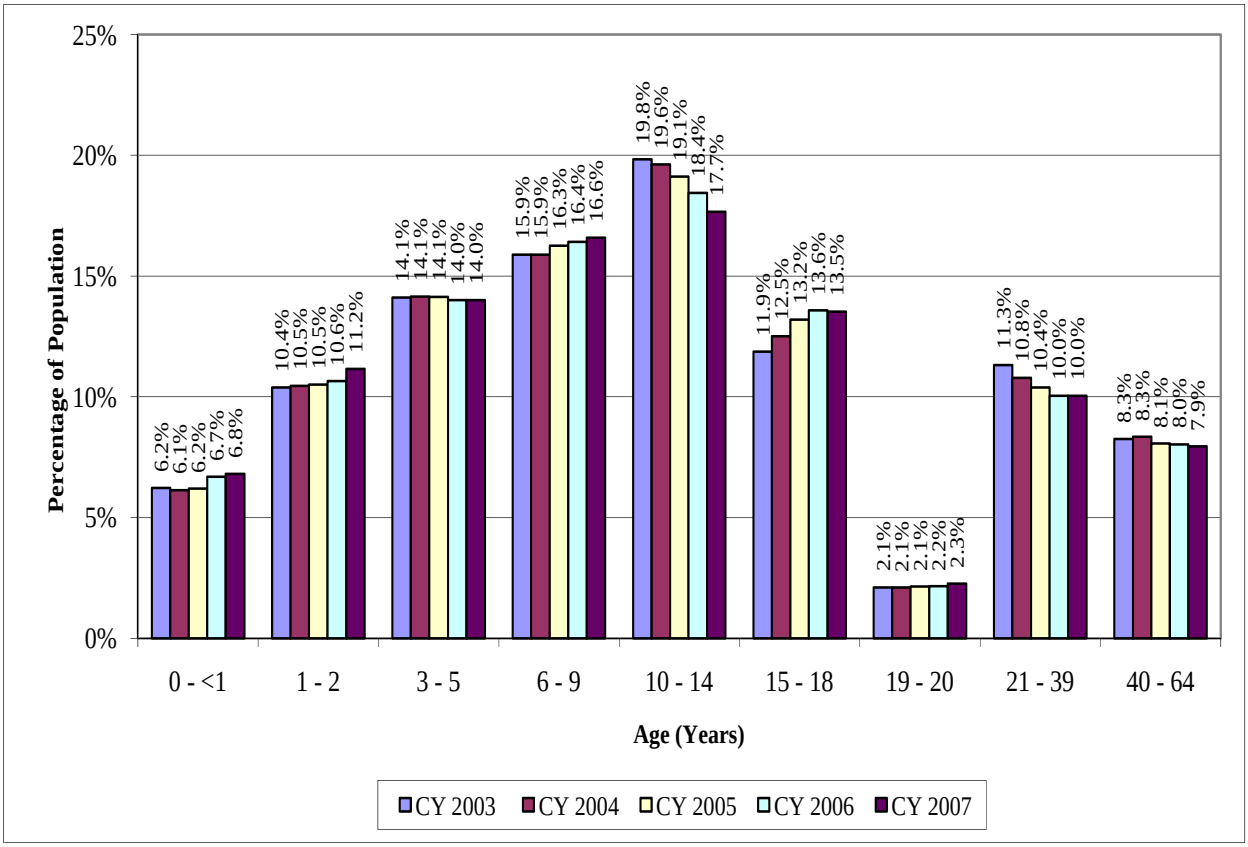
Figure 2. HealthChoice Enrollment by Race/Ethnicity, CY 2003 – CY 2007



The distribution of enrollment remained relatively stable among most age groups (see Figure 3). However, the proportion of enrollees in some age groups changed during the study period. Enrollees aged 10 through 14 years and 21 through 39 years experienced a steady decrease as a proportion of the enrolled population. On the other hand, enrollees aged 0 through 2 years, 6 through 9 years, and 15 through18 years experienced an increase as a proportion of the enrolled population during the study period.

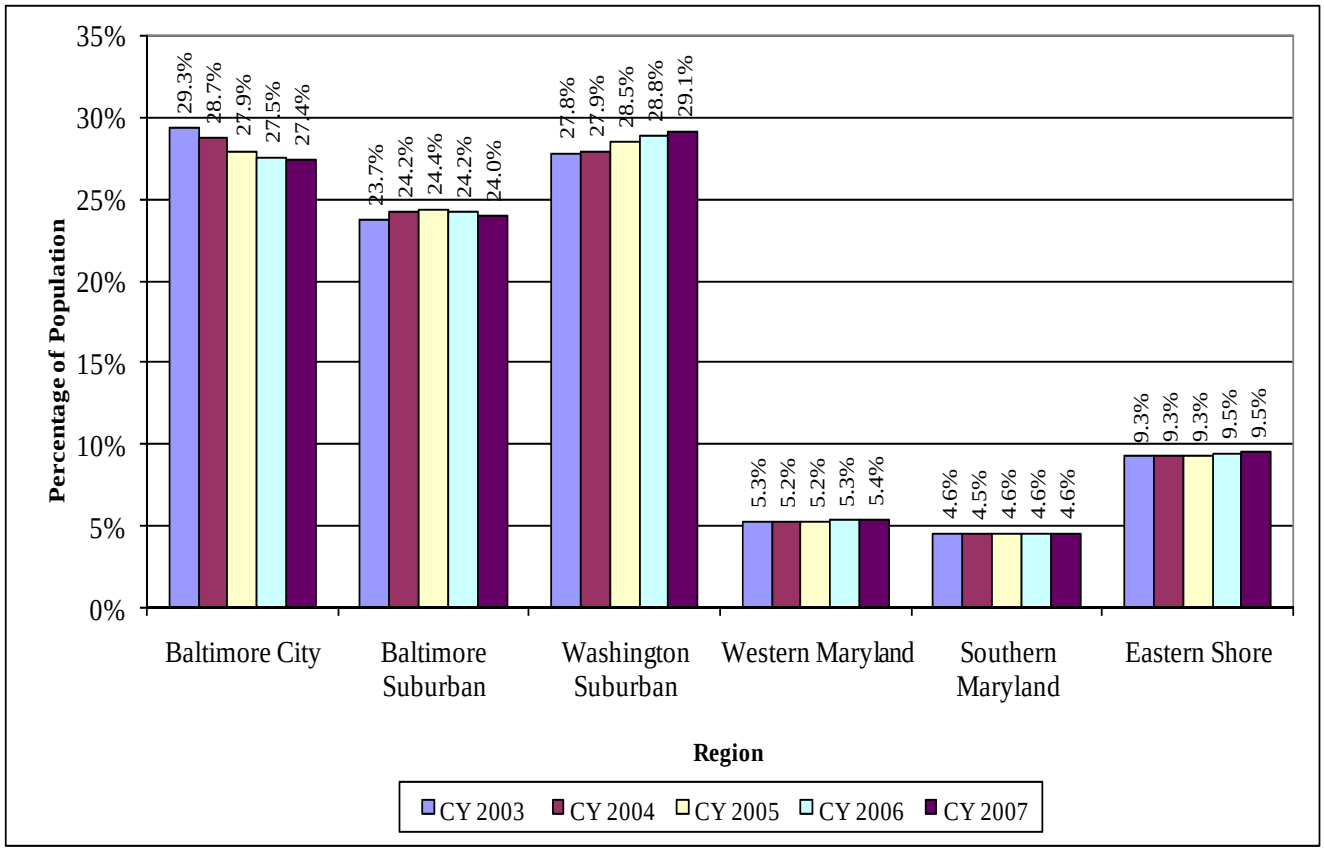
[11] The Other racial/ethnic category includes Native Americans, Pacific Islands/Alaskan, and enrollees with no designated race.

Figure 3. HealthChoice Enrollment by Age Group, CY 2003 – CY 2007



Enrollment by region remained relatively stable in the Western Maryland, Eastern Shore, and Southern Maryland regions (see Figure 4). The Washington Suburban, Baltimore City, and Baltimore Suburban regions enrolled the majority (approximately 80 percent) of individuals across the study period. See Appendix 1 for regional enrollment by race and ethnicity.

Figure 4. HealthChoice Enrollment by Region, CY2003 – CY2007



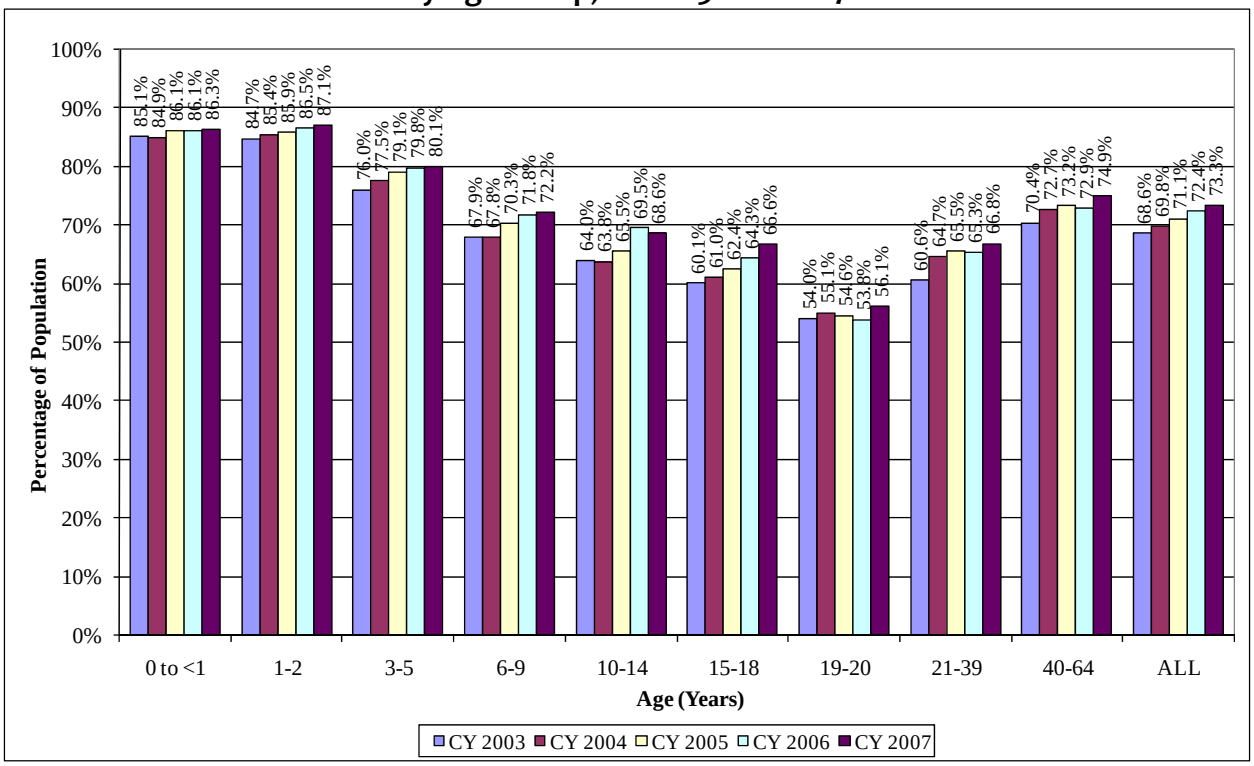
Note: The Baltimore Suburban region includes Baltimore, Carroll, Harford, Howard, and Anne Arundel counties. The Washington Suburban region includes Montgomery, Prince George's, and Frederick counties. Western Maryland includes Allegany, Garrett, and Washington counties. Southern Maryland includes Charles, Calvert, and St. Mary's counties. The Eastern shore includes Caroline, Cecil, Dorchester, Kent, Queen Anne's, Somerset, Talbot, Wicomico, and Worcester counties.

Ambulatory Care Visits[12]

An ambulatory care visit is defined as any instance in which an individual with any period of HealthChoice enrollment has contact with a doctor or a nurse practitioner in a hospital outpatient department, clinic, or physician's office.[13] DHMH uses this measure to monitor utilization as an indicator of access to care, measuring the percentage of the population receiving at least one ambulatory care service during the measurement year.

Figure 5 presents the percentage of all HealthChoice enrollees with any period of enrollment who received at least one ambulatory care service by age. Overall utilization rates of ambulatory care services increased steadily during the study period, from 68.6 percent in CY 2003 to 73.3 percent in CY 2007. Ambulatory care visits have increased for all age groups since CY 2003. Access for young adults aged 19 through 20 years declined each year between CY 2004 and CY 2006, but increased again in CY 2007. Between CY 2006 and CY 2007, the ambulatory care visit rate increased for all age groups except children aged 10 through 14 years.

Figure 5. Percentage of the HealthChoice Population Receiving an Ambulatory Care Visit by Age Group, CY 2003 – CY 2007

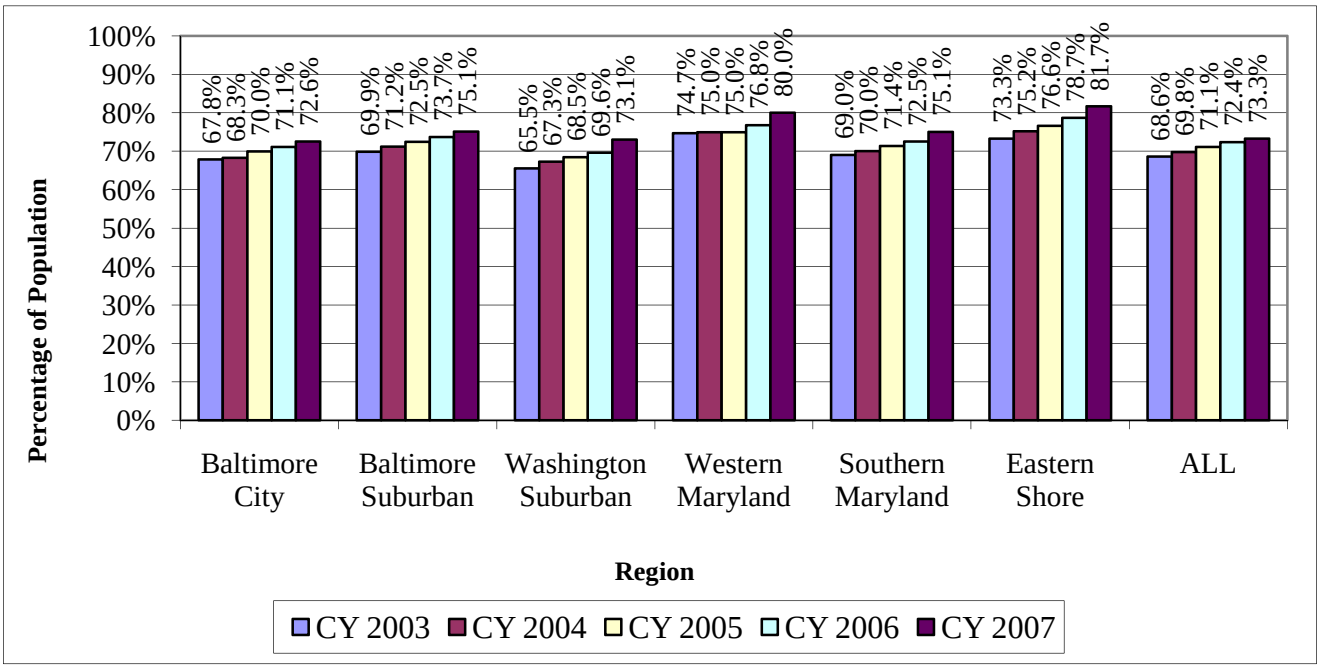


[12] Unless specified otherwise, all measures in this document use MCO encounter data only.

[13] An ambulatory care visit is reported as an unduplicated count that may not exceed one visit per day. This definition excludes emergency department visits, hospital inpatient services, substance abuse treatment, mental health, home health, x-rays, and laboratory services.

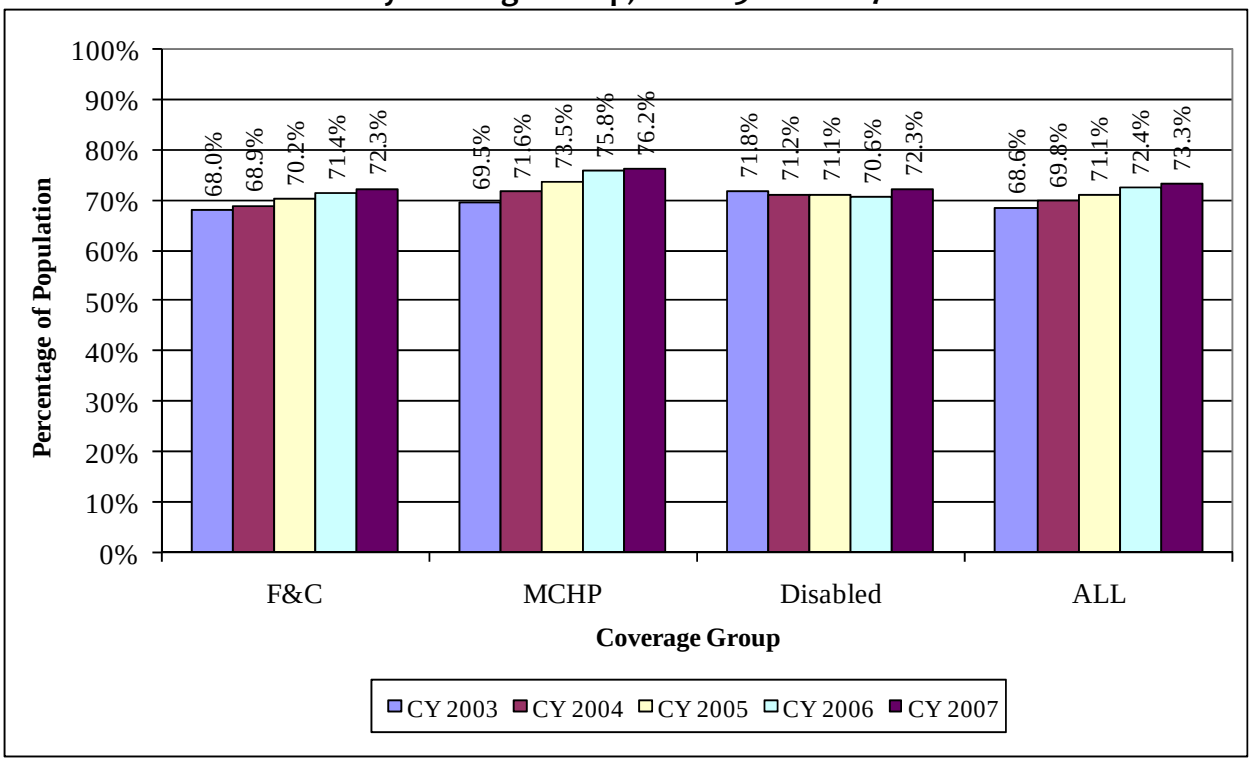
Figure 6 displays the percentage of HealthChoice enrollees receiving an ambulatory care service by region. Visits increased steadily in each region during the study period, with the greatest increases occurring in the Eastern Shore, Western Maryland, and Washington Suburban regions. The higher ambulatory care visit rates in the Western Maryland and Eastern Shore regions are notable, because these two regions have historically experienced a lower ratio of enrollees to primary care providers.

Figure 6. Percentage of the HealthChoice Population Receiving an Ambulatory Care Visit by Region, CY 2003 – CY 2007



Utilization of ambulatory care services increased for all HealthChoice coverage groups from CY 2003 to CY 2007, as illustrated in Figure 7. Rates for the MCHP coverage group experienced the greatest increase during the study period, whereas rates for enrollees with disabilities remained relatively flat.

Figure 7. Percentage of the HealthChoice Population Receiving an Ambulatory Care Visit by Coverage Group, CY 2003 – CY 2007

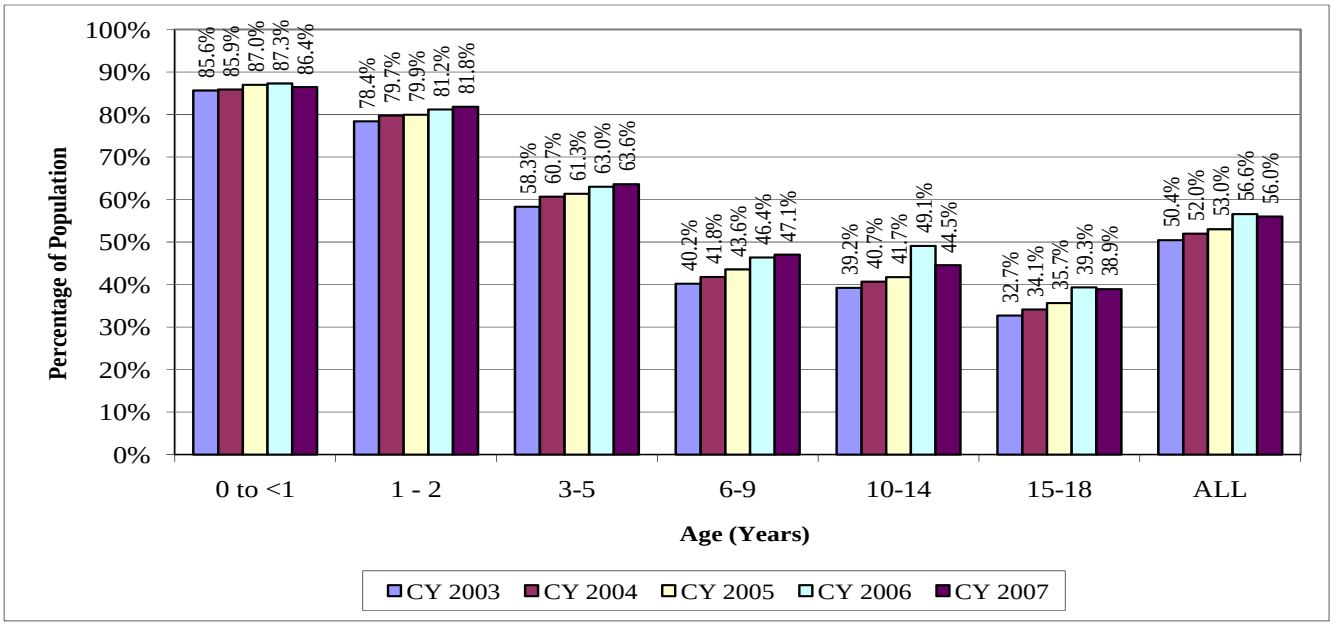


Well-Child Visits

Well-child visits, which are a subset of ambulatory visits, are defined by EPSDT standards. DHMH's well-child visit measure is based largely on the Healthcare Effectiveness Data and Information Set (HEDIS)[14] clinical criteria for well-child visits for children aged 0 through 18 years with any period of enrollment in the HealthChoice program.[15] Well-child visits are provided according to a predetermined periodicity schedule, and the MCOs are required to notify parents and/or guardians of pending well-child visits.

Figure 8 presents the percentage of children with any period of enrollment in HealthChoice who received at least one well-child visit during the year for CY 2003 to CY 2007 by age. The overall well-child visit rate increased by nearly 6 percentage points during the study period: from 50.4 percent in CY 2003 to 56.0 percent in CY 2007. This rate steadily increased each year between CY 2003 and CY 2006, but decreased slightly between CY 2006 and CY 2007. Utilization rates for children aged 1 through 9 years increased steadily during the study period; however, the utilization rate for enrollees in the 10 through 14 year age range declined by 4.6 percentage points between CY 2006 and CY 2007.

Figure 8. Percentage of HealthChoice Children Receiving a Well-Child Visit by Age Group, CY 2003 – CY 2007



[14] See National Committee for Quality Assurance (NCQA). HEDIS 2008 Technical Specifications.
[15] The Department's well-child measure assesses children with any period of enrollment in HealthChoice who were enrolled as of December 31 of the measurement year.

The well-child visit rate increased steadily in each region between CY 2003 and CY 2006 (see Figure 9). Most regions experienced a slight decrease in well-child visits between CY 2006 and CY 2007. Baltimore City realized the greatest decrease of 2.7 percentage points; the Washington Suburban region increased by 1.2 percentage points; and Southern Maryland remained stable.

Figure 9. Percentage of HealthChoice Children Receiving a Well-Child Visit by Region, CY 2003 – CY 2007

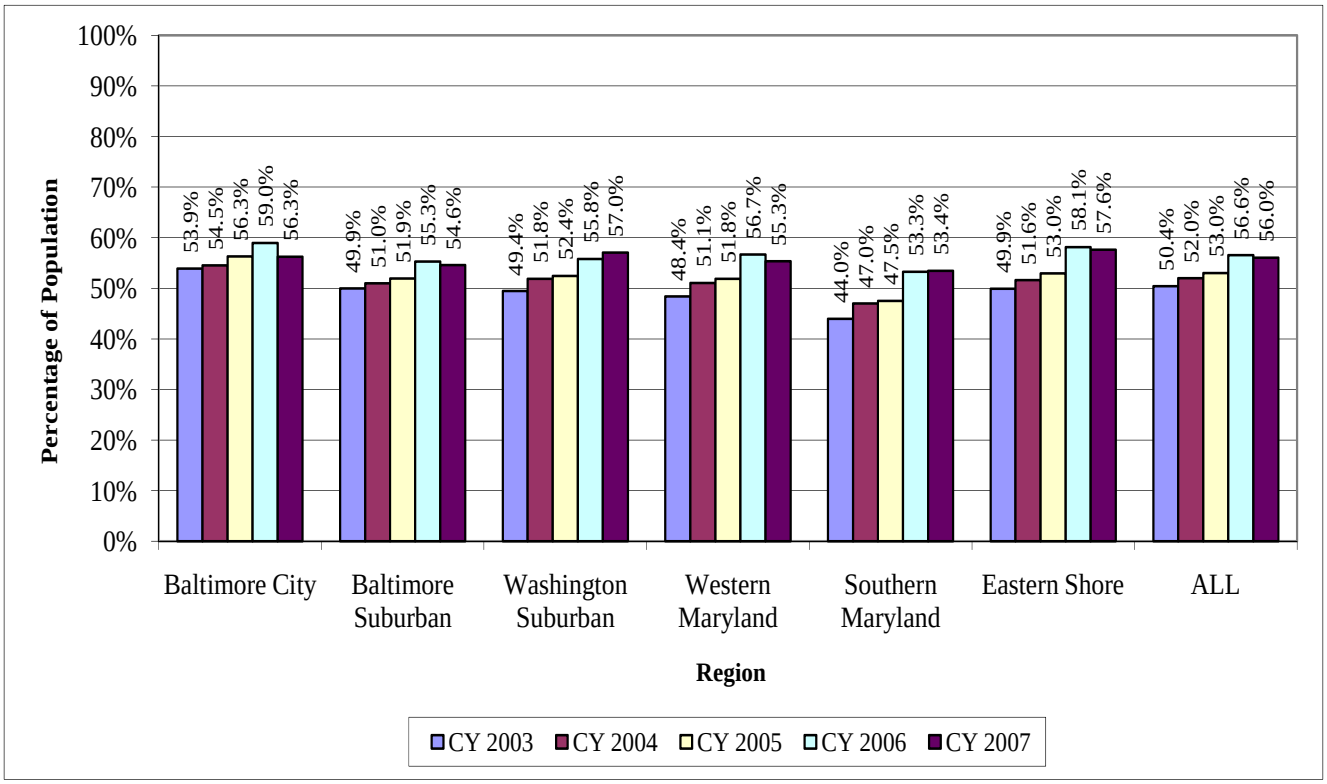
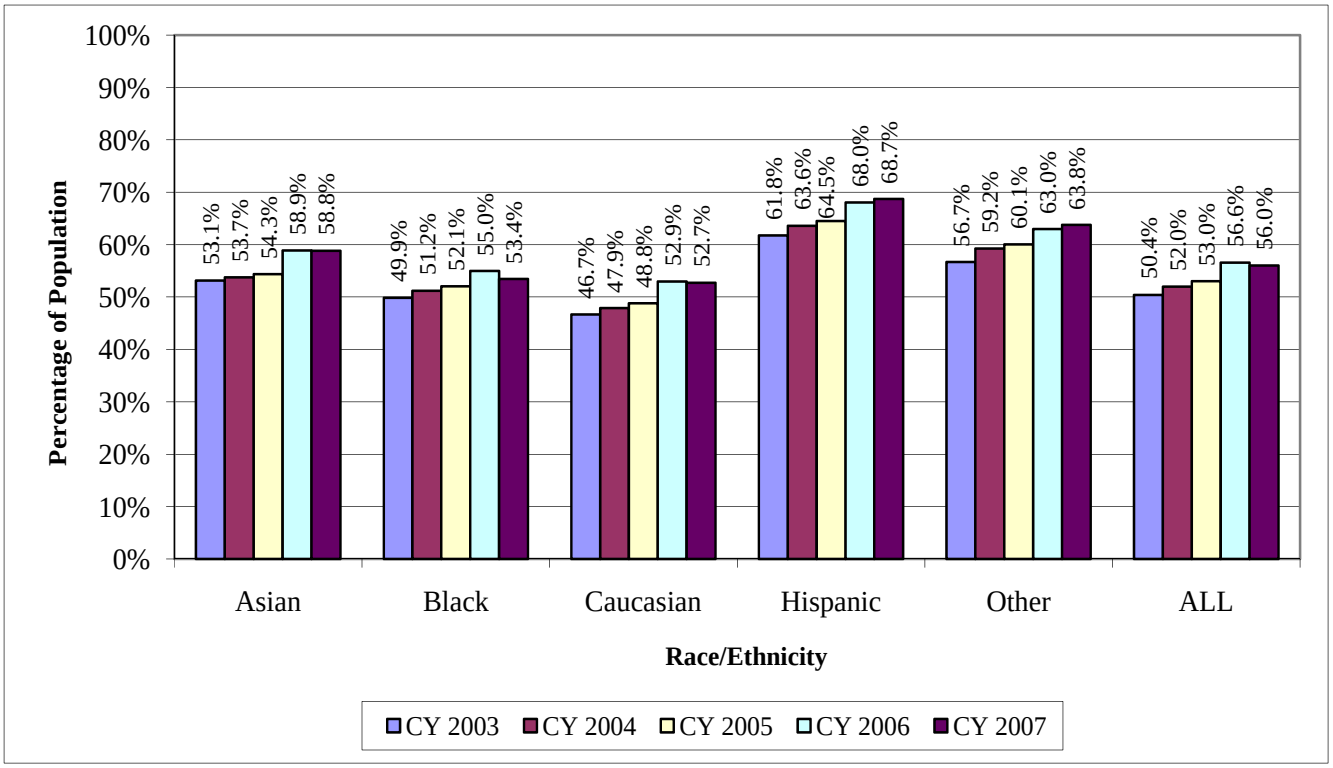


Figure 10 presents the well-child visit rate by race/ethnicity. All racial and ethnic groups experienced a steady increase in well-child visits between CY 2003 and CY 2006. The well-child visit rate remained stable or declined slightly between CY 2006 and CY 2007. Across the study period, Hispanics experienced the highest well-child visit rate, followed by children in the Other racial/ethnic category.

Figure 10. Percentage of HealthChoice Children Receiving a Well-Child Visit by Race/Ethnicity, CY 2003 – CY 2007



Dental Services

Dental care is a mandated benefit for children under Medicaid EPSDT requirements. Dental service utilization has remained low in Maryland, despite significant improvements under HealthChoice. As with many other states, Maryland continues to face numerous barriers in providing comprehensive oral health services to Medicaid enrollees. In an effort to increase access to oral health care and service utilization, DHMH Secretary John Colmers convened the Dental Action Committee (DAC) in June 2007. The DAC included a broad-based group of stakeholders concerned about children's access to oral health services. The DAC reviewed dental reports and data to develop a series of recommendations, building on past dental initiatives, lessons learned, and best practices from other states. The DAC's final report, which was presented to the Secretary on September 11, 2007, included several recommendations for change to the Medicaid program. Among other items, the DAC recommended that the state utilize a single statewide dental vendor, an administrative services organization (ASO). The state has chosen a dental ASO vendor, Doral, and expects to carve out dental services beginning July 2009.

To assess program performance, DHMH uses a measure closely modeled on the HEDIS measure for Medicaid children's dental services utilization. The HEDIS-like measure counts the number of children aged 4 through 20 years continuously enrolled in an MCO for at least 320 days who received at least one dental service during the year. Table 1, which presents this measure for FY 1997 and CY 1999 through CY 2007, indicates that dental service utilization by children has steadily increased each year since 1997. Utilization increased by more than 5 percentage points between CY 2006 and CY 2007.

Table 1. Percentage of Children Aged 4 through 20 Years Receiving Any Dental Services, Enrolled for at Least 320 Days

Year	Total Number of Enrollees	Enrollees Receiving One or More Dental Service	Percent Receiving Service
FY 1997	88,638	17,637	19.9%
CY 1999	122,756	31,742	25.9%
CY 2000	132,399	38,056	28.7%
CY 2001[16]	142,988	48,066	33.6%
CY 2002	194,351	67,029	34.5%
CY 2003	203,826	88,110	43.2%
CY 2004	213,234	93,154	43.7%
CY 2005	227,572	104,188	45.8%
CY 2006	223,936	103,561	46.2%
CY 2007	216,885	111,791	51.5%

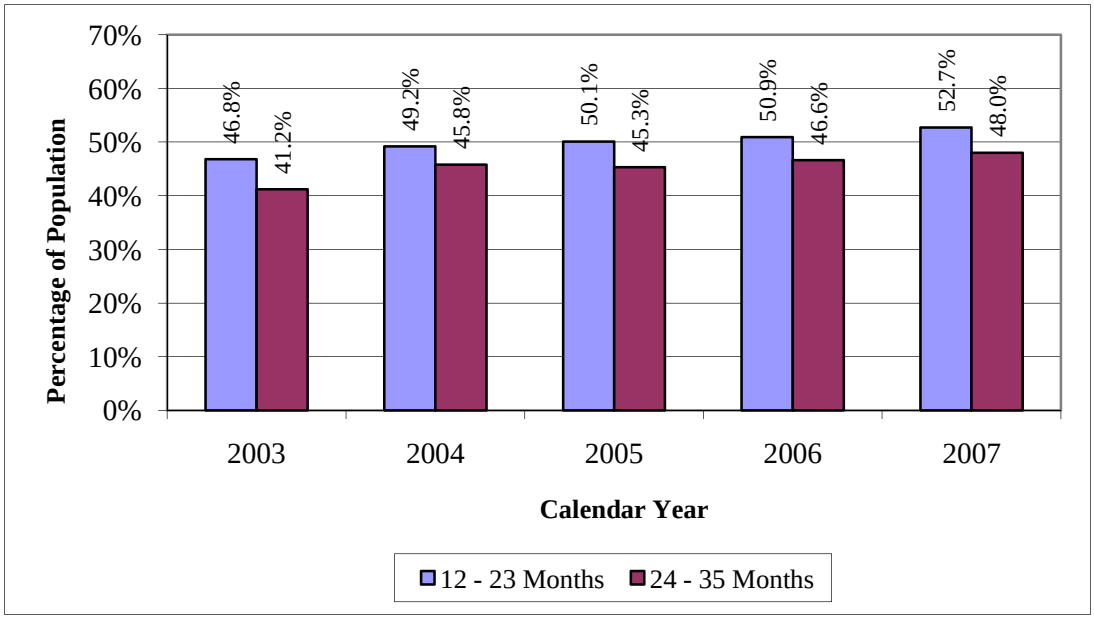
[16] In CY 2001, the Department revised its methodology to include children enrolled in the same MCO for at least 320 days, consistent with HEDIS methodology. Prior to CY 2001, these data included individuals enrolled in any MCO for at least 320 days.

Lead Testing

Maryland's *Plan to Eliminate Childhood Lead Poisoning by 2010* includes a goal of ensuring that young children receive appropriate lead risk screening and blood lead testing. DHMH provides the MCOs with quarterly reports on children who have received blood lead tests and children with elevated blood lead levels, so that these children may receive appropriate follow-up.

Medicaid requires all children to receive a blood lead test as part of the EPSDT benefit at 12 months and 24 months of age. DHMH reports lead testing rates for children aged 12 through 23 months and 24 through 35 months who are continuously enrolled in the same MCO for 90 or more days during the CY. Figure 11 shows that, in HealthChoice, nearly 53 percent of children aged 12 through 23 months received lead testing in CY 2007, which is an increase of 6 percentage points since CY 2003.[17] Lead testing rates for children aged 12 through 23 months steadily increased each year during the study period. For children aged 24 through 35 months, the CY 2007 lead testing rate was 48 percent, an increase of nearly 7 percentage points since CY 2003. Other than a slight decline in testing between CY 2004 and CY 2005, lead testing rates increased each year during the study period for children aged 24 through 35 months.

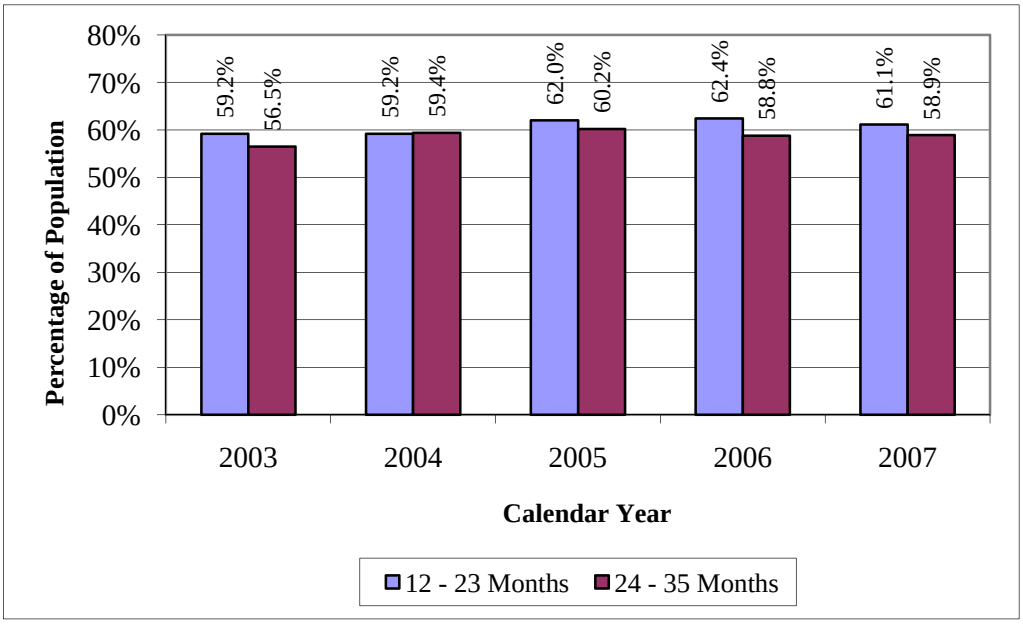
Figure 11. HealthChoice Children Receiving Lead Testing by Age Group, Statewide, CY 2003 -CY 2007



[17] Data presented in Figures 11 and 12 include lead tests reported in the Medicaid Management Information System (MMIS-II) and the Childhood Lead Registry, which is maintained by the Maryland Department of the Environment. Ages are calculated as of December 31 of the measurement year.

Figure 12 shows lead testing rates for Baltimore City, an identified high-risk area. In CY 2007, the lead testing rates for children aged 12 through 23 months declined slightly from the previous two calendar years. For children aged 24 through 35 months, the rate remained relatively stable between CY 2006 and CY 2007, at 58.8 percent and 58.9 percent, respectively. The lead testing rates in Baltimore City were consistently higher than the statewide rate for each year during the study period.

Figure 12. HealthChoice Children Receiving Lead Testing by Age Group, Baltimore City, CY 2003 - CY 2007

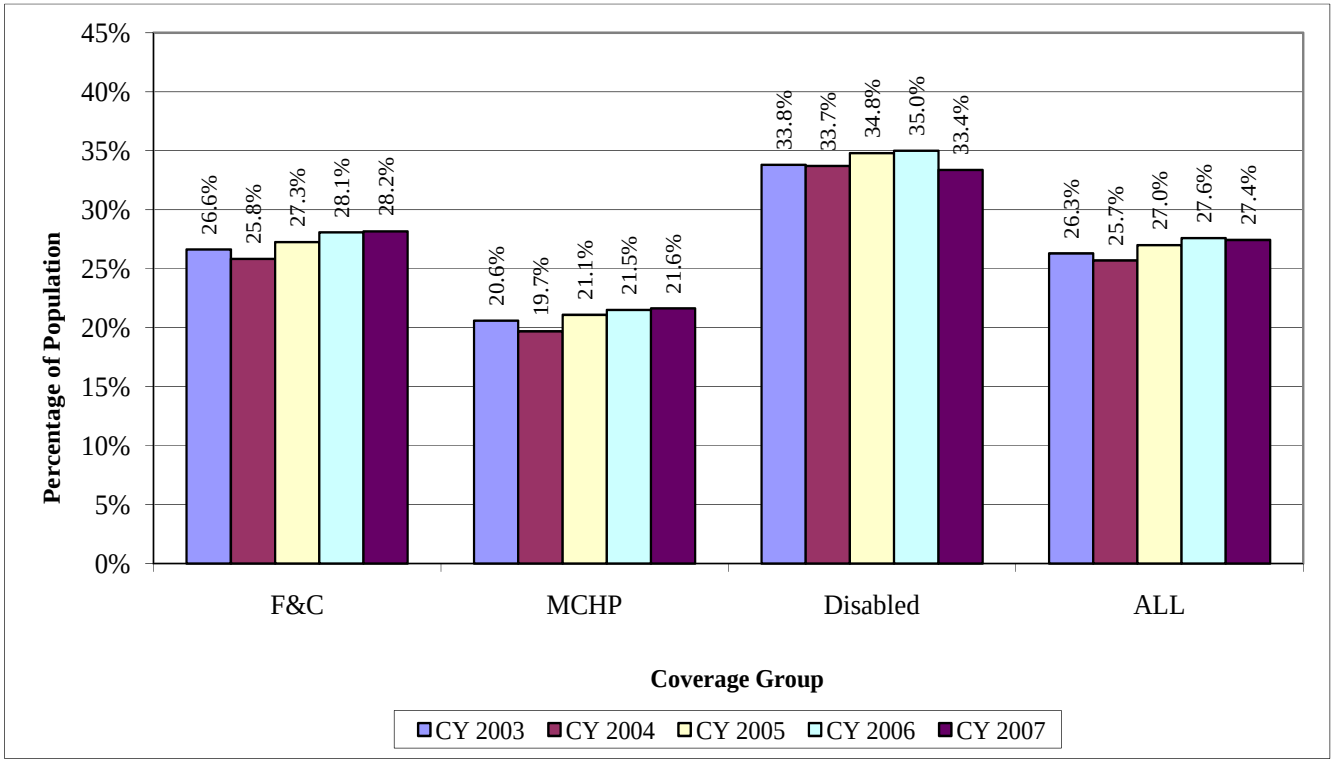


Emergency Department Utilization

The primary role of the emergency department (ED) is to treat seriously ill and injured patients. Ideally, ED visits should not occur for conditions that can be treated in an ambulatory care setting. HealthChoice was expected to lower ED use based on the premise that a managed care system is capable of promoting ambulatory and preventive care, thereby reducing the need for emergency services. To assess overall ED utilization, DHMH measures the percentage of individuals with any period of enrollment in HealthChoice who visited an ED at least once during the CY. This measure excludes ED visits that resulted in an inpatient hospitalization.

Figure 13 indicates that overall ED use among HealthChoice enrollees increased between CY 2004 and CY 2006 and remained stable between CY 2006 and CY 2007, with rates of 27.6 percent and 27.4 percent, respectively.[18] Enrollees with disabilities were more likely than enrollees in any other HealthChoice coverage group to receive an ED visit. However, ED visits for enrollees with disabilities decreased from 35 percent in CY 2006 to 33.4 percent in CY 2007.

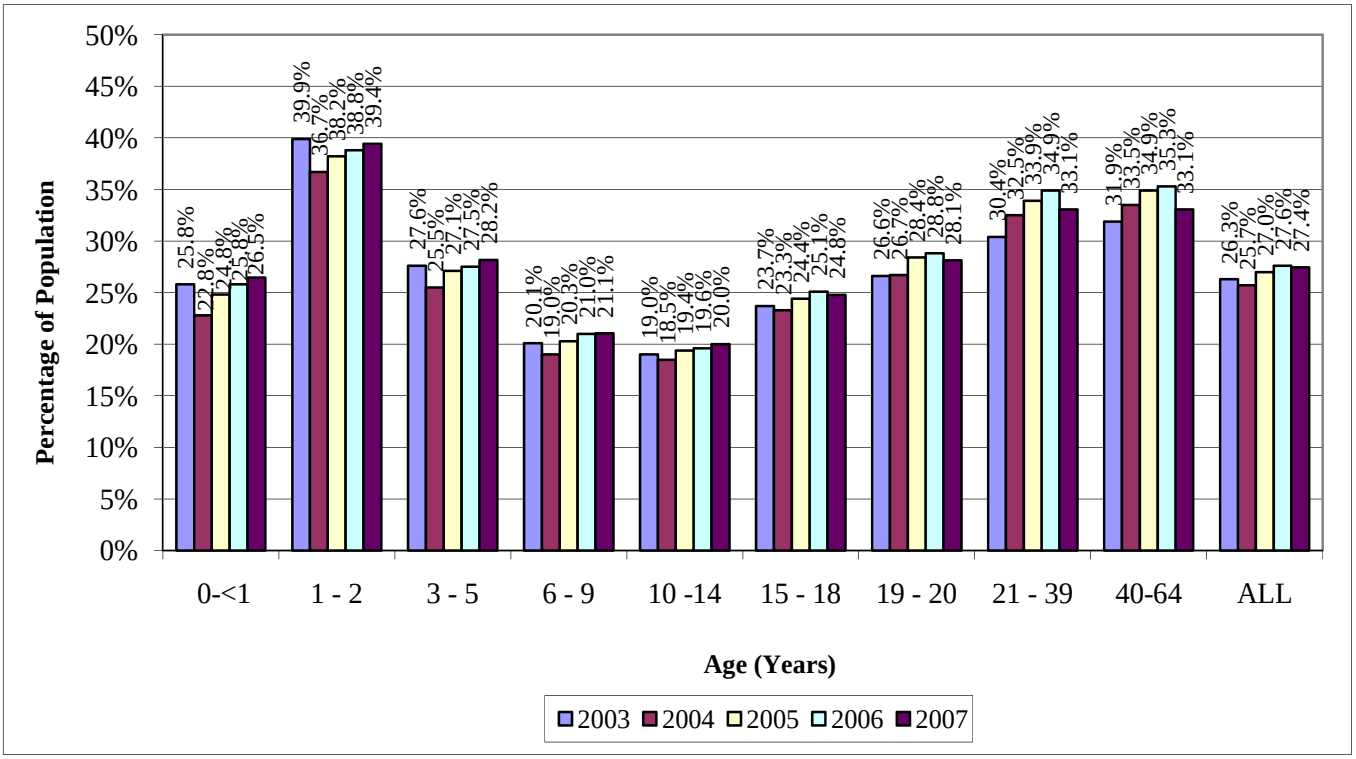
Figure 13. Emergency Department Use by Coverage Group, CY 2003 – CY 2007



[18] At the same time, ED visits are increasing nationally.

Figure 14 presents ED use by age group. Children aged 1 and 2 years consistently experienced the highest ED visit rate during the study period, followed by adults aged 21 through 64 years. Children aged 6 through 14 years experienced the lowest ED visit rates.

Figure 14. Emergency Department Use by Age Group, CY 2003 – CY 2007



Appropriateness of Emergency Department Care

A fundamental goal of managed care programs such as HealthChoice is the delivery of the right care at the right time in the right setting. One widely used methodology to evaluate this goal in the ED setting is based on the classifications developed by researchers at the New York University Center for Health and Public Service Research (NYU). This methodology categorizes emergency visits as follows:

1. *Non-emergent*: immediate care was not required within 12 hours based on patient's presenting symptoms, medical history, and vital signs
2. *Emergent but primary care treatable*: treatment was required within 12 hours, but it could have been provided effectively in a primary setting (e.g., CAT scan or certain lab tests)

3. *Emergent but preventable/avoidable*: emergency care was required, but the condition was potentially preventable/avoidable if timely and effective ambulatory care had been received during the episode of illness (e.g., asthma flare-up)
4. *Emergent, ED care needed, not preventable/avoidable*: ambulatory care could not have prevented the condition (e.g., trauma or appendicitis)
5. *Injury*: injury was the principal diagnosis
6. *Alcohol-related*: the principal diagnosis was related to alcohol
7. *Drug-related*: the principal diagnosis was related to drugs
8. *Mental health-related*: the principal diagnosis was related to mental health
9. *Unclassified*: conditions not classified in one of the above categories by the expert panel

ED visits that fall into categories 1 – 3 may be indicative of problems with access to primary care. Figure 15 presents the distribution of all ED visits by NYU classification for CY 2007 for individuals with any period of HealthChoice enrollment. In CY 2007, 52.6 percent of all ED visits among HealthChoice enrollees were for potentially avoidable conditions, meaning that the ED visit could have been avoided with timely and quality primary care.[19] This represents a 6 percentage point decrease from the CY 2006 rate of 59 percent. Enrollees in the Families and Children and MCHP coverage groups had higher rates of potentially avoidable visits than enrollees with disabilities (see Appendix 2).

ED visits in categories 4 (emergent, ED care needed, not preventable/avoidable) and 5 (injury) are the least likely to be prevented with access to primary care. These two categories accounted for 26.8 percent of all ED visits in CY 2007. Adults and infants had more ED visits related to category 4 (emergent, ED care needed, not preventable/avoidable) than other age groups. Children aged 3 through 18 years had more injury-related ED visits compared to other age groups (see Appendix 2). The inpatient category in Figure 15, which is not part of the NYU classification, represents ED visits that resulted in a hospital admission. Enrollees with disabilities had a much higher rate of ED visits that lead to an inpatient admission than the Families and Children and MCHP coverage groups (see Appendix 2).

[19] This figure combines categories 1 through 3: *non-emergent*; *emergent but primary care treatable*; and *emergent but preventable/avoidable*.

Figure 15. Classification of Emergency Department Visits by HealthChoice Enrollees, CY 2007

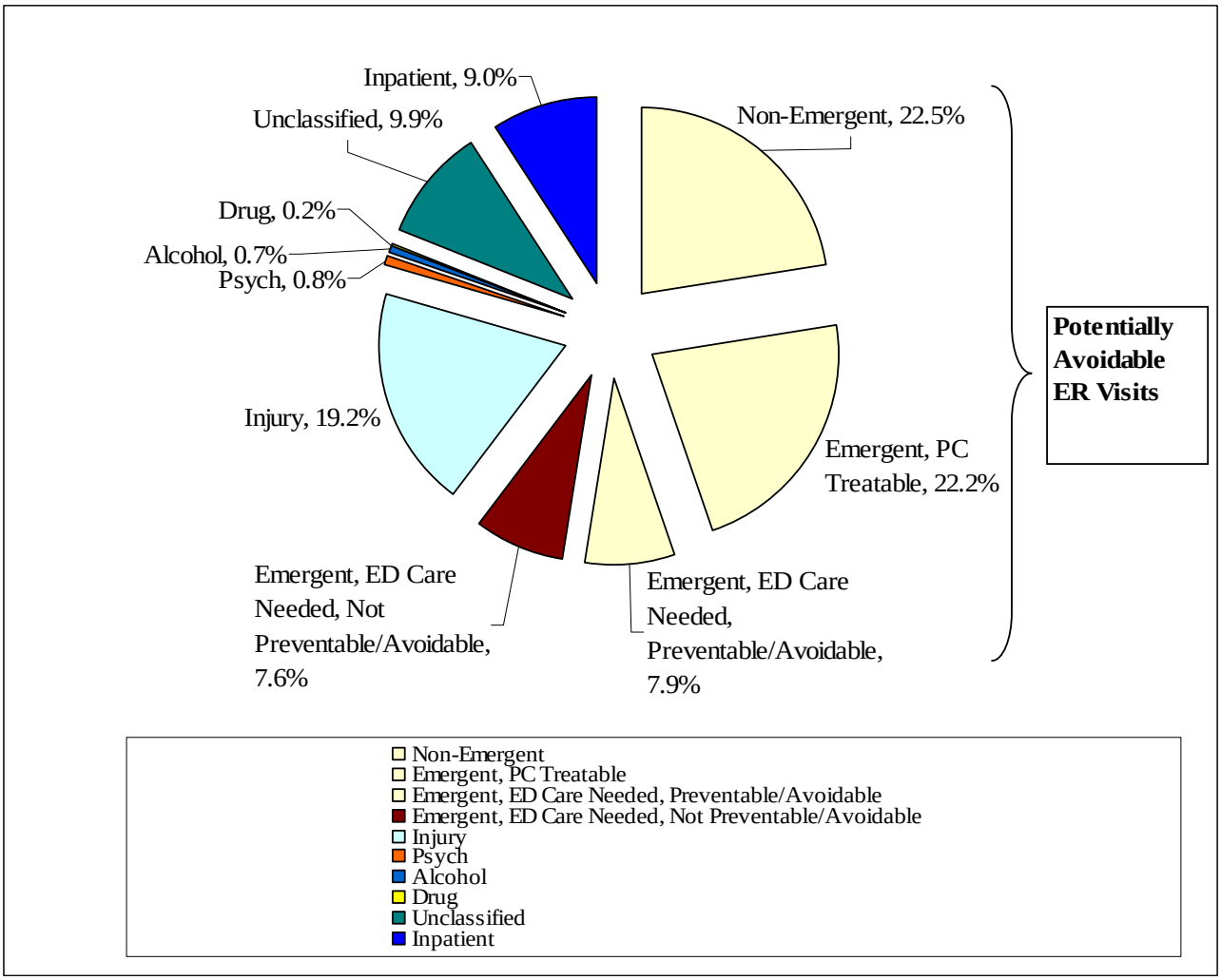
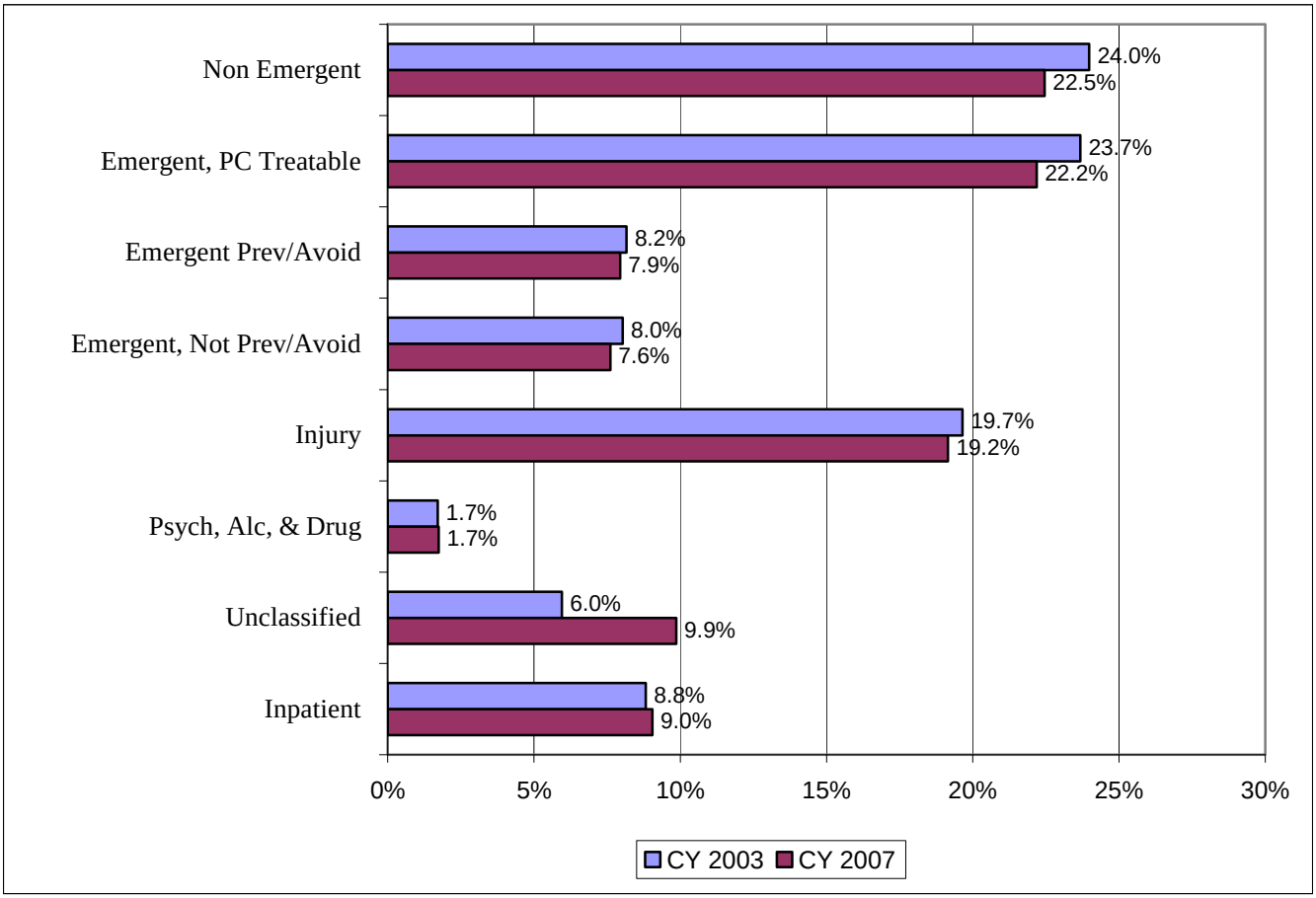


Figure 16 compares ED visit classifications for CY 2003 with CY 2007. The data show that potentially avoidable ED visits decreased between these two years, whereas ED visits that led to an inpatient admission increased slightly. There was a notable increase in ED visits that were unclassified.

Figure 16. Classification of Emergency Department Visits by HealthChoice Enrollees, CY 2003 and CY 2007



See Appendix 2 for further analysis of the classification of ED visits.

Asthma, Diabetes, and Ambulatory Care Sensitive Hospitalizations

Ambulatory care sensitive hospitalizations (ACSHs), also referred to as preventable or avoidable hospitalizations, are hospital admissions that are considered preventable if proper ambulatory care had been provided in a timely and effective manner. High numbers of avoidable hospitalizations may be indicative of problems with access to primary care services or deficiencies in outpatient management and follow-up. Avoidable hospitalizations may also be caused by patients' inability to comply with prescribed treatment regimens.

Asthma and diabetes are two chronic conditions that can be managed effectively in the outpatient setting. DHMH monitors avoidable asthma and diabetes admission rates by using a combination of HEDIS enrollment criteria and Agency for Healthcare Research and Quality (AHRQ) clinical criteria to identify enrollees[20] with any hospital admission who had a primary diagnosis of asthma or short-term diabetes with complications. The avoidable admission rate for diabetes (see Table 2) decreased from a high of 30 admissions per 1,000 members in CY 2003 to a low of 22 admissions per 1,000 members in CY 2007. The avoidable admission rate for asthma (see Table 3) also decreased between CY 2003 and CY 2006, but increased slightly between CY 2006 and CY 2007. Due to the relatively small sample size for these measures, small changes may impact the overall admission rate.

Table 2. Diabetes Admissions per Thousand Members per Year (Enrollees Aged 21 - 64 Years)

	CY 2003	CY 2004	CY 2005	CY 2006	CY 2007
Number of Diabetes-Related Avoidable Hospital Admissions	216	178	199	204	188
Rate per 1,000 HEDIS-Eligible Adults with Diabetes	30	24	25	25	22

Table 3. Asthma Admissions per Thousand Members per Year (Enrollees Aged 5 – 20 Years)

	CY 2003	CY 2004	CY 2005	CY 2006	CY 2007
Number of Asthma-Related Avoidable Hospital Admissions	306	279	257	275	330
Rate per 1,000 HEDIS-Eligible Children with Asthma	66	55	46	44	49

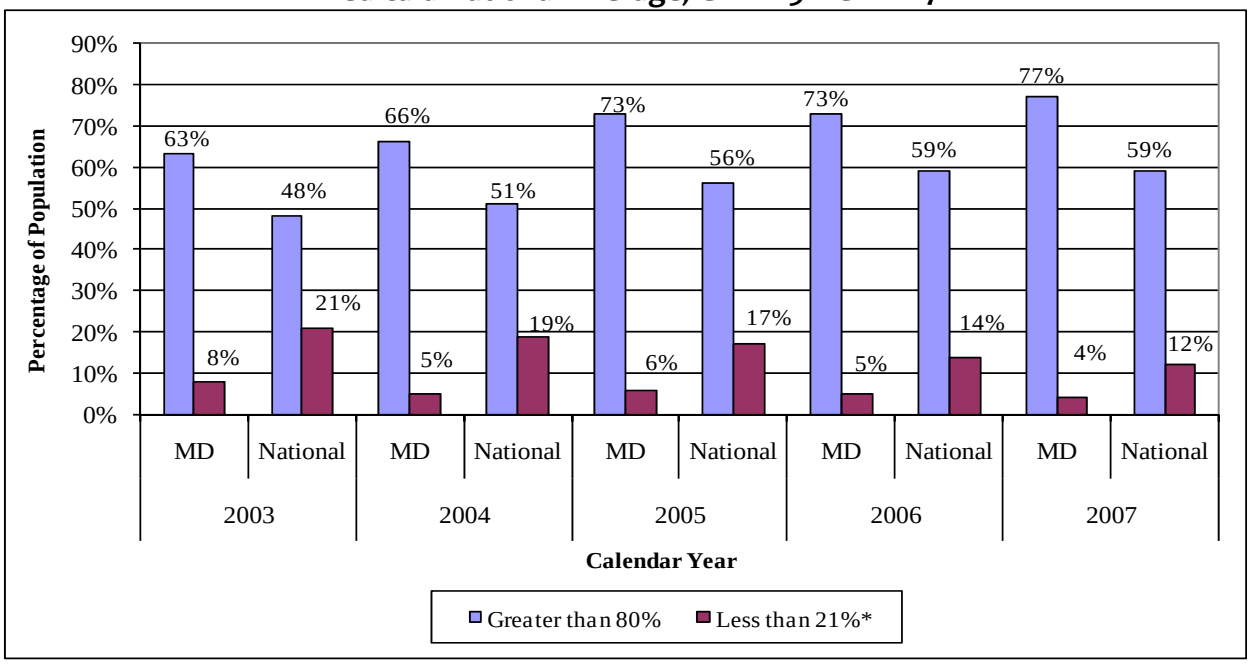
[20] To be included, enrollees had to be continuously enrolled for 320 days during the calendar year and enrolled as of December 31, with no more than one gap in enrollment of up to 45 days.

Prenatal Care[21]

Frequency of Ongoing Prenatal Care

DHMH uses the HEDIS frequency of ongoing prenatal care measure to assess MCO performance in providing appropriate prenatal care. The measure calculates the percentage of deliveries that received the expected number of prenatal visits. This measure accounts for gestational age and time of enrollment, and women must be continuously enrolled 43 days prior to and 56 days after delivery. HealthChoice performance on this measure steadily increased and outperformed the HEDIS Medicaid national average during the study period (see Figure 17). The first aspect of this measure assesses the percentage of women who received more than 80 percent of expected visits; therefore, a higher score is preferable. This rate increased from 63 percent in CY 2003 to 77 percent in CY 2007 and increased by 4 percentage points between CY 2006 and CY 2007. The second aspect of this measure assesses the percentage of women who received less than 21 percent of expected visits; therefore, a lower score is preferable. The rate of women receiving less than 21 percent of expected visits improved, decreasing from 8 percent in CY 2003 to 4 percent in CY 2007. In sum, both measures show an improvement in the rate of women receiving prenatal care.

Figure 17. HEDIS Frequency of Ongoing Prenatal Care, Maryland Compared with the HEDIS Medicaid National Average, CY 2003 – CY 2007



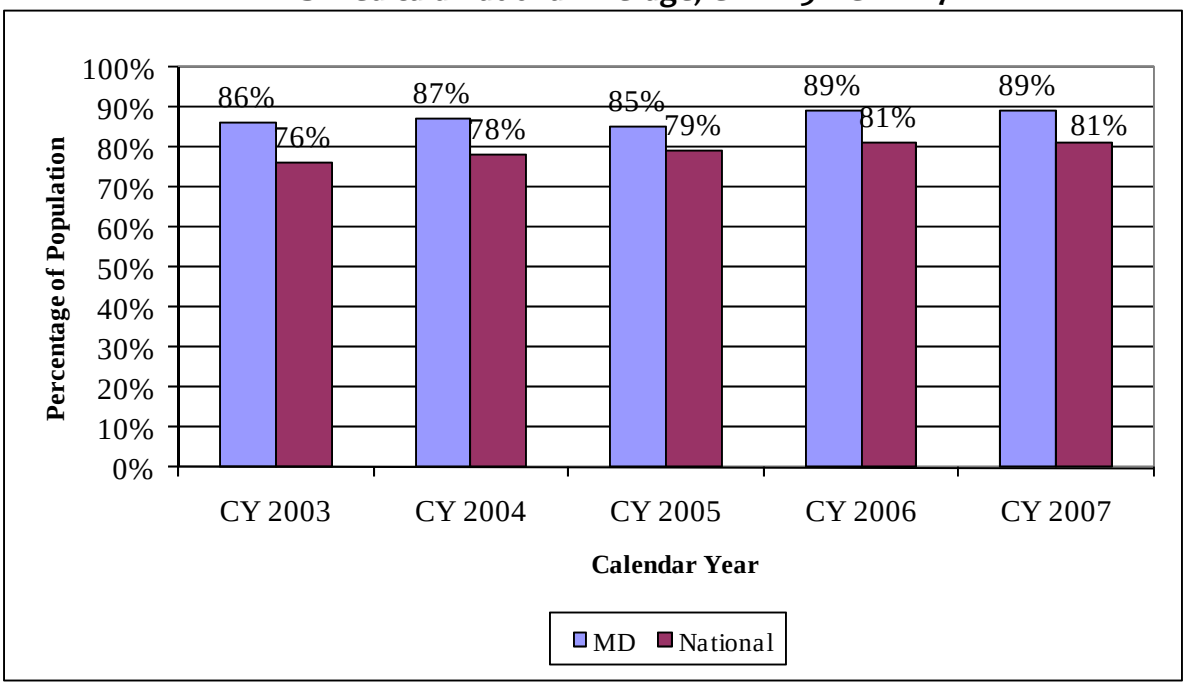
Note: MD represents Maryland's HealthChoice program and National represents the HEDIS Medicaid national average.

[21] The prenatal care measures are conducted by the HEDIS vendor.

Timeliness of Prenatal Care

HEDIS also measures the timeliness of prenatal care by assessing the percentage of deliveries that received a prenatal care visit in the first trimester *or* within 42 days of enrollment. HEDIS requires continuous enrollment 43 days prior to and 56 days after delivery. Figure 18 compares HealthChoice performance on this measure with the HEDIS Medicaid national average for CY 2003 through CY 2007. HealthChoice utilization of prenatal care improved during the overall study period, increasing from 86 percent in CY 2003 to 89 percent in CY 2007. The program experienced a 2 percentage point decrease between CY 2004 and CY 2005, followed by a 4 percentage point increase in CY 2007. HealthChoice consistently outperformed the HEDIS Medicaid national average during the study period.

Figure 18. HEDIS Timeliness of Prenatal Care, Maryland Compared with the HEDIS Medicaid National Average, CY 2003 – CY 2007



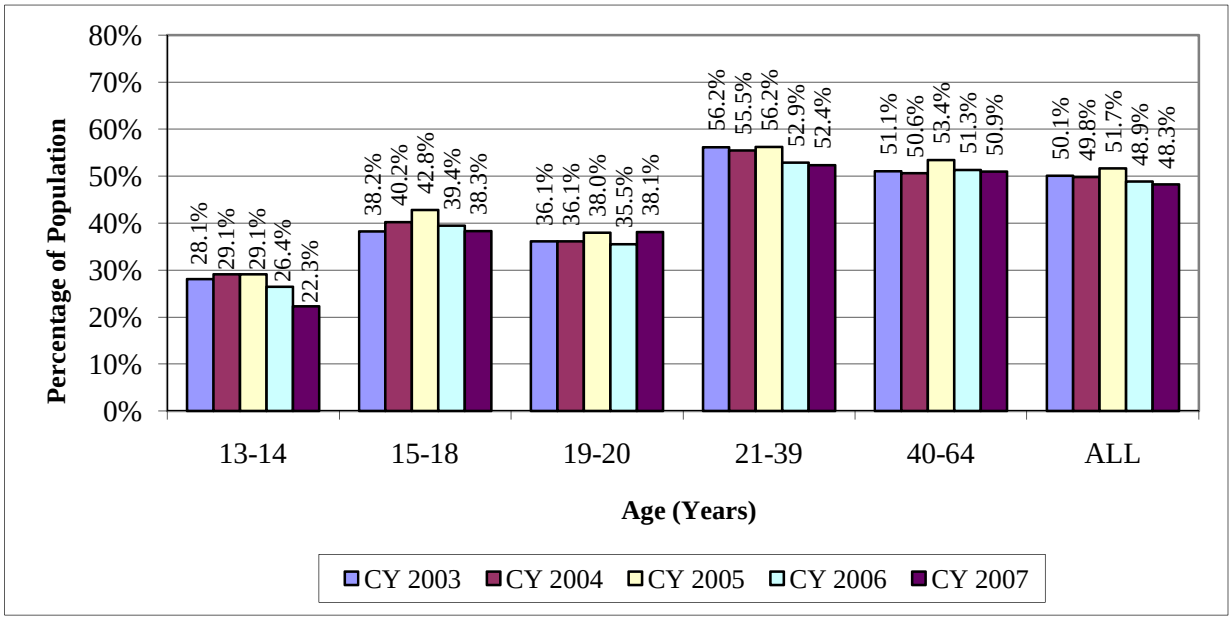
Note: MD represents Maryland's HealthChoice program and National represents the HEDIS Medicaid national average.

Substance Use Treatment

This section of the report measures the percentage of HealthChoice enrollees with substance use disorders who received treatment for these disorders. Substance use and dependence diagnosis codes, as well as treatment and facility codes (e.g., methadone clinics) were used to identify this population.[22] Treatments for these disorders included prescriptions (e.g., buprenorphine prescription for opioid addiction) and services with a substance use treatment code.[23] Because substance use services are frequently connected to carved-out (i.e., fee-for-service) specialty mental health services, the measures presented in this section include both fee-for-service claims and MCO encounter data.

Figure 19 presents the substance use treatment rate for HealthChoice enrollees aged 13 through 64 years by age group. The overall treatment rate for these disorders decreased by 1.8 percentage points during the study period. This decrease was experienced by most age groups, except for individuals aged 19 through 20 years. Individuals aged 13 through 20 years had lower treatment rates than adults aged 21 through 64 years throughout the study period. For most age groups, the substance use treatment rate peaked in CY 2005.

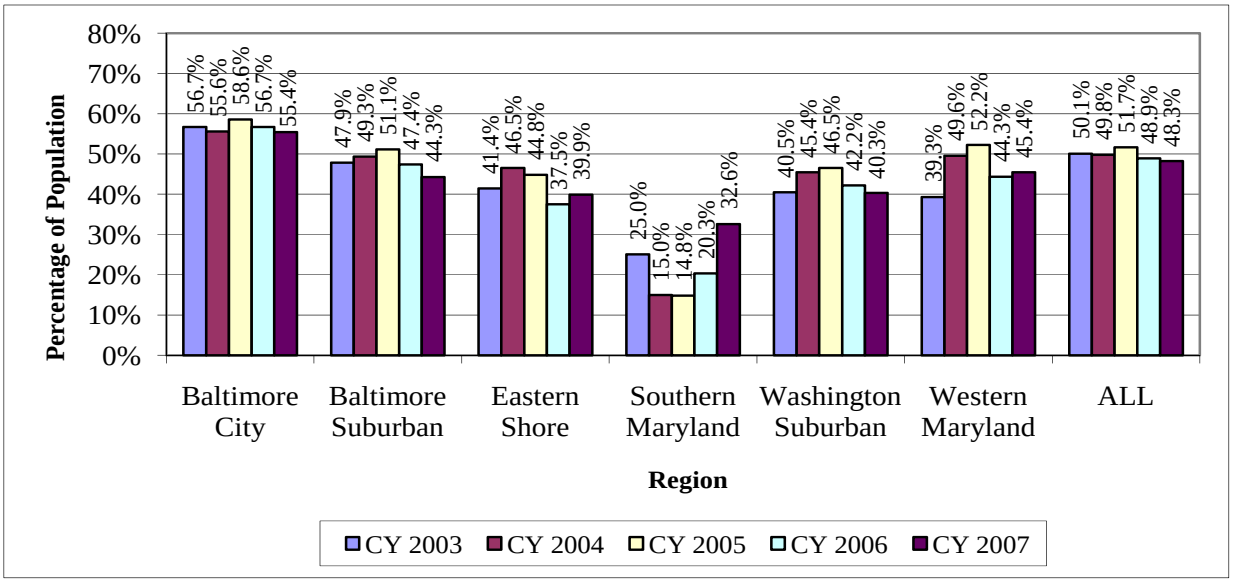
Figure 19. Substance Use Disorder Treatment Rate by Age Group, CY 2003 – CY 2007



[22] This analysis excludes tobacco addiction from the substance use disorder definition.
[23] Ambiguous codes (such as psychotherapy, but not explicitly for substance abuse) were only counted if the transaction was directly linked to a substance use diagnosis code. Non-specific treatments, such as primary care visits, were never counted as substance abuse services.

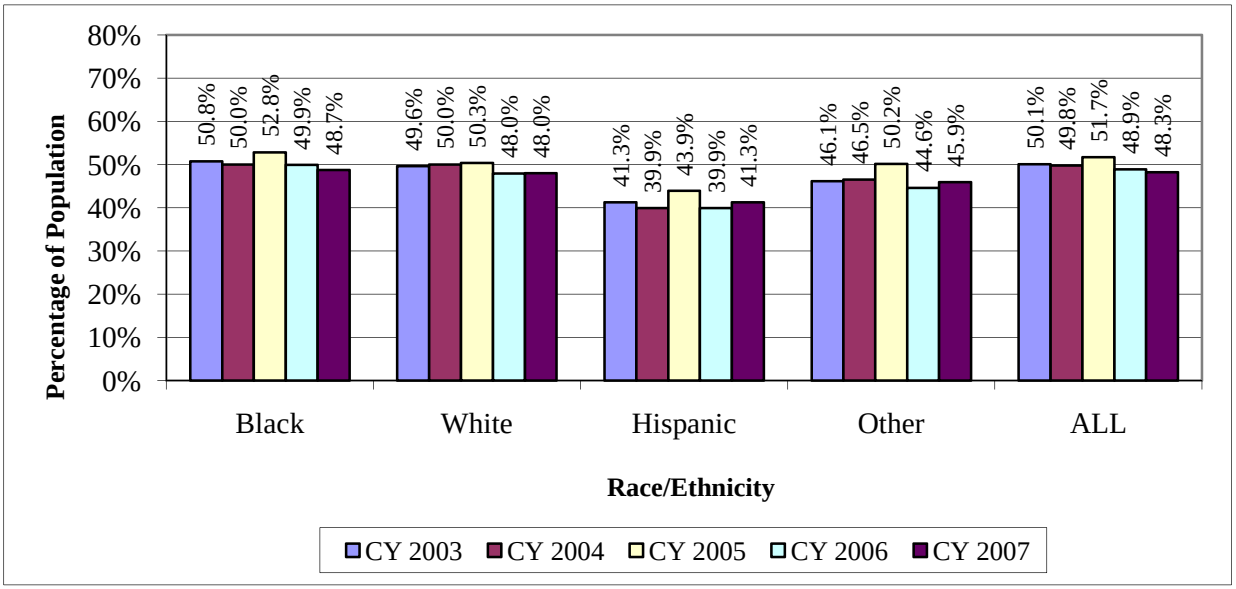
Figure 20 presents the substance use treatment rate by region. Across the study period, Baltimore City experienced the highest substance use treatment rate, while Southern Maryland experienced the lowest treatment rate. For most regions, the treatment rate peaked in CY 2005.

Figure 20. Substance Use Disorder Treatment Rate by Region, CY 2003 – CY 2007



Finally, Figure 21 presents the substance use treatment rate by race and ethnicity. Most racial and ethnic groups experienced a slight decline in substance use treatment across the study period. The treatment rates were similar for Blacks and Whites, while Hispanic and Other racial and ethnic groups tend to have lower treatment rates.

Figure 21. Substance Use Disorder Treatment Rate by Race/Ethnicity, CY 2003 – CY 2007

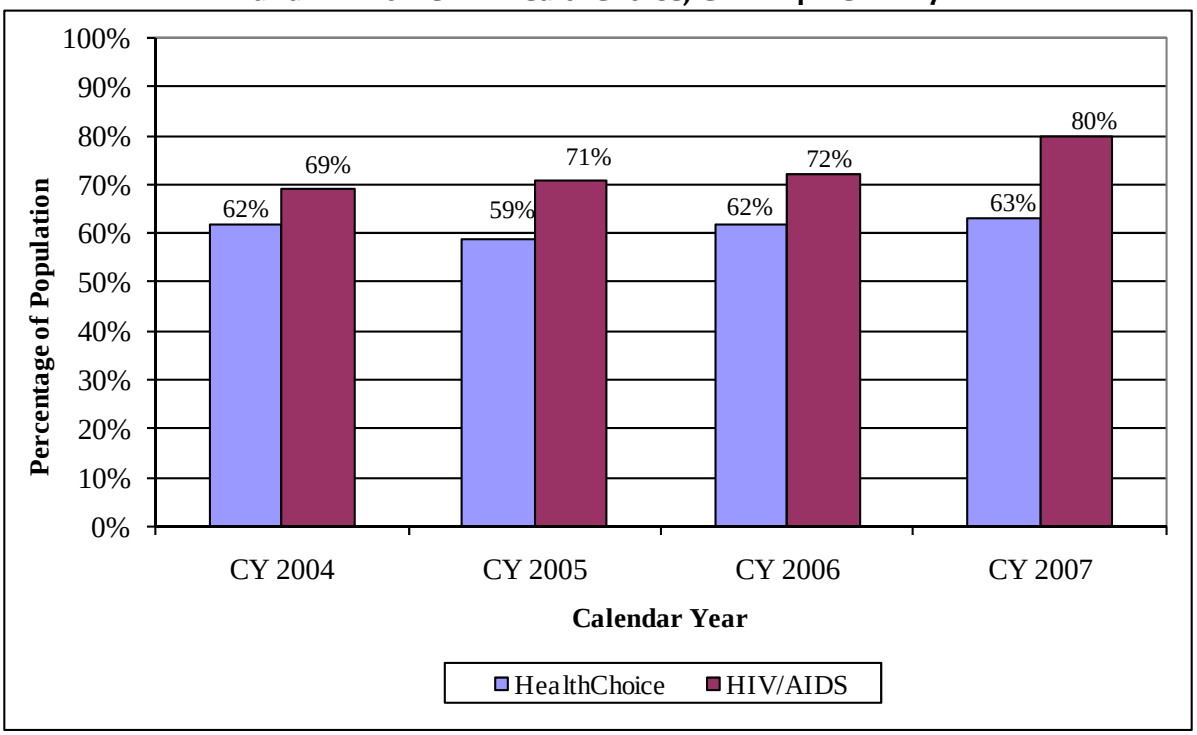


HIV/AIDS

To assess the use of services for individuals with HIV/AIDS, DHMH examines a variety of measures. These measures include screening for cervical cancer, use of anti-retroviral therapy, CD4 testing, viral load testing, and utilization of ambulatory care visits. Because several HIV/AIDS services are carved out of managed care and provided through the fee-for-service system, the measures in this section of the report examine both MCO encounter and fee-for-service claims data.

This report includes two measures to assess cervical cancer screening for women with HIV or AIDS. The first measure uses HEDIS standards to identify a cervical cancer screening in the measurement year or two years prior to the measurement year. This measure includes women with 11 or more months in the HIV/AIDS payment rate cell. Figure 22 shows that women with HIV or AIDS are screened for cervical cancer at higher rates than other women in HealthChoice.

Figure 22. HEDIS Measure: Cervical Cancer Screening for Women with HIV/AIDS and All Women in HealthChoice, CY 2004 – CY 2007



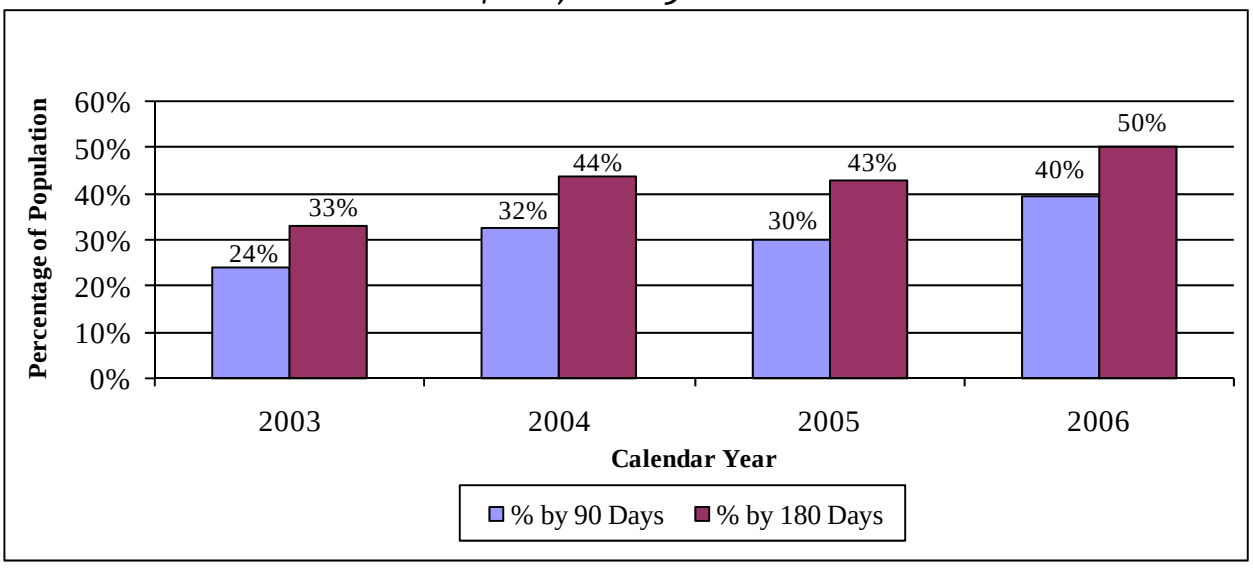
The Centers for Disease Control and Prevention (CDC) recommends that women with HIV or AIDS receive two cervical cancer screenings in the year after diagnosis, followed by annual screening. The second cervical cancer screening measure (see Table 4) assesses the *annual* cervical cancer screening rate for women with 11 or more months in the HIV/AIDS payment rate cell. These rates increased from CY 2003 to CY 2005, but decreased slightly in CY 2006. Findings for CY 2007 are not available until 180 days into CY 2008, and providers and MCOs need time to submit the encounter data.

Table 4. Annual Cervical Cancer Screening for Women with HIV/AIDS, CY 2003 – CY 2006

Yearly Rate of Cervical Cancer Screening for Female HealthChoice Enrollees, 11 or Months in HIV/AIDS Payment Rate Cell, Aged 21 through 64 Years				
	CY 2003	**CY 2004**	**CY 2005**	**CY 2006**
Number of Women Receiving Cervical Cancer Screening	516	518	556	555
Total Number of Women	1,372	1,299	1,384	1,424
Rate	37.6%	39.9 %	40.2%	39.0%

Rates of viral load testing were also assessed. The viral load test measures how much human immunodeficiency virus is in the blood. Viral load should be tested at diagnosis, and then monitored every three to four months. Figure 23 shows the percentage of individuals newly enrolled in the HIV/AIDS categories in the HealthChoice capitation system who received a viral load test within 90 days and within 180 days. The viral load testing rates within 90 days and within 180 days increased by 16 and 17 percentage points, respectively, during the study period.

Figure 23. Viral Load Testing within 90 and 180 Days for Newly Enrolled Individuals with HIV/AIDS, CY 2003 – CY 2006



CD4 testing is used to determine how well the immune system is working in individuals diagnosed with HIV. CD4 testing should be done at diagnosis to provide a baseline, and then every three to six months. Figure 24 shows the percentage of individuals newly identified as having HIV or AIDS in the HealthChoice capitation system who received CD4 testing within 90 days and within 180 days. Rates of CD4 testing within 90 days and within 180 days increased by 26 and 29 percentage points, respectively, during the study period.

Figure 24. CD4 Testing within 90 and 180 Days for Newly Enrolled Individuals with HIV/AIDS, CY 2003 – CY 2006

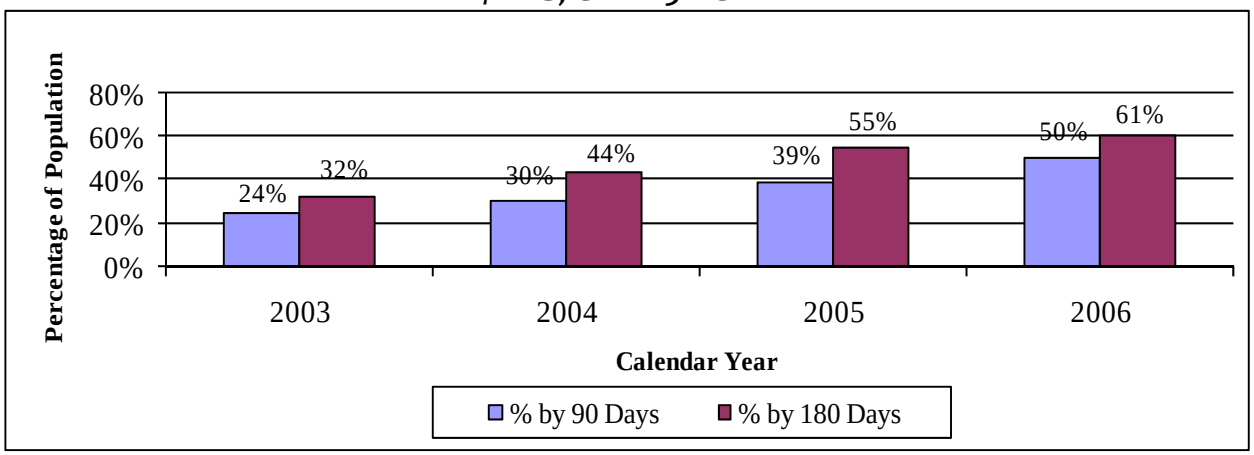
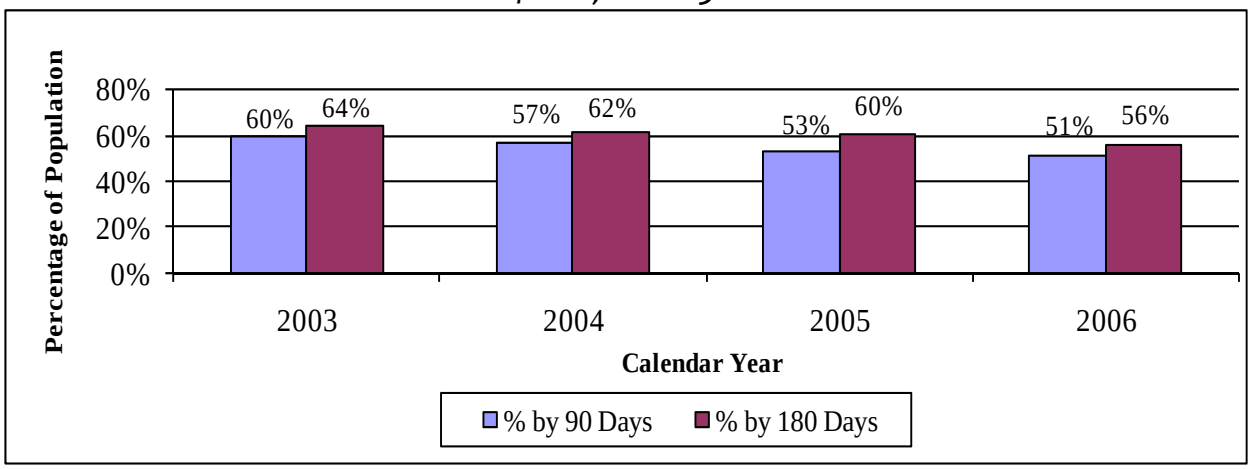


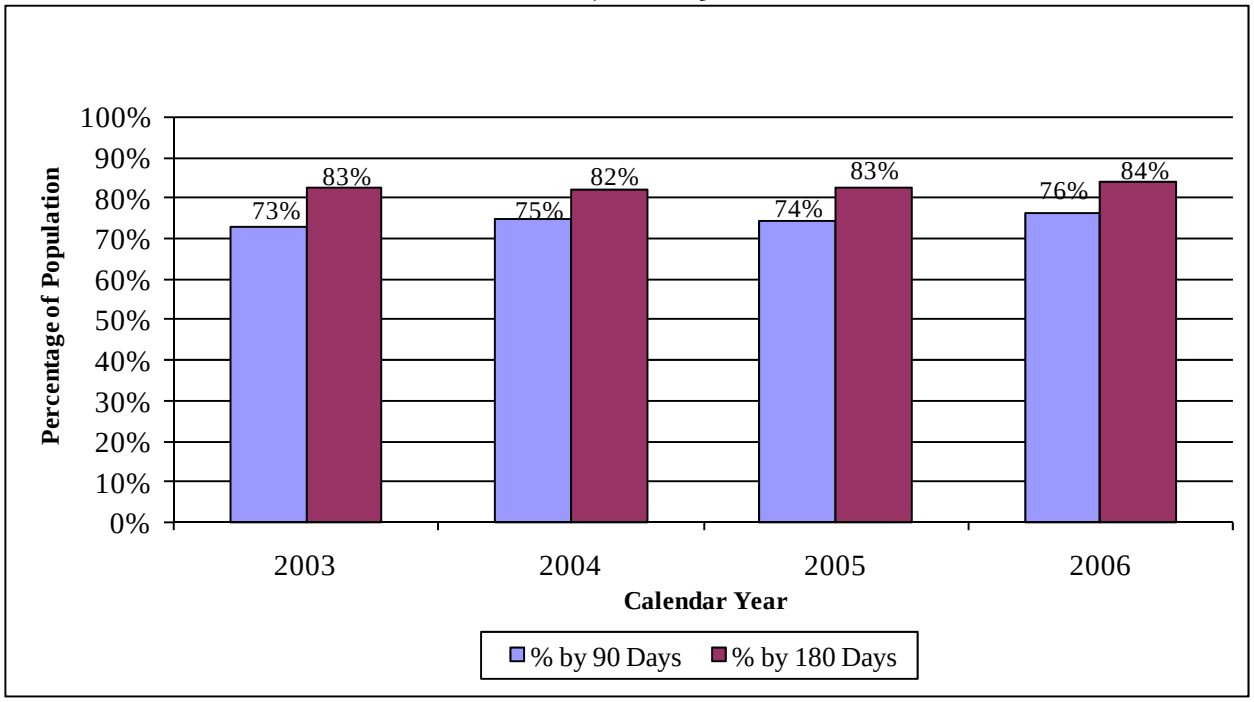
Figure 25 shows the percentage of individuals newly identified in the HealthChoice capitation system as having HIV or AIDS who received anti-retroviral therapy within 90 days and within 180 days of identification. When to initiate anti-retroviral therapy depends on several factors, including symptoms and results of viral load and CD4 tests. Utilization declined during the study period for both measures.

Figure 25. Anti-Retroviral Treatment within 90 and 180 Days for Newly Enrolled Individuals with HIV/AIDS, CY 2003 – CY 2006



DHMH also examined the percentage of individuals newly enrolled in the HIV/AIDS category in the HealthChoice capitation system who had an ambulatory care visit[24] within 90 and within 180 days (see Figure 26). Utilization remained relatively stable between CY 2003 and CY 2006, with rates around 75 percent for the measure within 90 days, and around 83 percent for the measure within 180 days.

Figure 26. Ambulatory Care Visits within 90 and 180 Days for Newly Enrolled Individuals with HIV/AIDS, CY 2003 – CY 2006



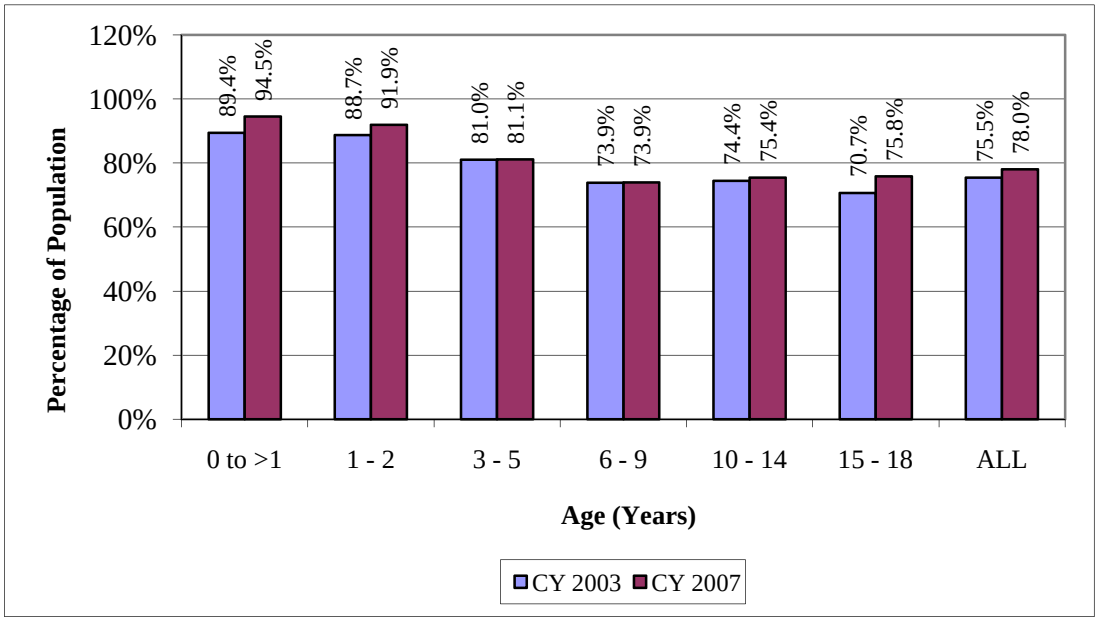
[24] This measure uses the same ambulatory visit definition presented earlier in the report.

Access to Care for Children in Foster Care

This section examines service utilization for children in foster care with any period of enrollment in HealthChoice during the calendar year.[25] Because children in foster care tend to experience turnover in HealthChoice enrollment, the measures in this section examine both MCO encounter and fee-for-service claims data.[26]

The first measure, ambulatory care visits, provides an overall assessment of access to care. Figure 27 displays the percentage of children in foster care with any period of enrollment receiving at least one ambulatory care visit in CY 2003 and CY 2007 by age group, indicating that the overall rate increased by 2.5 percentage points. For children aged 0 through 1 year and 15 through 18 years, the ambulatory care visit rate increased by approximately 5 percentage points during the study period. Utilization was highest for the youngest children across the study period.

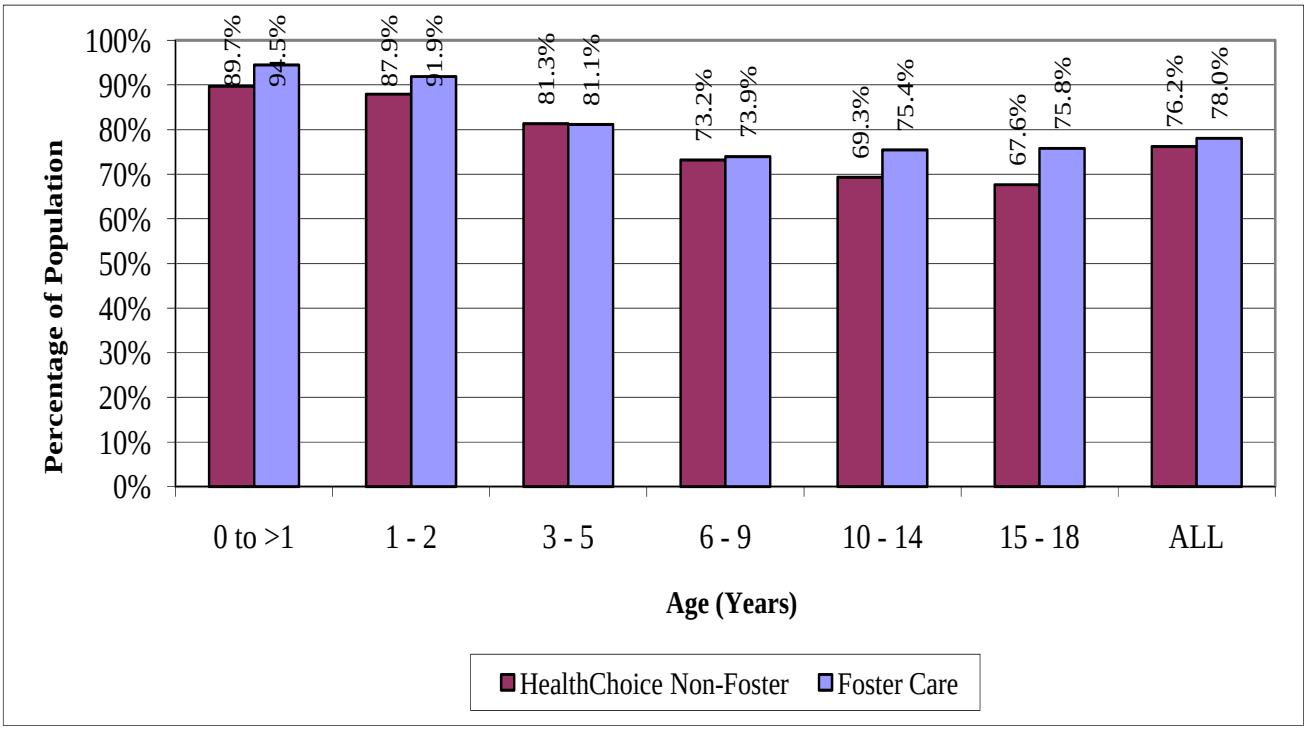
Figure 27. Percentage of Children in Foster Care Receiving an Ambulatory Care Visit by Age Group, CY 2003 and CY 2007



[25] This analysis *excludes* children in the subsidized adoption population.
[26] All other analyses in this document examine MCO encounter data only. Therefore, utilization rates for the measures in this section are slightly higher than those presented in other sections of this document.

Figure 28 compares the ambulatory care visit rate for children in foster care to the rate for other children enrolled in HealthChoice. In CY 2007, 78 percent of children in foster care and 76.2 percent of other HealthChoice children received at least one ambulatory care visit. For most age groups, children in foster care accessed ambulatory care services at higher rates than other children in the HealthChoice population.

Figure 28. Percentage of Children in Foster Care vs. HealthChoice (Non-Foster) Children Receiving an Ambulatory Care Visit by Age Group, CY 2007



As discussed earlier in this report, well-child visits are a subset of ambulatory visits and are provided according to a predetermined periodicity schedule. Figure 29 presents the percentage of children in foster care with any period of Medicaid enrollment who received at least one well-child visit during the measurement year. This figure indicates that the overall visit rate increased slightly between these years. It is worth noting that the well-child visit rate for children younger than 1 year improved by 7.4 percentage points during the study period, whereas the rate for 10 through 14 year-olds declined by 3.5 percentage points.

Figure 29. Percentage of Children in Foster Care Receiving a Well-Child Visit by Age Group, CY 2003 and CY 2007

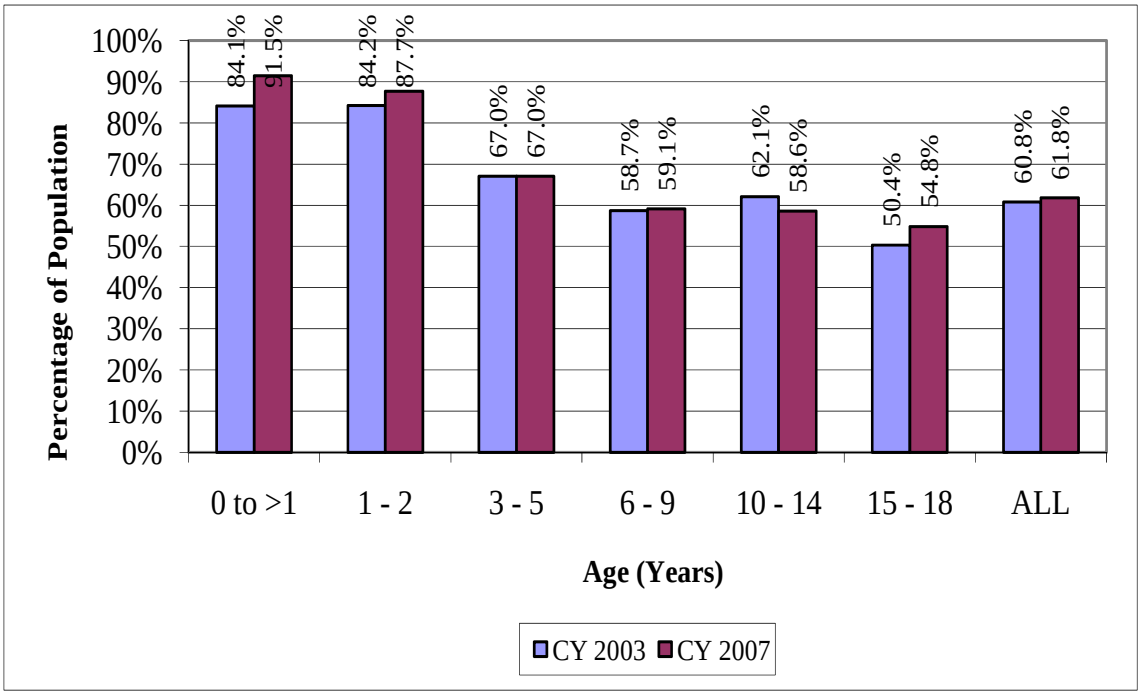
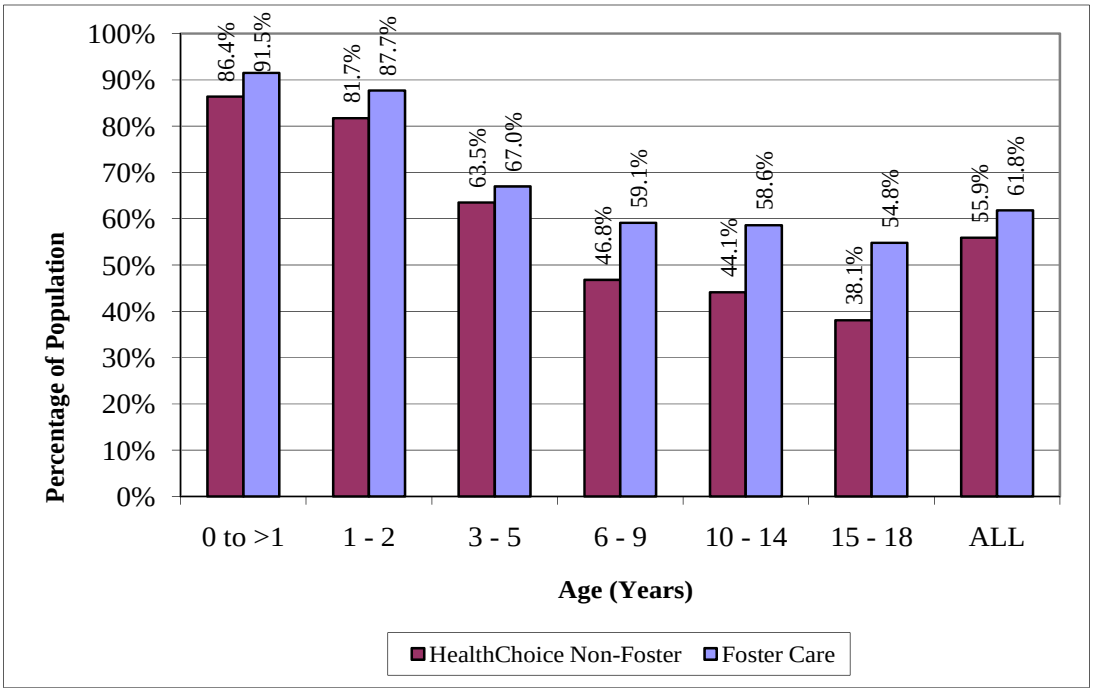


Figure 30 compares the CY 2007 well-child visit rate for children in foster care and the rate for other HealthChoice (non-foster) children. Across all age groups, children in foster care experienced a higher well-child visit rate than other children enrolled in HealthChoice in CY 2007.

Figure 30. Percentage of Children in Foster Care vs. HealthChoice (Non-Foster) Children Receiving a Well-Child Visit by Age Group, CY 2007



Building on the topic of pediatric access to oral health services discussed earlier in this report, the following two figures present dental service utilization measures for children in foster care. As stated earlier, because children in foster care tend to experience turnover in HealthChoice enrollment, the measures examine both MCO encounter and fee-for-service claims data. Figure 31 displays the percentage of children in foster care who received at least one dental service during CY 2003 or CY 2007, indicating that overall dental service utilization improved by 6.3 percentage points during the study period. Children aged 6 through 9 years and 15 through 18 years experienced the greatest increase, improving by more than 10 percentage points during the study period.

Figure 31. Percentage of Children in Foster Care Receiving a Dental Service by Age Group, CY 2003 and CY 2007

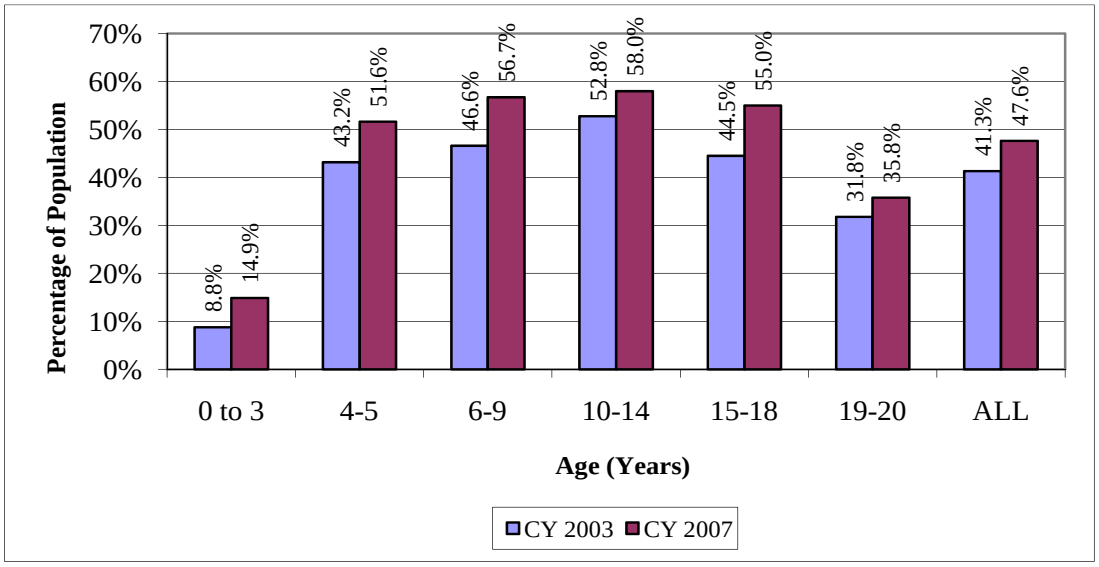
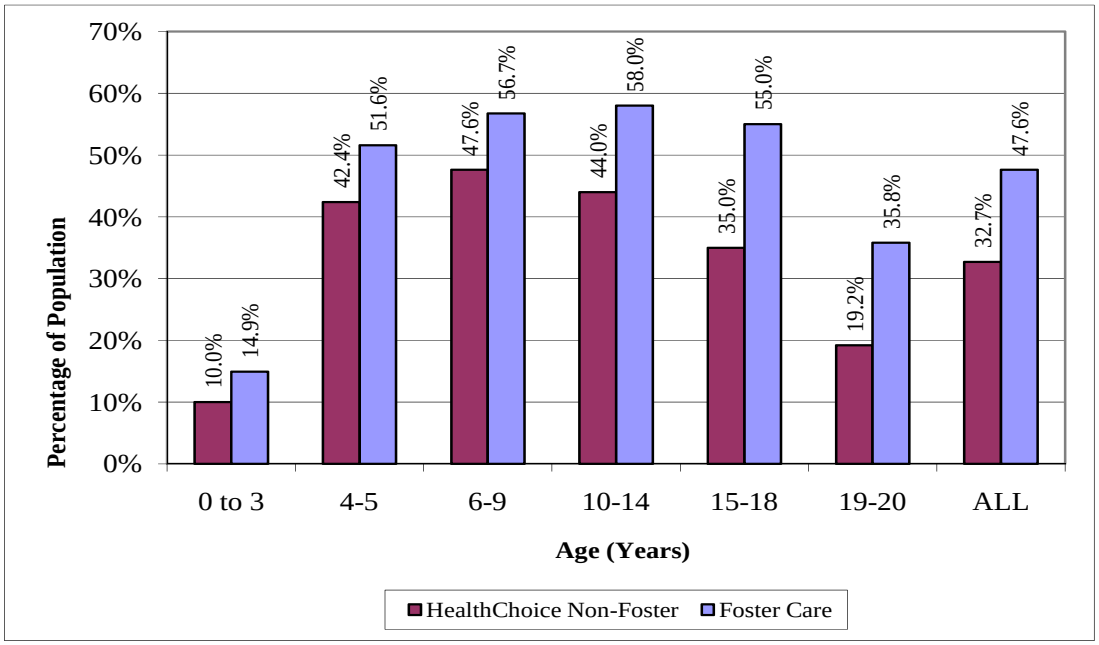


Figure 32 compares the percentage of children in foster care and other HealthChoice children who received at least one dental service during CY 2007. Overall, 47.6 percent of children in foster care and 32.7 percent of other HealthChoice children received at least one dental service during the year. The dental visit rate was higher for children in foster care across all age groups.

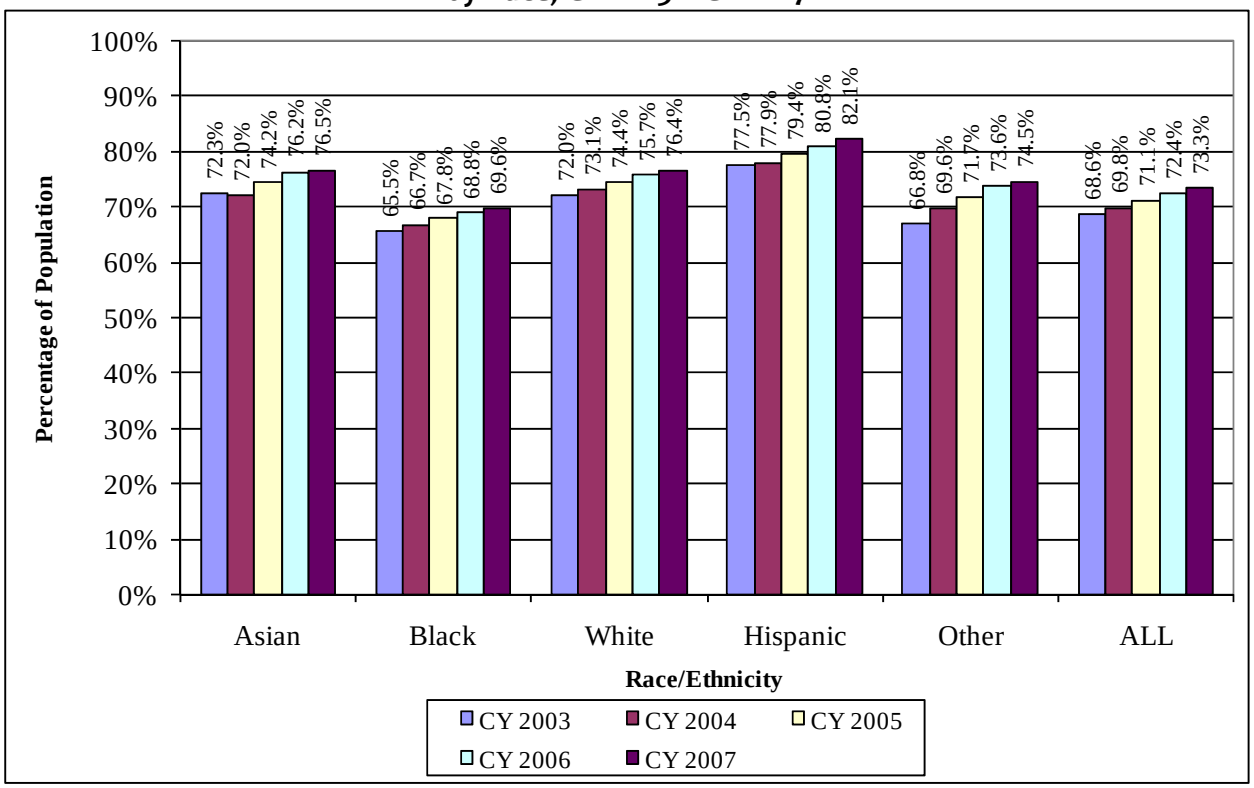
Figure 32. Percentage of Children in Foster Care vs. HealthChoice (Non-Foster) Children Receiving a Dental Service by Age Group, CY 2007



Access to Care for Racial and Ethnic Minority Groups

Racial and ethnic disparities in health care are nationally recognized issues. DHMH is committed to improving health services utilization among racial and ethnic groups to eliminate disparities. DHMH uses ambulatory care visits for the various racial and ethnic groups to measure racial disparities. Utilization of at least one care ambulatory service[27] for all racial and ethnic groups increased between CY 2003 and CY 2007. In CY 2007, Hispanics had the highest rate of utilization, which was nearly 6 percentage points higher than Whites. In the same year, Asians had virtually the same utilization as Whites. The rate of utilization for Blacks increased by 4 percentage points during the study period but remained consistently lower than every other racial and ethnic group (see Figure 33).

Figure 33. Percentage of the HealthChoice Population Receiving an Ambulatory Care Visit by Race, CY 2003 – CY 2007



[27] This section applies the same ambulatory visit definition presented earlier in the report (i.e., the percentage of individuals with any period of enrollment who received at least one ambulatory care visit during the calendar year).

Breast Cancer Screening

The American Cancer Society recommends mammograms for the early detection of breast cancer. HEDIS measures the percentage of women who received at least one mammogram for breast cancer screening within a two-year period. During CY 2003 through CY 2005, HEDIS included women aged 50 through 69 years[28] in this measure. In CY 2006, however, the measure was expanded to include women aged 40 through 69 years.

Table 5 compares the percentage of women in HealthChoice who received a mammogram for breast cancer screening with the HEDIS Medicaid national average for CY 2003 through CY 2007. Because of the change in the age requirement in CY 2006, a comparison to prior years is not appropriate for this measure. After the measure was expanded to women aged 40 through 69 years in CY 2006, the percentage of women receiving a breast cancer screening increased from 44 percent in CY 2006 to 47 percent in CY 2007. HealthChoice performed lower than the HEDIS Medicaid national average for most of the study period.

Table 5. Percentage of Women in HealthChoice Receiving a Breast Cancer Screening Compared With the HEDIS Medicaid National Average, CY 2003 – CY 2007

	CY 2003	CY 2004	CY 2005	CY 2006	CY 2007
	Women Aged 50-69 Years			Women Aged 40-69 Years	
HealthChoice	53%	52%	55%	44%**	47%
HEDIS Medicaid National Average	56%	54%	54%	49%**	50%

**Note: Due to significant changes in the specifications for the 2007 HEDIS measurement year (CY 2006), a comparison would not be appropriate for prior years.

[28] Although individuals aged 65 years and older are not eligible for HealthChoice, HEDIS specifies that this measure include women aged 50 through 69 years. Because this measure is performed by the HEDIS vendor, it could not be restricted to women through age 64 years.

Cervical Cancer Screening[29]

The American Cancer Society recommends regular Pap tests for the early detection of cervical cancer. HEDIS measures the percentage of women who received at least one Pap test for cervical cancer screening within a three-year period. During CY 2003 through CY 2005, HEDIS included women aged 18 through 64 years in this measure. In CY 2006, however, the measure was restricted to women aged 21 through 64 years.

Table 6 compares the percentage of women in HealthChoice who received a cervical cancer screening with the HEDIS Medicaid national average for CY 2003 through CY 2007. Because of the change in the age requirement in CY 2006, a comparison to prior years is not appropriate for this measure. After the measure was restricted to women aged 21 through 64 years in CY 2006, the percentage of women enrolled in HealthChoice receiving cervical cancer screening improved by one percentage point between CY 2006 and CY 2007. HealthChoice performed lower than the HEDIS Medicaid national average throughout the study period.

Table 6. Percentage of Women in HealthChoice Receiving a Cervical Cancer Screening Compared with the HEDIS Medicaid National Average, CY 2003-CY 2007

	CY 2003	CY 2004	CY 2005	CY 2006	CY 2007
	Women Aged 18-64 Years			Women Aged 21-64 Years	
HealthChoice	61%	62%	59%	62%**	63%
HEDIS Medicaid National Average	64%	64%	65%	66%**	65%

*Note: Due to significant changes in the specifications for the 2007 HEDIS measurement year (CY 2006), a comparison would not be appropriate for prior years.

[29] The cervical cancer screening measure is conducted by the HEDIS vendor.

Comprehensive Diabetes Care

Diabetes Management - HbA1c Screening

To assess appropriate and timely screening and treatment for adults with diabetes (types 1 and 2), HEDIS includes a composite set of measures, Comprehensive Diabetes Care. One of the HEDIS Comprehensive Diabetes Care measures assesses the percentage of enrollees aged 18 through 75[30] years with diabetes (types one and two) who received at least one Hemoglobin A1c (HbA1c) test during the measurement year.

Table 7 compares the percentage of HealthChoice enrollees with diabetes aged 18 through 75 years who received at least one HbA1c test with the HEDIS Medicaid national average for CY 2003 through CY 2007. HealthChoice HbA1c testing has remained steady throughout the study period, ranging from a high of 81 percent in CY 2003 to a low of 79 percent in CY 2007. HealthChoice performed higher than the HEDIS Medicaid national average each year during the study period.

Table 7. Percentage of HealthChoice Enrollees with Diabetes Aged 18-75 Years Receiving HbA1c Screening Compared with the HEDIS Medicaid National Average, CY 2003- CY 2007

	CY 2003	CY 2004	CY 2005	CY 2006	CY 2007
HealthChoice	81%	80%	80%	78%	79%
HEDIS Medicaid National Average	74%	75%	76%	78%	77%

[30] Although individuals aged 65 years and older are not eligible for HealthChoice, HEDIS specifies that the comprehensive diabetes care measures include individuals aged 18 through 75 years. Because these measures are performed by the HEDIS vendor, they could not be restricted to individuals through age 64 years.

Diabetes Management - LDL-C Screening

Another HEDIS Comprehensive Diabetes Care measure assesses the effectiveness of diabetes care by measuring the percentage of enrollees with diabetes (types 1 and 2) aged 18 through 75 years who received at least one low density lipoprotein cholesterol (LDL-C) screening. During CY 2003 through CY 2005, HEDIS measured LDL-C screenings occurring within a two-year time period. In CY 2006, however, HEDIS reduced the measurement period to one year.

Table 8 compares the percentage of HealthChoice enrollees with diabetes aged 18 through 75 years who received at least one LDL-C screening with the HEDIS Medicaid national average for CY 2003 through CY 2007. Because the measurement period for identifying LDL-C screenings was reduced to one year in CY 2006, a comparison to prior years is not appropriate. It is likely that the declines in the LDL-C screening rates for both HealthChoice and the HEDIS Medicaid national average in CY 2006 are due to the changes in the specifications for the measure described above. HealthChoice consistently outperformed the HEDIS Medicaid national average during the study period for this comprehensive diabetes care measure.

Table 8. Percentage of HealthChoice Enrollees with Diabetes Aged 18-75 Years Receiving LDL-C Screening Compared with the HEDIS Medicaid National Average, CY2003–CY2007

	CY 2003	CY 2004	CY 2005	CY 2006	CY 2007
	2 Year Measurement Period for LDL-C Screening			1 Year Measurement Period for LDL-C Screening	
HealthChoice	86%	87%	84%	74%**	76%
HEDIS Medicaid National Average	75%	78%	81%	71%**	71%

*Note: Due to significant changes in the specifications for the 2007 HEDIS measurement year (CY 2006), a comparison would not be appropriate for prior years for these numerators.

Assuring Quality of Care

Quality Measurement and Improvement Initiatives

In addition to monitoring performance through the data analyses presented in this report, DHMH also has an extensive system for quality measurement and improvement that uses nationally recognized performance standards. Quality activities include the External Quality Review Organization (EQRO) annual report, the Consumer Assessment of Healthcare Providers and Systems (CAHPS®) survey of consumer satisfaction, and the HEDIS measurement of access to and effectiveness of care. DHMH also reviews a sample of medical records to ensure that Healthy Kids and EPSDT standards are met.

Similarly, DHMH's Value-Based Purchasing (VBP) program is a state-specific coordinated performance measurement initiative designed to use incentives and disincentives to hold MCOs accountable for the quality of care delivered to enrollees. Each year, DHMH selects quality measures from HEDIS and encounter data to set benchmarks for each of these measures. MCOs that exceed these benchmarks are awarded financial incentives, while MCOs that perform below the minimum standards receive financial penalties.

Maryland Health Quality and Cost Council

Related to these quality measurement and improvement activities, Governor Martin O'Malley established the Maryland Health Quality and Cost Council (Council) through Executive Order 01.01.2007.24 in October 2007. This Council could provide additional quality assurance opportunities for the HealthChoice program in the future. The Council brings together health care leaders to collaborate on ways to improve quality and contain costs across the public and private sectors. Council members include DHMH Secretary John Colmers, Lieutenant Governor Anthony Brown, and at least seven other members appointed by the Governor, representing health insurance carriers, employers, health care providers, health care consumers, and experts in health care quality.

The Council is charged with the following:

- Coordinating and facilitating collaboration on health care quality improvement and cost containment initiatives
- Making recommendations on health care quality and cost containment initiatives and priorities to various stakeholders
- Developing a chronic care management plan to improve the quality and cost-effectiveness of care for individuals with, or at risk for, chronic disease
- Facilitating the integration of health information technology in health care systems
- Examining and making recommendations regarding other issues relating to the Council's mission to improve health care quality and reduce costs

Conclusion

HealthChoice is a mature program in its eleventh year of operation, serving close to half a million Marylanders as of December 31, 2007. DHMH continues to work closely with the MCOs to improve access to quality care and create a prevention-oriented delivery system, even as enrollment in the program has continued to grow. During the five-year study period of this evaluation—CY 2003 through CY 2007—overall utilization rates for most services increased, suggesting that access to care has improved. These trends are especially encouraging in the preventive service domain such as well-child visits, dental services, lead testing, and prenatal care.

DHMH will continue to conduct multiple quality assurance activities and monitor service utilization for HealthChoice enrollees, including trends in ED utilization, asthma- and diabetes-related avoidable hospital admissions, and treatment for individuals with substance use disorders and HIV/AIDS. Future analyses will place a renewed emphasis on the care delivered to individuals with chronic conditions. DHMH anticipates that HealthChoice will continue to demonstrate overall improvements in access to services for enrollees.

Appendix 1. HealthChoice Enrollment: Race by Region, CY 2003 – CY 2007

	CY 2003	CY 2004	CY 2005	CY 2006	CY 2007
BALTIMORE CITY					
Asian	0.4%	0.4%	0.4%	0.4%	0.5%
Black	85.7%	85.8%	85.7%	85.2%	84.7%
White	10.6%	10.4%	10.1%	10.1%	10.0%
Hispanic	1.4%	1.6%	1.9%	2.3%	2.8%
Other	1.9%	1.9%	1.9%	2.0%	2.1%
ALL	100.0%	100.0%	100.0%	100.0%	100.0%
BALTIMORE SUBURBAN					
Asian	3.4%	3.6%	3.8%	3.6%	3.7%
Black	40.8%	41.2%	41.4%	41.5%	41.1%
White	47.1%	45.7%	44.4%	43.8%	43.3%
Hispanic	4.3%	4.9%	5.4%	5.8%	6.3%
Other	4.3%	4.6%	5.1%	5.4%	5.6%
ALL	100.0%	100.0%	100.0%	100.0%	100.0%
WASHINGTON SUBURBAN					
Asian	4.2%	4.1%	4.1%	4.0%	3.9%
Black	55.8%	54.9%	54.0%	52.3%	50.4%
White	12.3%	11.7%	11.0%	10.4%	10.0%
Hispanic	23.0%	24.5%	25.9%	27.3%	28.8%
Other	4.8%	4.9%	5.2%	6.0%	7.0%
ALL	100.0%	100.0%	100.0%	100.0%	100.0%
WESTERN MARYLAND					
Asian	0.6%	0.6%	0.7%	0.7%	0.8%
Black	11.1%	11.5%	12.1%	12.1%	11.8%
White	84.2%	82.9%	81.8%	80.5%	79.6%
Hispanic	1.6%	2.2%	2.3%	2.7%	2.9%
Other	2.6%	2.8%	3.1%	4.0%	4.9%
ALL	100.0%	100.0%	100.0%	100.0%	100.0%
SOUTHERN MARYLAND					
Asian	1.1%	1.3%	1.3%	1.3%	1.4%
Black	47.0%	47.0%	47.3%	46.7%	46.2%
White	46.7%	46.3%	45.6%	45.2%	44.5%
Hispanic	1.9%	2.2%	2.5%	2.8%	3.1%
Other	3.2%	3.2%	3.4%	4.0%	4.9%
ALL	100.0%	100.0%	100.0%	100.0%	100.0%
EASTERN SHORE					
Asian	1.0%	1.1%	1.1%	1.0%	1.0%
Black	37.4%	36.8%	36.4%	35.9%	35.3%
White	55.6%	55.4%	55.2%	54.5%	54.3%
Hispanic	3.5%	3.9%	4.5%	5.2%	5.8%
Other	2.6%	2.8%	2.8%	3.4%	3.7%
ALL	100.0%	100.0%	100.0%	100.0%	100.0%

Appendix 2. Classification of Emergency Department Visits, CY 2007

	Non-Emergent	Emergent, Primary Care Treatable	Emergent, ED Care Needed, Preventable/ Avoidable	Emergent, ED Care Needed, Not Preventable/ Avoidable	Injury	Psych	Alcohol	Drug	Unclassified	Inpatient	Total
RACE											
Asian	21.3%	22.9%	7.8%	7.2%	21.3%	0.9%	0.2%	0.0%	10.0%	8.5%	100%
Black	22.8%	22.8%	9.0%	7.5%	17.4%	0.7%	0.7%	0.1%	9.8%	9.2%	100%
White	21.1%	19.7%	5.8%	7.7%	23.5%	1.2%	1.1%	0.3%	10.3%	9.4%	100%
Hispanic	26.1%	26.6%	8.6%	8.1%	15.7%	0.4%	0.1%	0.0%	8.4%	6.1%	100%
Other	22.8%	25.1%	8.3%	7.3%	17.0%	0.6%	0.3%	0.1%	9.9%	8.7%	100%
ALL	22.5%	22.2%	7.9%	7.6%	19.2%	0.8%	0.7%	0.2%	9.9%	9.0%	100%
REGION											
Baltimore City	22.1%	22.5%	8.9%	7.2%	16.8%	0.6%	1.3%	0.2%	10.2%	10.3%	100%
Baltimore Suburban	22.1%	21.2%	7.8%	7.7%	20.6%	1.0%	0.6%	0.2%	9.9%	9.0%	100%
Washington Suburban	23.8%	23.5%	8.0%	8.4%	17.6%	0.9%	0.3%	0.1%	9.0%	8.5%	100%
Western Maryland	22.6%	22.2%	6.1%	6.8%	25.4%	0.4%	0.6%	0.2%	9.0%	6.7%	100%
Southern Maryland	23.2%	21.4%	6.4%	8.1%	20.2%	0.9%	0.4%	0.1%	10.3%	8.9%	100%
Eastern Shore	21.3%	21.2%	6.6%	7.4%	23.7%	1.3%	0.3%	0.1%	10.8%	7.2%	100%
Out of State	22.4%	22.7%	5.4%	9.3%	19.3%	1.6%	1.6%	0.0%	7.3%	10.4%	100%
ALL	22.5%	22.2%	7.9%	7.6%	19.2%	0.8%	0.7%	0.2%	9.9%	9.0%	100%
GENDER											
Female	24.6%	22.6%	7.2%	8.2%	16.2%	0.7%	0.3%	0.2%	10.8%	9.2%	100%
Male	19.4%	21.6%	9.0%	6.7%	23.4%	0.9%	1.3%	0.2%	8.5%	8.9%	100%
ALL	22.5%	22.2%	7.9%	7.6%	19.2%	0.8%	0.7%	0.2%	9.9%	9.0%	100%

	Non-Emergent	Emergent, Primary Care Treatable	Emergent, ED Care Needed, Preventable/ Avoidable	Emergent, ED Care Needed, Not Preventable/ Avoidable	Injury	Psych	Alcohol	Drug	Unclassified	Inpatient	Total
AGE GROUP											
0 to <1	22.7%	31.5%	6.1%	9.2%	4.9%	0.0%	0.0%	0.0%	14.7%	11.0%	100%
01-02	25.0%	31.9%	9.9%	6.7%	13.8%	0.0%	0.0%	0.0%	7.5%	5.2%	100%
03-05	24.2%	26.8%	11.5%	5.4%	21.5%	0.1%	0.0%	0.0%	6.8%	3.7%	100%
06-09	22.9%	22.3%	11.5%	5.2%	27.3%	0.5%	0.0%	0.0%	7.0%	3.3%	100%
10-14	17.9%	16.9%	8.6%	5.1%	39.6%	1.5%	0.1%	0.0%	6.7%	3.6%	100%
15-18	20.9%	18.4%	6.9%	7.2%	30.7%	1.6%	0.6%	0.2%	9.3%	4.3%	100%
19-20	26.9%	20.4%	5.9%	9.2%	15.8%	1.0%	0.3%	0.2%	13.9%	6.2%	100%
21-39	25.4%	19.7%	5.8%	9.9%	13.6%	1.2%	0.7%	0.3%	14.0%	9.5%	100%
40-64	17.8%	16.8%	6.2%	8.9%	13.0%	1.1%	2.9%	0.4%	10.0%	22.8%	100%
ALL	22.5%	22.2%	7.9%	7.6%	19.2%	0.8%	0.7%	0.2%	9.9%	9.0%	100%
COVERAGE GROUP											
Families and Children	24.4%	24.2%	8.1%	7.4%	19.1%	0.5%	0.2%	0.1%	10.2%	5.7%	100%
MCHP	22.0%	22.1%	9.0%	6.2%	28.7%	0.6%	0.2%	0.1%	7.3%	3.7%	100%
SSI	17.9%	17.5%	7.0%	8.9%	14.7%	1.6%	2.4%	0.4%	10.2%	19.4%	100%
ALL	22.5%	22.2%	7.9%	7.6%	19.2%	0.8%	0.7%	0.2%	9.9%	9.0%	100%

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