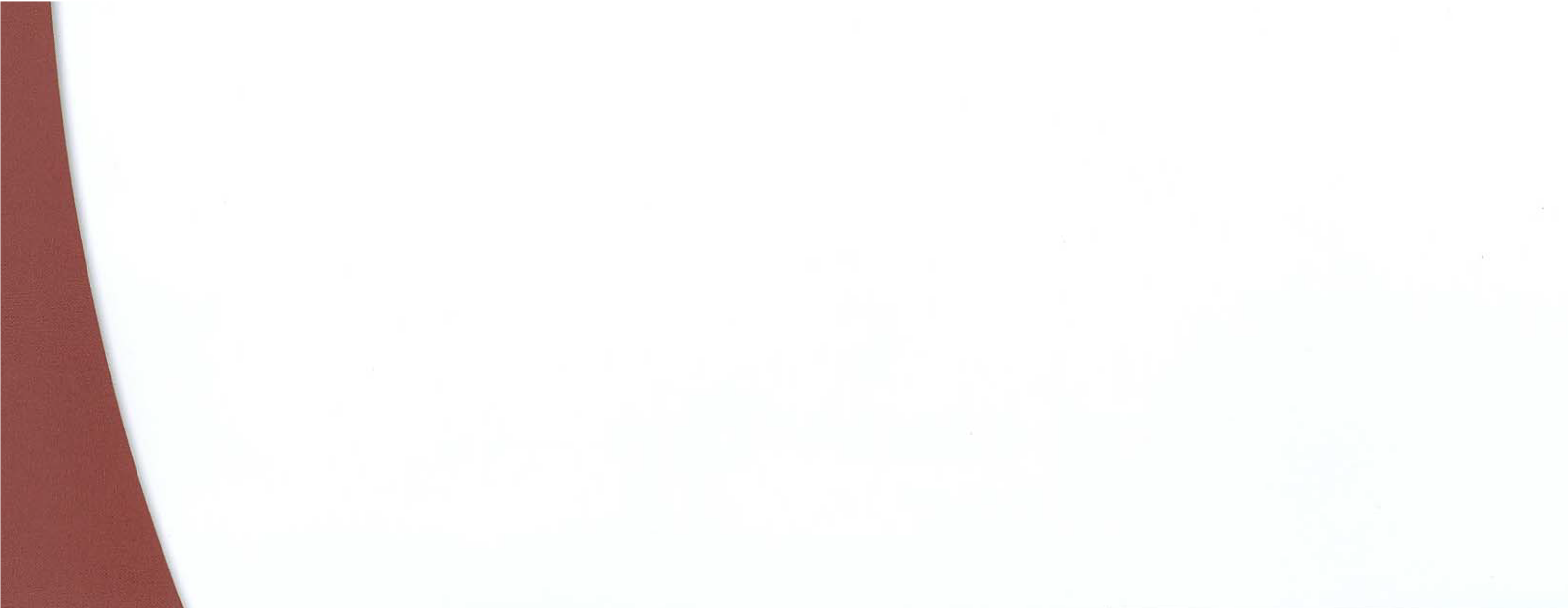
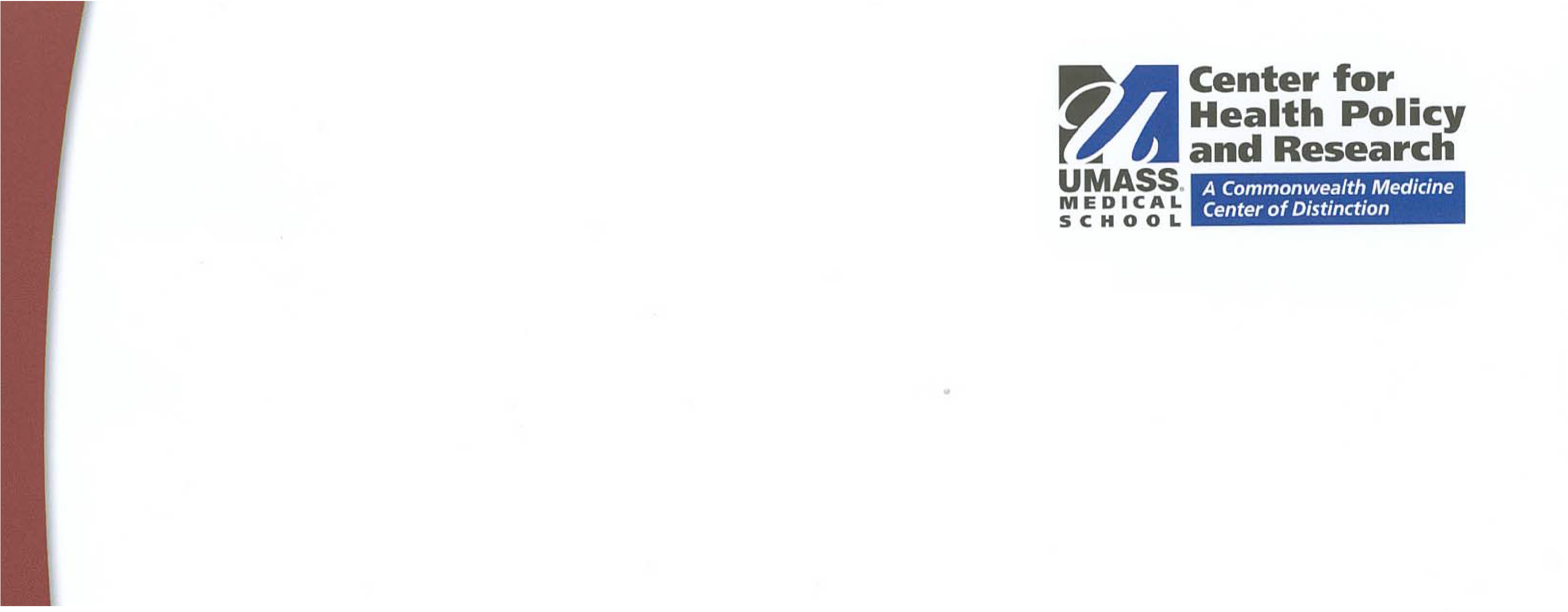
November 2010

MassHealth Managed Care HEDIS® 2010 Final Report

## Prepared by: Project Team:

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The data presented represent a subset of the Healthcare Effectiveness Data and Information Set (HEDIS) measures. HEDIS was developed by the National Committee for Quality Assurance (NCQA) and is the most widely used set of standardized performance measures to evaluate and report on the quality of care delivered by health care organi- zations. Through this collaborative project, OCA, OAAC, CHPR, and OBH have evaluated a broad range of clinical and service areas that are of impor- tance to MassHealth members, policy makers and program staff.

#### Measures Selected for HEDIS 2010

The MassHealth measurement set for 2010 focused on three domains: “staying healthy” (i.e., childhood immunization status, well child visits for infants and young children, adolescent well-care visits, and Chlamydia screening in women), “living with ill- ness” (i.e., use of appropriate medications for peo- ple with asthma, antidepressant medication man- agement, and follow-up after hospitalization for mental illness), “getting better” (i.e., appropriate use of antibiotics for upper respiratory infection), and the utilization of mental health services.

#### Summary of Overall Results

Results from the MassHealth Managed Care HEDIS 2010 project demonstrate that MassHealth plans performed well overall when compared to the 2010 rates for other Medicaid plans around the country. Throughout this report, we will give results of tests of statistical significance comparing the per- formance of individual MassHealth plans with that of the top 25% of all Medicaid plans reporting HEDIS data for 2010 (represented by the 2010 national Medicaid 75th percentile, obtained from NCQA’s Quality Compass® database).

MassHealth plans performed best, relative to this national benchmark, on measures in the “staying healthy” domain. All five MassHealth plans reported rates that were significantly higher than the 2010 national Medicaid 75th percentile for the measures assessing well-child visits in the first 15 months of life; well-child visits in the 3rd, 4th, 5th, and 6th years of life; and adolescent well-care visits. Mass- Health plan performance was also strong on the childhood immunization measure. All five plans met (i.e., were not statistically different from) the na- tional benchmark, with one plan exceeding it for the Combination 2 vaccine, and two plans exceeding the benchmark for Combination 3.

Most MassHealth plans also performed well on measures assessing follow-up after hospitalization for mental illness and appropriate treatment for chil- dren with upper respiratory infection. Three plans reported significantly higher rates than the national benchmark for 7-day follow-up visits for mental ill- ness while all five plans had significantly higher rates for 30-day follow-up visits. Of the five Mass- Health plans, four plans exceeded the national benchmark for providing appropriate treatment to

children with upper respiratory infection, while one plan performed significantly below.

MassHealth plans’ results were mixed for several other measures, with some plans performing below the benchmark and others with no statistically sig- nificant difference. The measures assessing antide- pressant medication management and use of ap- propriate medications for people with asthma follow this pattern with the exception of one age grouping (ages 5 to 11 years) for the asthma measure, which had one plan perform significantly better than the benchmark.

*HEDIS® is a registered trademark of the National Committee for Quality Assurance (NCQA).*

**Executive Summary**

*Quality Compass® is a registered trademark of the National Committee for Quality Assurance (NCQA).*

**Executive Summary (*continued*)**

#### Childhood Immunization Status

* For Combination 2 (4 diptheria-tetanus- pertussis, 3 injectable polio, 1 measles- mumps-rubella, 3 H influenza type B, 3 hepati- tis B and 1 chicken pox vaccine by age 2), the overall MassHealth rate (i.e., the MassHealth weighted mean) was 82.7%.
* One MassHealth plan (NHP) performed signifi- cantly better than the 2010 national Medicaid 75th percentile for Combination 2.
* The MassHealth rate for Combination 3 (all Combination 2 immunizations plus 4 pneumo- coccal conjugate vaccines) was 79.2%.
* Two plans (NHP and FCHP) performed statis- tically better than the 2010 national Medicaid 75th percentile for Combination 3.
* Plan rates for 2010 were not significantly dif- ferent from HEDIS 2008 rates for Combina- tions 2 and 3.

#### Well-Child Visits in the First Fifteen Months of Life (0, 1, 2, 3, 4, 5, and 6 or more visits)

* Eighty-six percent (85.5%) of MassHealth members who turned 15 months of age during 2009 had six or more well-child visits.
* All five MassHealth plans performed signifi- cantly better than the 2010 national Medicaid 75th percentile for members with 6 or more visits.
* Plan rates for 2010 were not statistically differ- ent from HEDIS 2008 rates for all five plans.

#### Well-Child Visits in the Third, Fourth, Fifth, and Sixth Years of Life (at least one visit during 2009)

* The MassHealth rate of members ages three through six receiving at least one well-child visit was 85.5%.
* All five MassHealth plans performed signifi- cantly better than the 2010 national Medicaid 75th percentile.
* One plan's reported rate (PCCP) significantly improved from HEDIS 2008.

#### Adolescent Well-Care Visits (at least one visit during 2009)

* Sixty-seven percent (66.7%) of MassHealth members aged 12-21 had at least one well- care visit.
* All five MassHealth plans performed signifi- cantly better than the 2010 national Medicaid 75th percentile.
* One plan's reported rate (PCCP) for 2010 sig- nificantly improved from HEDIS 2008.

#### Chlamydia Screening in Women

* Sixty-seven percent (66.9%) of sexually active female members 16 to 24 years of age had at least one Chlamydia test during 2009.
* Three plans (NHP, NH, and BMCHP) per- formed significantly better than the 2010 na- tional Medicaid 75th percentile for the com- bined age group (16 to 24 years).
* All five MassHealth plans had significantly higher rates compared to the Massachusetts commercial mean for each age group (16-20 years, 21-24 years, and 16-24 years).

#### Use of Appropriate Medications for People with Asthma

* Eighty-eight percent (87.5%) of MassHealth members 5-50 years of age with persistent asthma were appropriately prescribed asthma control medication.
* None of the MassHealth plans performed sig- nificantly better than the 2010 national Medi- caid 75th percentile for two of the three age group rates (12-50 years and 5-50 years).
* The percentage of MassHealth children (age 5-11 years) with persistent asthma who were appropriately prescribed medication was ninety-five percent (94.7%).
* One MassHealth plan (BMCHP) had a signifi- cantly better rate than the 2010 national Medi- caid 75th percentile (5-11 years).

#### Antidepressant Medication Management

* The MassHealth managed care rate for effec- tive acute phase treatment was 49.4%. None of the five plans scored significantly higher than the national Medicaid 75th percentile, while, the rate for one plan (BMCHP) signifi- cantly improved from the 2008 report.
* The MassHealth managed care rate for effec- tive continuation phase treatment was 33.6%. None of the five MassHealth plans significantly exceeded the national benchmark. One plan rate (BMCHP) significantly improved from 2008, while the rates for the remaining four plans did not show a significant change.

#### Follow-up After Hospitalization for Mental Ill- ness

* The MassHealth managed care 7-day follow- up rate was 58.3%. Three plans (NHP, NH, and BMCHP) had rates that were significantly better than the 2010 national Medicaid 75th percentile, while one plan (BMCHP) had a 2010 rate that was significantly better than their 2008 rate.
* The MassHealth managed care 30-day follow- up rate was 78.3%. All five MassHealth plans had rates that were significantly better than the 2010 national Medicaid 75th percentile. Four plans (PCCP, NH, NHP, and FCHP) had 2010 rates that were not significantly different than their 2008 rates.

#### Appropriate Treatment for Children with Upper Respiratory Infection

* The overall MassHealth rate of appropriate use of antibiotics in children with upper respi- ratory infection was 92.6%.
* Four MassHealth plans (NHP, NH, FCHP, BMCHP) had rates that were significantly bet- ter than the 2010 national Medicaid 75th per- centile.
* Two plans (PCCP and NH) had 2010 rates that were significantly better than their 2008 rates.

**Summary of MassHealth Managed Care HEDIS 2010 Results**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **HEDIS 2010 Measure** | **2010 National Medicaid 75**th **Percentile** | **PCC Plan** | **NHP** | **NH** | **FCHP** | **BMCHP** |
| **Childhood Immunization** |  | | | | | |
| Combination 2 | 81.5% | 81.3% | 86.1%↑ | 78.8% | 85.7% | 83.7% |
| Combination 3 | 76.9% | 76.6% | 83.9%↑ | 75.9% | 84.0%↑ | 79.3% |
| **Well-Child Visits for Infants and Young Children** |  | | | | | |
| Well-Child Visits in First 15 Months of Life (6+ visits) | 69.4% | 91.2%↑ | 86.2%↑ | 81.1%↑ | 84.8%↑ | 84.8%↑ |
| Well-Child Visits in the 3rd, 4th, 5th and 6th Years of Life | 77.2% | 84.8%↑ | 87.2%↑ | 86.0%↑ | 84.0%↑ | 84.7%↑ |
| **Adolescent Well-Care Visits** |  | | | | | |
| Adolescent Well-Care Visits | 55.9% | 65.1%↑ | 67.6%↑ | 66.7%↑ | 59.1%↑ | 68.6%↑ |
| **Chlamydia Screening in Women** |  | | | | | |
| 16 to 20 Years | 61.1% | 61.4% | 67.3%↑ | 63.2%↑ | 60.5% | 65.3%↑ |
| 21 to 24 Years | 69.1% | 67.4%↓ | 76.7%↑ | 71.7%↑ | 69.3% | 69.8% |
| Combined Ages 16 to 24 Years | 63.7% | 64.1% | 71.3%↑ | 67.4%↑ | 64.6% | 67.4%↑ |
| **Use of Appropriate Medications for People with Asthma** |  | | | | | |
| Age 5 to 11 Years | 93.9% | 95.0% | 94.5% | 92.4% | 92.5% | 95.5%↑ |
| Age 12 to 50 Years | 89.1% | 82.7%↓ | 86.3%↓ | 85.3%↓ | 84.4% | 85.3%↓ |
| Combined 5 to 50 Years | 90.8% | 85.6%↓ | 89.8% | 88.0%↓ | 86.7% | 89.3%↓ |

**Key:** PCC Plan—Primary Care Clinician Plan FCHP—Fallon Community Health Plan NHP—Neighborhood Health Plan BMCHP—Boston Medical Center HealthNet Plan NH—Network Health

↑ Indicates a rate that is significantly better than the 2010 national Medicaid 75th percentile.

↓ Indicates a rate that is significantly worse than the 2010 national Medicaid 75th percentile.

**Summary of MassHealth Managed Care HEDIS 2010 Results (continued)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **HEDIS 2010 Measure** | **2010 National Medicaid**  **75**th **Percentile** | **PCC Plan** | **NHP** | **NH** | **FCHP** | **BMCHP** |
| **Antidepressant Medication Management** |  | | | | | |
| Effective Acute Phase | 53.2% | 52.0% | 48.1%↓ | 48.6%↓ | 62.0% | 45.4%↓ |
| Effective Continuation Phase | 35.4% | 36.1% | 32.5% | 31.0%↓ | 40.5% | 30.9%↓ |
| **Follow-up After Hospitalization for Mental**  **Illness** |  | | | | | |
| 7 Day | 59.1% | 54.3%↓ | 64.3%↑ | 64.0%↑ | 66.7% | 68.3%↑ |
| 30 Day | 74.3% | 75.6%↑ | 81.3%↑ | 83.5%↑ | 91.7%↑ | 84.2%↑ |
| **Appropriate Treatment for Children with Upper**  **Respiratory Infection** |  | | | | | |
| Appropriate Treatment for URI | 90.7% | 89.0%↓ | 94.8%↑ | 94.7%↑ | 98.3%↑ | 94.6%↑ |

**Key:** PCC Plan—Primary Care Clinician Plan FCHP—Fallon Community Health Plan NHP—Neighborhood Health Plan BMCHP—Boston Medical Center HealthNet Plan NH—Network Health

↑ Indicates a rate that is significantly better than the 2010 national Medicaid 75th percentile.

↓ Indicates a rate that is significantly worse than the 2010 national Medicaid 75th percentile.

Introduction

**Introduction**

#### Purpose of the Report

This report presents the results of the Mass- Health Managed Care Healthcare Effectiveness Data and Information Set (HEDIS) 2010 project. This report was designed to be used by Mass- Health program managers and by managed care organization (MCO) managers to assess plan performance in the context of other MassHealth managed care plans and national benchmarks, identify opportunities for improvement, and set quality improvement goals.

#### Project Background

The Center for Health Policy and Research (CHPR) collaborated with the MassHealth Office of Acute and Ambulatory Care (OAAC), the MassHealth Office of Behavioral Health (OBH), and the MassHealth Office of Clinical Affairs (OCA) to conduct an annual assessment of the performance of all MassHealth MCOs and the Primary Care Clinician Plan (PCC Plan), the pri- mary care case management program adminis- tered by the Executive Office of Health and Hu- man Services (EOHHS). CHPR, OAAC, OBH and OCA conduct this annual assessment by using a subset of HEDIS measures. Developed by the National Committee for Quality Assurance (NCQA), HEDIS is the most widely used set of standardized performance measures for report- ing on the quality of care delivered by health care organizations. HEDIS includes clinical measures of care, as well as measures of access to care and utilization of services.

The measures selected for the MassHealth Man- aged Care HEDIS 2010 project assess the per- formance of the five MassHealth plans that pro- vided health care services to MassHealth man-

aged care members during the 2009 calendar year. The five MassHealth plans included in this report are the Primary Care Clinician Plan (PCC Plan), Neighborhood Health Plan (NHP), Net- work Health (NH), Fallon Community Health Plan (FCHP), and Boston Medical Center HealthNet Plan (BMCHP). Descriptive information about each health plan can be found in the Health Plan Profiles section, beginning on page 10.

#### MassHealth HEDIS 2010 Measures

MassHealth selected nine measures for the HEDIS 2010 project. The measures included in this report assess health care quality in three key areas: effectiveness of care, access and avail- ability of care, and use of services.

The effectiveness of care measures included in this report provide information about preventive services and the management of chronic illness. The specific topics evaluated in this report are childhood immunization; appropriate treatment for children with upper respiratory infection; the use of appropriate medications for people with asthma; antidepressant medication manage- ment; chlamydia screening for women; and fol- low up after hospitalization for mental illness.

The access and availability of care measures included in this report provide information about the ability of members to get the basic and im- portant services they need. The specific topics evaluated include well-child visits in the first fif- teen months of life; well-child visits in the third, fourth, fifth and sixth years of life; and adolescent well-care visits.

Finally, the use of services measure evaluated in this report, Mental Health Utilization, provides

information about what services health plan members utilize. Health care utilization is af- fected by member characteristics such as age, sex, comorbidities, and socioeconomic status, all of which could vary across plans. The use of ser- vices data included in this report are stratified by age and gender, but are not adjusted for any other member characteristics such as comorbid- ity.

**Organization of the MassHealth Managed Care HEDIS 2010 Report**

This report presents the results of the MassHealth Managed Care HEDIS 2010 project in four sections. Three of the sections are based on the consumer reporting domains used in NCQA’s Health Plan Report Cards (Staying Healthy, Living with Illness, and Getting Better). These three domains include a vari- ety of HEDIS measures dealing with effectiveness of care, and with access to/availability of care. The fourth section (Use of Services) includes data on the utilization of mental health services.

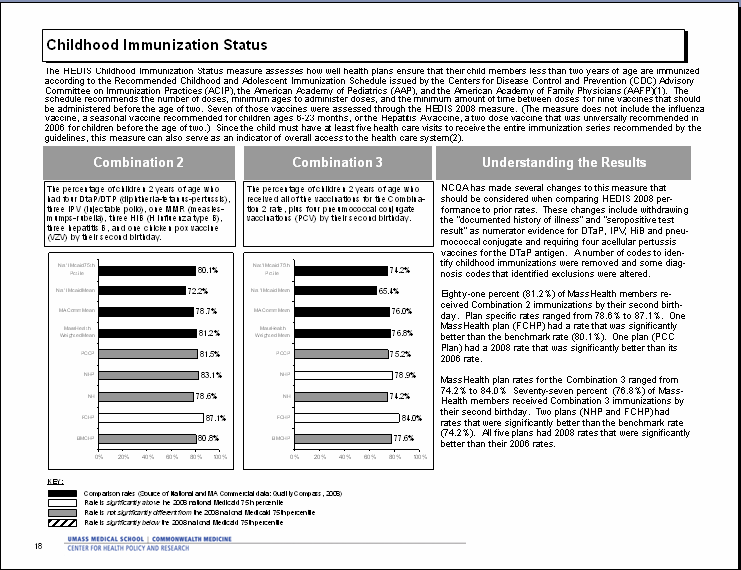
|  |  |  |
| --- | --- | --- |
| **REPORT SECTION** | **DEFINITION** | **MEASURES SELECTED BY MASSHEALTH FOR HEDIS 2010 REPORTING** |
| Staying Healthy | These measures provide informa- tion about how well a plan provides services that maintain good health and prevent illness. | Childhood Immunization Status  Well-Child Visits in the First 15 Months of Life  Well-Child Visits in the 3rd, 4th, 5th and 6th Years of Life Adolescent Well-Care Visits  Chlamydia Screening for Women |
| Living with Illness | These measures provide informa- tion about how well a plan helps people manage chronic illness. | Use of Appropriate Medications for People with Asthma Antidepressant Medication Management  Follow-up After Hospitalization for Mental Illness Mental Health Utilization |
| Getting Better | This measure provides information about how well a plan helps people recover from illness. | Appropriate Treatment for Children with URI |
| Use of Services | This measure provides information about what services health plan members utilize. | Mental Health Utilization |

This report also includes several appendices that provide more detailed results:

* + **Appendix A** includes a list of the MassHealth regions and the service areas the regions cover.
  + **Appendix B** includes plan rates for Childhood Immunization combinations 4-10 (new vaccine combinations added to HEDIS 2010).
  + **Appendix C** presents plan rates for individual Childhood Immunizations (e.g., MMR, DTaP, hepatitis B, etc.).
  + **Appendix D** includes the 0 visit, 1 visit, 2 visit, 3 visit, 4 visit and 5 visit rates for the Well-Child Visit in the First 15 Months of Life measure.
  + **Appendix E** presents data for the Antidepressant Medication Management measure for PCC Plan members with Basic, Essential and Non-Basic/Non- Essential coverage.
  + **Appendix F** presents data for the Follow-up After Hospitalization for Mental Illness measure for PCC Plan members with Basic, Essential and Non- Basic/Non-Essential coverage.
  + **Appendix G** includes age stratified rates for the Mental Health Utilization measures (percentage of members using services) for PCC Plan members with Basic, Essential, or Non-Basic/Non-Essential coverage.
  + **Appendix H** presents age and gender stratified rates for the Mental Health Utilization measures for all plans (percentage of members using services).

**Organization of the MassHealth Managed Care HEDIS 2010 Report**

Name of measure



Information on the intent of each measure, including any clinical guidelines on which it is based

Statistical summary comparing plan rates to comparison rates named at the top of each column

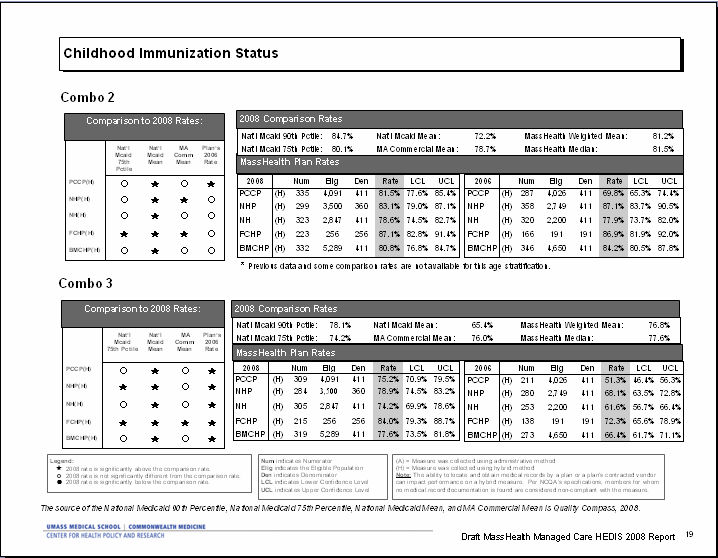
**\*** 2010 rate is significantly above the comparison rate

O 2010 rate is not significantly different from the comparison rate

* 2010 rate is significantly below the comparison rate

Individual HEDIS 2010 plan data including numerator, eligible population (where applica- ble) denominator, reported rate, and upper and lower confidence intervals

The 2010 national Medicaid 75th percentile is listed as a benchmark. The 2010 national Medi- caid 90th percentile, 2010 national Medicaid mean, 2010 Massachusetts Commercial mean, and 2010 MassHealth weighted mean and me- dian are listed as comparison rates



Comparison of plan rates with the comparison and benchmark data

Analysis of results, including opportunities for improvement

Historical data from HEDIS 2008

**Health Plan Profiles**

MassHealth managed care plans provided care to 751,260 Massachusetts residents as of December 31, 2009. The MassHealth Managed Care HEDIS 2010 report includes data from the five MassHealth plans serving members enrolled in Managed Care as of that date. This report does not reflect care provided to MassHealth members receiving their health care services outside of the five managed care plans.

The following profiles provide some basic informa- tion about each plan and its members. The data chart on the next page provides a statistical sum- mary of the demographic characteristics of each plan’s population. Appendix A lists the service ar- eas that are located within each MassHealth geo- graphic region listed below. (NOTE: The term “MCOs” is used throughout the report to indicate the four capitated managed care plans serving MassHealth members —Neighborhood Health Plan, Network Health, Fallon Community Health Plan, and Boston Medical Center HealthNet Plan. A fifth plan, Health New England, began enrolling MassHealth Managed Care members after Decem- ber 31, 2009, and therefore will not be included in the HEDIS 2010 report.)

#### Primary Care Clinician Plan (PCC Plan)

Health Basic (certain individuals with non- citizen status are also eligible). During the measurement period (2009), the PCC Plan was the only MassHealth plan enrolling mem- bers with Essential coverage. Approximately 23.5% of the PCC Plan’s membership has MassHealth Essential coverage.

#### Neighborhood Health Plan (NHP)

* Non-profit managed care organization that pri- marily serves Medicaid members, along with commercial and Commonwealth Care popula- tions.
* 137,864 MassHealth members as of Decem- ber 31, 2009.
* Service areas throughout the state (Western, Central, Northern and Southern Massachusetts as well as Greater Boston).
* Provider network includes mostly community health centers in addition to Harvard Vanguard Medical Associates, group practices, and hos- pital-based clinics.
* Behavioral health services are managed through a carve-out contract with Beacon Health Strategies.

#### Network Health (NH)

**Fallon Community Health Plan (FCHP)**

* Non-profit managed care organization that serves commercial, Medicare, Medicaid and Commonwealth Care populations.
* 12,023 MassHealth members as of December 31, 2009.
* Service area is in Central Massachusetts.
* Behavioral health services are managed through a carve-out contract with Beacon Health Services.
* Provider network for MassHealth members is exclusively through Fallon Clinic sites.

#### Boston Medical Center HealthNet Plan (BMCHP)

* Provider-sponsored health plan, owned and operated by Boston Medical Center, the larg- est public safety-net hospital in Boston, that serves the Medicaid and Commonwealth Care populations.
* 182,744 MassHealth members as of Decem- ber 31, 2009.
* Primary service areas in Western and South- ern Massachusetts and Greater Boston.
* Provider network includes community health centers, hospital outpatient departments, and
  + Primary care case management program ad-
  + Provider-sponsored health plan owned and

group and individual practices.



d by Boston

ministered by the Executive Office of Health and Human Services (EOHHS).

* + Statewide managed care option for Mass- Health members eligible for managed care.
  + 307,562 MassHealth members as of Decem-

operated by Cambridge Health Alliance that serves the Medicaid and Commonwealth Care populations.

* + 111,067 MassHealth members as of Decem- ber 31, 2009.

Behavioral health services provide Medical Center HealthNet Plan providers.

#### Differences in Populations Served by Mass- Health Plans

ber 31, 2009.

* + Provider network

includes group practices,

* + Primary service areas in Western, Northern and Central Massachusetts, and Greater Bos-

HEDIS measures are not designed for case-mix adjustment. Rates presented here do not take into

community health centers, hospital outpatient

departments, hospital-licensed health centers,

ton.

* + Provider network includes community health

account the physical and mental health status (including disability status) of the members in-

and individual practitioners.

* + Behavioral health services are

managed

centers, group practices, hospital outpatient

departments, and individual practitioners.

cluded in the measures.

through a carve-out with the Massachusetts Behavioral Health Partnership (MBHP).

* + HEDIS data for the PCC Plan include all cover- age types, including MassHealth Essential, which covers individuals ages 19-64 who are long-term unemployed and ineligible for Mass-
* Behavioral health services provided by Net- work Health providers.

The data on the next page describe each plan’s population in terms of age, gender, and disability status. It is important for readers to consider the differences in the characteristics of each plan’s population when reviewing and comparing the HEDIS 2010 performance of the five plans.

**Health Plan Profiles: Demographic Characteristics of the Plan Populations**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **MassHealth Plan** | **Total MassHealth Managed Care Members as of 12/31/09** | **Female** | **Disabled** | **Mean Age** | **0-11 yrs** | **12-17 yrs** | **18-39 yrs** | **40-64 yrs** | **65+ yrs\*\*** |
| Primary Care Clinician Plan\* |  | | | | | | | | |
| Without Essential population | 235,371 | 55.6% | 29.1% | 25.4 | 29.8% | 16.0% | 26.6% | 27.6% | 0.0% |
| Essential population only | 72,191 | 31.2% | 0.0% | 37.3 | 0.0% | 0.0% | 56.7% | 43.3% | 0.0% |
| Neighborhood Health Plan | 137,864 | 59.2% | 5.8% | 18.1 | 43.4% | 16.8% | 27.2% | 12.6% | 0.0% |
| Network Health | 111,067 | 57.7% | 7.5% | 17.8 | 45.7% | 15.2% | 26.5% | 12.6% | 0.0% |
| Fallon Community Health Plan | 12,023 | 58.4% | 9.1% | 20.1 | 38.3% | 16.0% | 30.7% | 15.0% | 0.0% |
| Boston Medical Center HealthNet Plan | 182,744 | 58.3% | 10.9% | 18.0 | 44.7% | 15.9% | 26.6% | 12.7% | 0.0% |
| **Total for MassHealth**  **Managed Care Program** | **751,260** | **55.0%** | **14.1%** | **22.2** | **35.6%** | **14.5%** | **29.7%** | **20.3%** | **0.0%** |

**Source: MMIS**

\* HEDIS results based on the entire PCC Plan population (including Essential) are compared to MCO results throughout the main body of the report.

\*\* MassHealth managed care plans generally serve members under the age of 65. In previous years, a small number of MassHealth managed care members were 65 years of age or older as of December 31st of the measurement year, and had not yet had their coverage terminated. For HEDIS 2010, no such members were identified through enrollment data, which was used to generate these health plan profiles. However, as a rule, any MassHealth members 65 years and older would be included in the eligible populations for the HEDIS 2010 measures when- ever the specifications for the measure included the 65 and older population, the members’ coverage was not yet terminated, and the members met all eligible population criteria such as the continuous enrollment and enrollment anchor date requirements.

#### Statistically Significant Differences Among the Plans

Female Members: All four MCOs had a significantly higher proportion of female members than PCC Plan (p<.0001). NHP had a significantly higher propor- tion of female members than BMCHP and NH (p<.0001).

Disabled Members: PCC Plan had a significantly higher proportion of disabled members than any of the four MCOs (p<.0001). All differences among the MCOs are also significant (p<.0001).

Mean Age of Members: All four MCOs had a population whose mean age was significantly lower than that of PCC Plan (p<.0001). FCHP’s population had a mean age that was significantly higher than that of BMCHP, NHP, and NH (p<.0001).

**Data Collection and Analysis Methods**

#### Data Collection and Submission

In November 2009, the MassHealth Office of Acute and Ambulatory Care (OAAC) provided plans with a list of measures to be collected for HEDIS 2010. The list of measures was devel- oped by key stakeholders within MassHealth, including stakeholders within OAAC, the Office of Clinical Affairs (OCA), and the MassHealth Office of Behavioral Health (OBH). In general, each plan was responsible for collecting the measures according to the HEDIS 2010 Technical Specifi- cations and for reporting the results using NCQA’s Interactive Data Submission System (IDSS). Each plan submitted its results to both NCQA and CHPR.

While MassHealth does not require plans to have their HEDIS data audited, the data submitted by the four NCQA-accredited MassHealth MCOs covered in this report have undergone an NCQA HEDIS Compliance Audit™. The purpose of the audit is to validate a plan’s HEDIS results by veri- fying the integrity of the plan’s data collection and calculation processes. NCQA reports only au- dited data in the Quality Compass, a database of regional and national Medicaid, Medicare and Commercial performance benchmarks.

#### Eligible Population

For each HEDIS measure, NCQA specifies the eligible population by defining the age, continu- ous enrollment, enrollment gap, and diagnosis or event criteria that a member must meet to be eligible for a measure.

Age: The age requirements for Medicaid HEDIS measures vary by measure. The MassHealth

managed care programs serves members under the age of 65. Occasionally, members 65 and older may appear in the denominator of a Mass- Health plan’s HEDIS rate. This may occur for several valid reasons, including instances where a member turns 65 during the measurement year and did not yet have their coverage terminated as of the measure’s anchor date. MassHealth plans are responsible for a member’s care until his or her coverage is terminated. Therefore, MassHealth members 65 years and older were included in the eligible populations for the HEDIS 2010 measures whenever the specifications for the measure included the 65 and older popula- tion, the members’ coverage had not yet been terminated and the members met all eligible crite- ria such as continuous enrollment and enrollment anchor date requirements.

Continuous enrollment: The continuous enroll- ment criteria varies for each measure and speci- fies the minimum amount of time that a member must be enrolled in a MassHealth plan before becoming eligible for that plan’s HEDIS measure. Continuous enrollment ensures that a plan has had adequate time to deliver services to the member before being held accountable for pro- viding those services.

Enrollment gap: The specifications for most measures allow members to have a gap in enroll- ment during the continuous enrollment period and still be eligible for the measure. The allow- able gap is specified for each measure but is generally defined for the Medicaid population as one gap of up to 45 days.

Diagnosis/event criteria: Some measures require a member to have a specific diagnosis or health

care event to be included in the denominator. Diagnoses are defined by specific administrative codes (e.g., ICD-9, CPT). Other health care events may include prescriptions, hospitaliza- tions, or outpatient visits.

The measure descriptions included in this report do not include every requirement for the eligible populations (e.g., enrollment gaps). For complete specifications for each measure included in this report, please see *HEDIS 2010 Volume 2: Tech- nical Specifications*.

#### MassHealth Coverage Types Included in HEDIS 2010

MassHealth has several Medicaid coverage types whose members are eligible to enroll in any of the five MassHealth plans including Basic, Standard, CommonHealth, and Family Assis- tance. One coverage type, MassHealth Essential, was only allowed to enroll in the PCC Plan during the measurement period (2009). MassHealth Es- sential covers individuals ages 19-64 who are long-term unemployed and ineligible for Mass- Health Basic (certain individuals with non-citizen status are also eligible). Approximately 23.5 per- cent of the PCC Plan’s membership has Mass- Health Essential coverage.

During the planning for the MassHealth Managed Care HEDIS 2010 project, it was decided that for certain measures, the PCC Plan would submit separate sets of HEDIS 2010 data for members with Essential and Basic coverage, in addition to data for the full PCC Plan population. The data for the full PCC Plan population is used in all ta- bles and charts in the main body of the report.

Separate rates for PCC Plan members with Es-

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**Data Collection and Analysis Methods (*continued*)**

sential or Basic coverage are included in the ap- pendices for several adult measures (appendices E, F, and G). For comparison, these appendices include rates for all PCC Plan members not cov- ered by Essential or Basic.

#### Administrative vs. Hybrid Data Collection

HEDIS measures are collected through one of two data collection methods—the administrative method or the hybrid method.

The ***administrative method*** requires plans to identify the denominator and numerator using claims or encounter data, or data from other ad- ministrative databases. Plans calculate the ad- ministrative measures using programs developed by plan staff or Certified HEDIS SoftwareSM purchased from a vendor. For measures collected through the administrative method, the denominator includes all members who satisfy all criteria specified in the measure including any age or continuous enrollment requirements (these members are known as the “eligible population”). The plan’s HEDIS rate is based on all members in the denominator who are found

through administrative data to have received the service reported in the numerator (e.g., visit, treatment, etc.).

The ***hybrid method*** requires plans to identify the numerator through both administrative and medical record data. Plans may collect medical record data using plan staff and a plan- developed data collection tool. Plans may also contract with a vendor for the tool, staffing, or both. For measures collected using the hybrid method, the denominator consists of a systematic sample of members drawn from the

measure’s eligible population. This systematic sample generally consists of a minimum required sample size of 411 members plus an over sample determined by the plan to account for valid exclusions and contraindications. The measure’s rate is based on members in the sample (411) who are found through either administrative or medical record data to have received the service reported in the numerator. Plans may report data with denominators smaller than 411 for two reasons: 1) the plan had a small eligible population or 2) the plan reduced its sample size based on its current year’s administrative rate or the previous year’s audited rate, according to NCQA’s specifications.

#### Data Analysis

Throughout this report, HEDIS 2010 results from each plan are compared to several benchmarks and comparison rates, including the 2010 na- tional Medicaid mean and the 2010 Massachu- setts Commercial mean. In addition, MassHealth medians and weighted means were calculated from 2010 data.

2010 National Medicaid 75th Percentile

For this report, the 2010 national Medicaid 75th percentile serves as the primary benchmark to which plan performance is compared (including statistical significance).

CHPR obtained the 2010 national Medicaid data through NCQA’s Quality Compass. NCQA re- leases Quality Compass in July of each year with the rates for Commercial and Medicare plans.

NCQA provides the national Medicaid data in a supplement that is released in the fall.

Other Comparison Rates Included in this Report The other comparison rates included in the data tables of this report are the 2010 national Medi- caid mean, 2010 national Medicaid 90th percen- tile, 2010 Massachusetts Commercial mean, 2010 MassHealth weighted mean, and 2010 MassHealth median.

The 2010 national Medicaid mean is the average performance of all Medicaid plans that submitted HEDIS 2010 data. The 2010 national Medicaid 90th percentile represents a level of performance that was exceeded by only the top 10% of all Medicaid plans that submitted HEDIS 2010 data. The 2010 national Medicaid 90th percentile was included as a future goal for MassHealth plans. The 2010 Massachusetts Commercial mean is the average performance of all Massachusetts Commercial plans that submitted HEDIS 2010 data. Although the populations served by Massa- chusetts Commercial plans differ from the popu- lation served by MassHealth, the Massachusetts Commercial mean may be an appropriate future goal for measures where MassHealth plans are nearing or exceeding the national Medicaid 90th percentile.

The 2010 MassHealth weighted mean is a weighted average of the rates of the five Mass- Health plans. The weighted average was calcu- lated by multiplying the performance rate for each plan by the number of members who met the eligibility criteria for the measure. The values were then summed across plans and divided by the total eligible population for all the plans. The largest MassHealth plan (PCC Plan) serves 40.9% of all MassHealth members, and the smallest (FCHP) serves only 1.6%. Because of the differences in the size of the populations

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**Data Collection and Analysis Methods (*continued*)**

served by the plans, the MassHealth weighted mean was not used for tests of statistical signifi- cance.

The 2010 MassHealth median is also provided and is the middle value of the set of values repre- sented by the individual plan rates.

#### Caveats for the Interpretation of Results

All data analyses have limitations and those pre- sented here are no exception.

Medical Record Procurement

A plan’s ability (or that of its contracted vendor) to locate and obtain medical records as well as the quality of medical record documentation can affect performance on hybrid measures. Per NCQA’s specifications, members for whom no medical re- cord documentation was found were considered non-compliant with the measure. This applied to records that could not be located and obtained as well as for medical records that contained incom- plete documentation (e.g., indication of a test but no date or result).

Lack of Case-Mix Adjustment

The specifications for collecting HEDIS measures do not allow case-mix adjustment or risk- adjustment for existing co-morbidities, disability (physical or mental), or severity of disease. There- fore, it is difficult to determine whether differences among plan rates were due to differences in the quality of care or use of services, or differences in the health of the populations served by the plans.

Demographic Differences in Plan membership In addition to disability status, the populations served by each plan may have differed in other

demographic characteristics such as age, gender,

and geographic residence. As shown in the plan profile chart on page 11, the PCC Plan has a higher proportion of members who are male or disabled, as well as an older mean member age. Other differences among the plans are noted on page 11. The impact of these differences on MassHealth HEDIS 2010 rates is unknown.

Overlapping Provider Networks

Many providers caring for MassHealth members have contracts with multiple plans. Overlapping provider networks may affect the ability of any one plan to influence provider behavior.

Variation in Data Collection Procedures

Each plan collects and reports its own HEDIS data. Although there are standard specifications for collecting HEDIS measures, MassHealth does not audit the plans’ data collection methods. Fac- tors that may influence the collection of HEDIS data by plan include:

* Use of software to calculate the administrative measures,
* Use of a tool and/or abstractors from an exter- nal medical record review vendor,
* Completeness of administrative data due to claims lags,
* Amount of time in the field collecting medical record data,
* The overall sample size for medical record review (plans with small eligible populations could have samples smaller than 411 mem- bers),
* Staffing changes among the plan’s HEDIS team,
* Review by an NCQA-Certified HEDIS auditor,
* Choice of administrative or hybrid data collec- tion method for measures that allow either method.

Limitation of Certain HEDIS Measures

One measure collected in 2010, Mental Health Utilization, provides information on the services MassHealth members utilized and not on the con- tent or quality of the care the members received. MassHealth HEDIS mental health utilization data are not case-mix or risk adjusted. Differences in plan utilization rates cannot be interpreted as a measure of quality (i.e., it cannot be determined whether a plan with a higher discharge rate or longer average length of stay is providing either good or bad quality of care). Therefore, readers are cautioned against using utilization data to make judgments about the quality of the care de- livered by a plan or its providers.

In addition, MassHealth HEDIS mental health utili- zation data differ from utilization data calculated through other methods used by MassHealth.

Readers are cautioned against making direct com- parisons between HEDIS mental health utilization data and mental health utilization data obtained from other sources.

Staying Healthy

**Childhood Immunization Status**

The HEDIS Childhood Immunization Status measure assesses how well health plans ensure that their child members less than two years of age are immu- nized, following the Recommended Childhood and Adolescent Immunization Schedule issued by the Centers for Disease Control and Prevention (CDC) and the Advisory Committee on Immunization Practices (ACIP).1 The schedule recommends the number of doses, minimum ages to administer doses, and the minimum amount of time between doses for ten vaccines that should be administered before the age of two. Ten of those vaccines were assessed through the HEDIS 2010 measure. Since the child must have at least five health care visits to receive the entire immunization series recommended by the guidelines, this measure can also serve as an indicator of overall access to the health care system.2

**Combination 2**

**Combination 3**

**Understanding the Results**

NCQA added hepatitis A, rotavirus, and influenza vac- cines to this measure for HEDIS 2010. The inclusion of these three additional vaccines means that there are now seven new combination vaccines (Combinations 4-10).

The percentage of children 2 years of age who had four DTaP/DTP (diphtheria-tetanus-pertussis), three IPV (injectable polio), one MMR (measles-mumps- rubella), three HiB (H influenza type B), three hepati- tis B, and one VZV (chicken pox) on or before their second birthday.

The percentage of children 2 years of age who re- ceived all of the vaccinations for the Combination 2 rate, plus four pneumococcal conjugate vaccinations (PCV) on or before their second birthday.

NCQA did not provide national benchmark data for these new combinations, however, so plan rates for Combina- tions 4-10 are shown in Appendix B. These changes will not affect the comparability of rates for Combinations 2 and 3 to previous years.

Nat ' l Mcaid 75t h

Pct ile

81.5%

Nat ' l Mcaid Mean

74.3%

MA Comm Mean

80.4%

MassHealt h

Weight ed Mean

82.7%

PCCP

81.3%

NHP

86.1%

NH

78.8%

FCHP

85.7%

BMCHP

83.7%

0% 20% 40% 60% 80% 100%

Nat ' l Mcaid 75t h

Pct ile

76.9%

Nat ' l Mcaid Mean

69.4%

MA Comm Mean

77.5%

MassHealt h

Weight ed Mean

79.2%

PCCP

76.6%

NHP

83.9%

NH

75.9%

FCHP

84.0%

BMCHP

79.3%

0% 20% 40% 60% 80% 100%

Eighty-three percent (82.7%) of MassHealth members received Combination 2 immunizations by their second birthday. Plan specific rates ranged from 78.8% to 86.1%. One plan (NHP) had a significantly higher rate than the benchmark rate of 81.5%, which represents the national Medicaid 75th percentile. Plan specific Combination 2 rates for 2010 did not significantly differ from 2008.

Seventy-nine percent (79.2%) of MassHealth members received Combination 3 immunizations by their second birthday. MassHealth plan rates for Combination 3 ranged from 75.9% to 84.0%. Two plans (NHP and FCHP) had significantly higher rates then the national Medicaid 75th percentile benchmark (76.9%). Plan rates for 2010 did not significantly differ from 2008.

**KEY:**

Comparison rates (Source of National and MA Commercial data: Quality Compass, 2010) Rate is *significantly above* the 2010 national Medicaid 75th percentile



Rate is *not significantly different from* the 2010 national Medicaid 75th percentile Rate is *significantly below* the 2010 national Medicaid 75th percentile

**Childhood Immunization Status**

## Statistical Summary — Combo 2

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Comparison to Benchmarks:** | | | | |
|  | **Nat’l** | **Nat’l** | **MA** | **Plan’s** |
| **Mcaid** | **Mcaid** | **Comm** | **2008** |
| **75th** | **Mean** | **Mean** | **Rate** |
| **Pctile** |  |  |  |
| **PCCP(H)** | O | **\*** | O | O |
| **NHP(H)** | **\*** | **\*** | **\*** | O |
| **NH(H)** | O | **\*** | O | O |
| **FCHP(H)** | O | **\*** | **\*** | O |
| **BMCHP(H)** | O | **\*** | O | O |

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **2010 Comparison Rates** | | | | | | | | | | | | |
| Nat'l Mcaid 90th Pctile: 85.6% | | Nat'l Mcaid Mean: | | |  | 74.3% |  | MassHealth Weighted Mean: | | | | 82.7% |
| Nat'l Mcaid 75th Pctile: 81.5% | | MA Commercial Mean: | | | 80.4% | MassHealth Median: | | | | 83.7% |
| **MassHealth Plan Rates** | | | | | | | | | | | | |
| **2010** | **Num Elig Den** | **Rate** | **LCL** | **UCL** |  | **2008** |  | **Num** | **Elig** | **Den** | **Rate** | **LCL UCL** |
| **PCCP** | (H) 334 4,029 411 | 81.3% | 77.4% | 85.2% | **PCCP** | (H) | 335 | 4,091 | 411 | 81.5% | 77.6% 85.4% |
| **NHP** | (H) 354 4,360 411 | 86.1% | 82.7% | 89.6% | **NHP** | (H) | 299 | 3,500 | 360 | 83.1% | 79.0% 87.1% |
| **NH** | (H) 324 3,978 411 | 78.8% | 74.8% | 82.9% | **NH** | (H) | 323 | 2,847 | 411 | 78.6% | 74.5% 82.7% |
| **FCHP** | (H) 251 294 293 | 85.7% | 81.5% | 89.8% | **FCHP** | (H) | 223 | 256 | 256 | 87.1% | 82.8% 91.4% |
| **BMCHP** | (H) 344 6,035 411 | 83.7% | 80.0% | 87.4% | **BMCHP** | (H) | 332 | 5,289 | 411 | 80.8% | 76.8% 84.7% |

**Statistical Summary — Combo 3**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Comparison to Benchmarks:** | | | | |
|  | **Nat’l** | **Nat’l** | **MA** | **Plan’s** |
| **Mcaid** | **Mcaid** | **Comm** | **2008** |
| **75th** | **Mean** | **Mean** | **Rate** |
| **Pctile** |  |  |  |
| **PCCP(H)** | O | **\*** | O | O |
| **NHP(H)** | **\*** | **\*** | **\*** | O |
| **NH(H)** | O | **\*** | O | O |
| **FCHP(H)** | **\*** | **\*** | **\*** | O |
| **BMCHP(H)** | O | **\*** | O | O |

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **2010 Comparison Rates** | | | | | | | | | | | | |
| Nat'l Mcaid 90th Pctile: | | | 82.0% | Nat'l Mcaid Mean: | | |  | 69.4% |  | MassHealth Weighted Mean: | | 79.2% |
| Nat'l Mcaid 75th Pctile: | | | 76.9% | MA Commercial Mean: | | | 77.5% | MassHealth Median: | | 79.3% |
| **MassHealth Plan Rates** | | | | | | | | | | | | |
| **2010** |  | **Num** | **Elig Den** |  | **Rate** | **LCL UCL** |  | **2008** | **Num Elig Den** | | **Rate** | **LCL UCL** |
| **PCCP** | (H) | 315 | 4,029 411 |  | 76.6% | 72.4% 80.9% | **PCCP** | (H) | 309 4,091 411 | 75.2% | 70.9% 79.5% |
| **NHP** | (H) | 345 | 4,360 411 |  | 83.9% | 80.3% 87.6% | **NHP** | (H) | 284 3,500 360 | 78.9% | 74.5% 83.2% |
| **NH** | (H) | 312 | 3,978 411 |  | 75.9% | 71.7% 80.2% | **NH** | (H) | 305 2,847 411 | 74.2% | 69.9% 78.6% |
| **FCHP** | (H) | 246 | 294 293 |  | 84.0% | 79.6% 88.3% | **FCHP** | (H) | 215 256 256 | 84.0% | 79.3% 88.7% |
| **BMCHP** | (H) | 326 | 6,035 411 |  | 79.3% | 75.3% 83.4% | **BMCHP** | (H) | 319 5,289 411 | 77.6% | 73.5% 81.8% |

**Legend:**

**\*** 2010 rate is significantly above the comparison rate.

O 2010 rate is not significantly different from the comparison rate.

* 2010 rate is significantly below the comparison rate.

**Num** indicates Numerator

**Elig** indicates the Eligible Population

**Den** indicates Denominator

**LCL** indicates Lower Confidence Level

**UCL** indicates Upper Confidence Level

(H) = Measure was collected using hybrid method

**Note:** The ability to locate and obtain medical records by a plan or a plan’s contracted vendor can impact performance on a hybrid measure. Per NCQA’s specifications, members for whom no medical record documentation is found are considered non-compliant with the measure.

*The source of the National Medicaid 90th Percentile, National Medicaid 75th Percentile, National Medicaid Mean, and MA Commercial Mean is Quality Compass, 2010.*

**Childhood Immunization Status**

**Understanding the Results (continued)**

Although the HEDIS Childhood Immunization Status measure is an important indicator of the quality of preventive care delivered by a health plan, the measure does have some limitations. For example, HEDIS does not assess the timeli- ness of immunization delivery with regard to the recommended age intervals for vaccination.

Some research suggests that many children who are compliant with the HEDIS childhood immuni- zation measure do not receive immunizations on- time.3 Another limitation is the exclusion of mem- bers who are not continuously enrolled. In order to be included in the measure (the denominator), members must be continuously enrolled in a plan for twelve months prior to their second birthday. Members who are excluded because they do not meet this continuous enrollment criterion may be at risk for low immunization rates and missed immunizations.4 Therefore, this measure may not be a good indicator of the quality of care deliv- ered to MassHealth members who are at the greatest risk of poor immunization coverage.

HEDIS childhood immunization rates are usually lower than state and national childhood immuni- zation rates reported through other data sources such as the National Immunization Survey (NIS) and National Health Information Survey (NHIS).5 Differences in reported immunization coverage rates is believed to be due in part by different continuous enrollment criteria and immunization schedule requirements (i.e., the number and tim- ing of doses). (For example, when HEDIS criteria were applied to NIS data, the immunization cov- erage rate fell by approximately 20%).6

Although Massachusetts has one of the highest immunization coverage rates in the United States,7 opportunity for improvement still exists. The immunizations required by the Combination 2 rate are consistent with those defined by Healthy People 2010. The Healthy People 2010 childhood immunization goal of 90% may repre- sent a target for continued improvement on this measure. Increased attention to areas measured by HEDIS at the expense of other non-measured preventive services, such as those addressed in other Healthy People 2010 goals, could have the unintended effect of reducing the overall quality of preventive care (i.e., if non-measured services are neglected).8 Nonetheless, since childhood and adolescent immunization are two of the most cost-effective practices of all areas assessed through HEDIS,9 greater efforts at improving im- munization rates could yield benefits to both plans and the members they serve.

**Well-Child Visits for Infants and Young Children**

The HEDIS Well-Child Visits measure assesses whether infants and young children receive the number of well-child visits recommended by current clinical guidelines. The American Academy of Pediatrics (AAP) recommends a schedule of nine well-child visits between birth and the first 15 months of life.10 The AAP also recommends a schedule of annual well-child visits during the 3rd, 4th, 5th and 6th years of life. These well-child visits offer the opportunity for evaluation of growth and development, the administration of vaccinations, the assessment of behavioral issues, and delivery of anticipatory guidance on such issues as injury prevention, violence prevention, sleep position and nutrition. The HEDIS well-child visit measures assess only the frequency of well-child vis- its. They provide no information on the content or quality of care received during those visits. However, compliance with the preventative care guidelines, in- cluding the recommended number of visits, can improve health outcomes; for example, Medicaid-enrolled children under the age of 2 who receive well-child visits according to the frequency prescribed by the AAP have fewer avoidable hospitalizations.11

**Well-Child Visits in the First 15 Months of Life (6+ visits)**

**Well-Child Visits in the 3rd, 4th, 5th, and 6th Years of Life**

**Understanding the Results**

For HEDIS 2010, NCQA added an additional procedure code to identify well-child visits in each plan. This change should be considered when comparing HEDIS 2010 results to prior rates.

Eighty-six percent (85.5%) of MassHealth members who turned 15 months during the measurement year had six or more well-child visits during their first 15 months of life.

Nat ' l Mcaid 75t h

Pct ile

69.4%

Nat ' l Mcaid Mean

59.4%

MA Comm Mean

86.1%

MassHealt h

Weight ed Mean

85.5%

PCCP

91.2%

NHP

86.2%

NH

81.1%

FCHP

84.8%

BMCHP

84.8%

0% 20% 40% 60% 80% 100%

Nat ' l Mcaid 75t h

Pct ile

77.2%

Nat ' l Mcaid Mean

71.6%

MA Comm Mean

88.6%

MassHealt h

Weight ed Mean

85.5%

PCCP

84.8%

NHP

87.2%

NH

86.0%

FCHP

84.0%

BMCHP

84.7%

0% 20% 40% 60% 80% 100%

The percentage of members who turned 15 months old during 2009 and who had six or more well-child visits with a primary care practitioner during the first 15 months of life.

The percentage of members who were three, four, five or six years old during 2009 who received one or more well-child visits with a primary care practi- tioner during 2009.

Rates for each plan ranged from 81.1% to 91.2%. All five MassHealth Plans (PCCP, NHP, NH, FCHP, and BMCHP) had significantly higher rates than the benchmark (69.4%), the national Medicaid 75th percentile. However, plan rates were not significantly different from their 2008 rates.

Similarly, eighty-six percent (85.5%) of MassHealth mem- bers who were three, four, five, or six years old during the measurement year received one or more well-child visits during 2009. Rates for each plan ranged from 84.0% to 87.2%. All five MassHealth plans had significantly higher rates compared to the national Medicaid 75th percentile benchmark of 77.2%. One plan’s rate (PCCP) significantly improved from 2008, while four plans (NHP, NH, FCHP, and BMCHP) remained statistically unchanged.

\* Data for the zero through five visit rates are in Appendix C.

**KEY:**

Comparison rates (Source of National and MA Commercial data: Quality Compass, 2010) Rate is *significantly above* the 2010 national Medicaid 75th percentile



Rate is *not significantly different from* the 2010 national Medicaid 75th percentile Rate is *significantly below* the 2010 national Medicaid 75th percentile

**Well-Child Visits for Infants and Young Children**

## Statistical Summary — Well-Child Visits in the First 15 Months of Life (6+ visits)

|  |  |  |  |
| --- | --- | --- | --- |
| **Comparison to Benchmarks:** | | | |
|  | **Nat’l Nat’l Mcaid 75th Mcaid Pctile Mean** | **MA**  **Comm Mean** | **Plan’s 2008**  **Rate** |
| **PCCP(H)** | **\* \***  **\* \***  **\* \***  **\* \***  **\* \*** | **\***  O  **•**  O O | O O O O  O |
| **NHP(H)** |
| **NH(H)** |
| **FCHP(H)** |
| **BMCHP(H)** |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **2010 Comparison Rates** | | | | | | | | | | |
| Nat'l Mcaid 90th Pctile: 76.3% | | Nat'l Mcaid Mean: | | | | 59.4% | | MassHealth Weighted Mean: 85.5% | | |
| Nat'l Mcaid 75th Pctile: 69.4% | | MA Commercial Mean: | | | | 86.1% | | MassHealth Median: 84.8% | | |
| **MassHealth Plan Rates** | | | | | | | | | | |
| **2010** | **Num Elig Den** | **Rate** | **LCL** | **UCL** |  | **2008** | **Num Elig Den** | | **Rate** | **LCL UCL** |
| **PCCP** | (H) 228 2,681 250 | 91.2% | 87.5% | 94.9% | **PCCP** | (H) | 209 3,251 240 | 87.1% | 82.6% 91.5% |
| **NHP** | (H) 224 3,457 260 | 86.2% | 81.8% | 90.5% | **NHP** | (H) | 228 3,003 279 | 81.7% | 77.0% 86.4% |
| **NH** | (H) 305 3,061 376 | 81.1% | 77.0% | 85.2% | **NH** | (H) | 326 2,587 411 | 79.3% | 75.3% 83.4% |
| **FCHP** | (A) 190 224 224 | 84.8% | 79.9% | 89.7% | **FCHP** | (H) | 159 212 209 | 76.1% | 70.1% 82.1% |
| **BMCHP** | (H) 229 5,072 270 | 84.8% | 80.3% | 89.3% | **BMCHP** | (H) | 319 4,497 411 | 77.6% | 73.5% 81.8% |

**Statistical Summary — Well-Child Visits in the 3rd, 4th, 5th, and 6th Years of Life**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Comparison to Benchmarks:** | | | | |
|  | **Nat’l Mcaid 75th Pctile** | **Nat’l Mcaid Mean** | **MA**  **Comm Mean** | **Plan’s 2008**  **Rate** |
| **PCCP(A)** | **\*** | **\*** | **•** | **\*** |
| **NHP(H)** | **\*** | **\*** | O | O |
| **NH(H)** | **\*** | **\*** | O | O |
| **FCHP(H)** | **\*** | **\*** | O | O |
| **BMCHP(H)** | **\*** | **\*** | O | O |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **2010 Comparison Rates** | | | | | |
| Nat'l Mcaid 90th Pctile: | 82.5% | Nat'l Mcaid Mean: | 71.6% | MassHealth Weighted Mean: | 85.5% |
| Nat'l Mcaid 75th Pctile: | 77.2% | MA Commercial Mean: | 88.6% | MassHealth Median: | 84.8% |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **MassHealth Plan Rates** | | | | | | | | | | | | | | | | |
| **2010** |  | **Num** | **Elig** | **Den** | **Rate** | **LCL** | **UCL** |  | **2008** |  | **Num** | **Elig** | **Den** | **Rate** | **LCL** | **UCL** |
| **PCCP** | (A) | 14,332 | 16,895 | 16,895 | 84.8% | 84.3% | 85.4% | **PCCP** | (H) | 12,685 | 15,279 | 15,279 | 83.0% | 82.4% | 83.6% |
| **NHP** | (H) | 218 | 13,721 | 250 | 87.2% | 82.9% | 91.5% | **NHP** | (H) | 197 | 11,745 | 240 | 82.1% | 77.0% | 87.1% |
| **NH** | (H) | 197 | 11,699 | 229 | 86.0% | 81.3% | 90.7% | **NH** | (H) | 239 | 9,305 | 288 | 83.0% | 78.5% | 87.5% |
| **FCHP** | (H) | 210 | 991 | 250 | 84.0% | 79.3% | 88.7% | **FCHP** | (A) | 209 | 837 | 279 | 74.9% | 69.6% | 80.2% |
| **BMCHP** | (H) | 194 | 20,537 | 229 | 84.7% | 79.8% | 89.6% | **BMCHP** | (H) | 363 | 18,830 | 411 | 88.3% | 85.1% | 91.5% |

**Legend:**

**\*** 2010 rate is significantly above the comparison rate.

O 2010 rate is not significantly different from the comparison rate.

* 2010 rate is significantly below the comparison rate.

**Num** indicates Numerator

**Elig** indicates the Eligible Population

**Den** indicates Denominator

**LCL** indicates Lower Confidence Level

**UCL** indicates Upper Confidence Level

(A) = Measure was collected using administrative method

(H) = Measure was collected using hybrid method

**Note:** The ability to locate and obtain medical records by a plan or a plan’s contracted vendor can impact performance on a hybrid measure. Per NCQA’s specifications, members for whom no medical record documentation is found are considered non-compliant with the measure.

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November 2010| MassHealth Managed Care HEDIS 2010 Report

**Adolescent Well-Care Visits**

The HEDIS Adolescent Well-Care Visits measure assesses whether adolescents had a least one well-care visit with a primary care provider or OB/GYN during 2010, as recommended by clinical guidelines set forth by the American Medical Association (AMA), American Academy of Pediatrics (AAP), and Bright Futures.12 Annual visits during adolescence allow providers to conduct physical examinations for growth, assess behavior, and deliver anticipatory guidance on issues related to violence, injury prevention and nutrition, as well as to screen for sexual activity, smoking and depression. Adolescents are more likely than younger children to have no well-care visits at all, and this gap is more pronounced for adolescents in publicly-funded managed care.13,14

**Adolescent Well-Care Visits**

**Understanding the Results**

Sixty-seven percent (66.7%) of MassHealth members who were 12 to 21 years of age had at least one comprehensive well-care visit with a primary care practitioner or OB/GYN during 2009. Rates from each MassHealth plan ranged from 59.1% to 68.6%. All five MassHealth plans (PCCP, NHP, NH, FCHP, and BMCHP) had significantly higher rates than the national Medicaid 75th percentile benchmark rate of 55.9%. However, only one plan (PCCP) significantly improved from 2008. In addition, two plans (PCCP and FCHP) had significantly lower rates of adolescent well-care visits compared to the Massachusetts commercial plan mean, so opportunities for improvement remain.

One caveat related to both this measure and the well-child measure is that these measures are calculated using administrative and/or medical record data, rather than survey data. Well-care rates generated from parent surveys and adolescent reported surveys generally yield higher rates of visits compared to the HE- DIS well-care measures.15 For example, the national rate of children meeting AAP guidelines for number of well-care visits is as high as 77% when calculated from parent surveys.16 However, whether or not adminis- trative and medical record data actually under-report well-care visit rates or survey data over-report the oc- currence of well-child visits is unknown. In addition, miscoding of well-child visits for infants and young chil- dren and well-care visits for adolescents affect the results of this measure. Research comparing Medicaid administrative data with well-child medical records has documented substantial misclassification of well- child visits as sick visits.17

Nat ' l Mcaid 75t h

Pct ile

55.9%

Nat ' l Mcaid Mean

47.7%

MA Comm Mean

67.4%

MassHealt h

Weight ed Mean

66.7%

PCCP

65.1%

NHP

67.6%

NH

66.7%

FCHP

59.1%

BMCHP

68.6%

0%

20%

40%

60%

80%

The percentage of members who were 12-21 years of age during 2009 and who had at least one comprehensive well-care visit with a primary care practitioner or OB/GYN during 2009.

**KEY:**

Comparison rates (Source of National and MA Commercial data: Quality Compass, 2010) Rate is *significantly above* the 2010 national Medicaid 75th percentile



Rate is *not significantly different from* the 2010 national Medicaid 75th percentile Rate is *significantly below* the 2010 national Medicaid 75th percentile

**Adolescent Well-Care Visits**

## Statistical Summary

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **2010 Comparison Rates** | | | | | |
| Nat'l Mcaid 90th Pctile: | 63.2% | Nat'l Mcaid Mean: | 47.7% | MassHealth Weighted Mean: | 66.7% |
| Nat'l Mcaid 75th Pctile: | 55.9% | MA Commercial Mean: | 67.4% | MassHealth Median: | 66.7% |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Comparison to Benchmarks:** | | | | |
|  | **Nat’l Mcaid 75th Pctile** | **Nat’l Mcaid Mean** | **MA**  **Comm Mean** | **Plan’s 2008**  **Rate** |
| **PCCP(A)** | **\*** | **\*** | **•** | **\*** |
| **NHP(H)** | **\*** | **\*** | O | O |
| **NH(H)** | **\*** | **\*** | O | O |
| **FCHP(A)** | **\*** | **\*** | **•** | O |
| **BMCHP(H)** | **\*** | **\*** | O | O |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **MassHealth Plan Rates** | | | | | | | | | | | | | | | |
| **2010** |  | **Num** | **Elig** | **Den** | **Rate** | **LCL** | **UCL** | **2008** |  | **Num** | **Elig** | **Den** | **Rate** | **LCL** | **UCL** |
| **PCCP** | (A) | 27,104 | 41,604 | 41,604 | 65.1% | 64.7% | 65.6% | **PCCP** | (A) | 24,394 | 40,093 | 40,093 | 60.8% | 60.4% | 61.3% |
| **NHP** | (H) | 271 | 21,245 | 401 | 67.6% | 62.9% | 72.3% | **NHP** | (H) | 219 | 20,066 | 376 | 58.2% | 53.1% | 63.4% |
| **NH** | (H) | 256 | 14,340 | 384 | 66.7% | 61.8% | 71.5% | **NH** | (H) | 237 | 13,281 | 405 | 58.5% | 53.6% | 63.4% |
| **FCHP** | (A) | 993 | 1,680 | 1,680 | 59.1% | 56.7% | 61.5% | **FCHP** | (H) | 219 | 1,549 | 407 | 53.8% | 48.8% | 58.8% |
| **BMCHP** | (H) | 243 | 27,916 | 354 | 68.6% | 63.7% | 73.6% | **BMCHP** | (H) | 269 | 27,174 | 411 | 65.5% | 60.7% | 70.2% |

**Legend:**

**\*** 2010 rate is significantly above the comparison rate.

O 2010 rate is not significantly different from the comparison rate.

* 2010 rate is significantly below the comparison rate.

**Num** indicates Numerator

**Elig** indicates the Eligible Population

**Den** indicates Denominator

**LCL** indicates Lower Confidence Level

**UCL** indicates Upper Confidence Level

(A) = Measure was collected using administrative method

(H) = Measure was collected using hybrid method

**Note:** The ability to locate and obtain medical records by a plan or a plan’s contracted vendor can impact performance on a hybrid measure. Per NCQA’s specifications, members for whom no medical record documentation is found are considered non-compliant with the measure.

*The source of the National Medicaid 90th Percentile, National Medicaid 75th Percentile, National Medicaid Mean, and MA Commercial Mean is Quality Compass, 2010.*

**Chlamydia Screening in Women**

The HEDIS Chlamydia Screening in Women measure assesses whether women 15-24 years of age who were identified as sexually active had at least one test for chlamydia during 2009. Chlamydia is the most commonly sexually transmitted bacterial pathogen in the United States.18 There are estimated to be 3 million new infections each year.19 Sexually active women 24 years of age or younger are at highest risk for chlamydial infection. Chlamydia can cause urethritis, cervicitis, pelvic inflammatory disease (PID), and can result in ectopic pregnancy, infertility, and chronic pelvic pain.18 A number of tests are available to identify chlamydia using endocervical or urethral swabs and urine specimens. The U.S. Preventive Services Task Force (USPSTF), American Academy of Family Physicians (AAFP), American College of Obstetricians and Gynecologists (ACOG), and American College of Preventive Medicine (ACPM) all recommend chlamydia screening in women at increased risk for chlamydial infection.18 Studies show screening can reduce the prevalence of chlamydial infection and PID in women at increased risk.18

**Age 16 to 20 Years**

**Age 21 to 24 Years**

**Combined Ages 16 to 24 Years**

The percentage of women 16 to 20 years of age who were identified as sexually active and who had at least one chlamydia test during 2009.

The percentage of women 21 to 24 years of age who were identified as sexually active and who had at least one chlamydia test during 2009.

The percentage of women 16 to 24 years of age who were identified as sexually active and who had at least one chlamydia test during 2009.

Nat ' l Mcaid 75t h Pct ile

61.1%

Nat ' l Mcaid Mean

54.2%

MA Comm Mean

54.1%

MassHealt h Weight ed Mean

63.9%

PCCP

61.4%

NHP

67.3%

NH

63.2%

FCHP

60.5%

BMCHP

65.3%

0%

20% 40% 60% 80%



Nat ' l Mcaid 75t h

Pct ile

69.1%

Nat ' l Mcaid Mean

61.4%

MA Comm Mean

58.9%

MassHealt h

Weight ed Mean

70.4%

PCCP

67.4%

NHP

76.7%

NH

71.7%

FCHP

69.3%

BMCHP

69.8%

0% 20% 40% 60% 80% 100%

Nat ' l Mcaid 75t h Pct ile

63.7%

Nat ' l Mcaid Mean

56.6%

MA Comm Mean

56.4%

MassHealt h Weight ed Mean

66.9%

PCCP

64.1%

NHP

71.3%

NH

67.4%

FCHP

64.6%

BMCHP

67.4%

0% 20% 40% 60% 80% 100%

**KEY:**

Comparison rates (Source of National and MA Commercial data: Quality Compass, 2010) Rate is *significantly above* the 2010 national Medicaid 75th percentile



Rate is *not significantly different from* the 2010 national Medicaid 75th percentile Rate is *significantly below* the 2010 national Medicaid 75th percentile

**Chlamydia Screening in Women**

## Statistical Summary — Age 16 to 20

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Comparison to Benchmarks:** | | | | |
|  | **Nat’l Mcaid 75th Pctile** | **Nat’l Mcaid Mean** | **MA**  **Comm Mean** | **Plan’s 2008**  **Rate** |
| **PCCP(A)** | O | **\*** | **\*** | n/a |
| **NHP(A)** | **\*** | **\*** | **\*** | n/a |
| **NH(A)** | **\*** | **\*** | **\*** | n/a |
| **FCHP(A)** | O | **\*** | **\*** | n/a |
| **BMCHP(A)** | **\*** | **\*** | **\*** | n/a |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **2010 Comparison Rates** | | | | | | | | | | |
| Nat'l Mcaid 90th Pctile: 66.4%  Nat'l Mcaid 75th Pctile: 61.1% | | | Nat'l Mcaid Mean:  MA Commercial Mean: | | 54.2%  54.1% | | MassHealth Weighted Mean:  MassHealth Median: | | | 63.9%  63.2% |
| **MassHealth Plan Rates** | | | | | | | | | | |
| **2010** | **Num Den** | **Rate** | **LCL UCL** |  | | **2008** | | **Num Den** | **Rate** | **LCL UCL** |
| **PCCP** | (A) 3,771 6,142 | 61.4% | 60.2% 62.6% | **PCCP** | | (A) n/a n/a | n/a | n/a n/a |
| **NHP** | (A) 2,274 3,380 | 67.3% | 65.7% 68.9% | **NHP** | | (A) n/a n/a | n/a | n/a n/a |
| **NH** | (A) 1,371 2,169 | 63.2% | 61.2% 65.3% | **NH** | | (A) n/a n/a | n/a | n/a n/a |
| **FCHP** | (A) 161 266 | 60.5% | 54.5% 66.6% | **FCHP** | | (A) n/a n/a | n/a | n/a n/a |
| **BMCHP** | (A) 2,920 4,471 | 65.3% | 63.9% 66.7% | **BMCHP** | | (A) n/a n/a | n/a | n/a n/a |

**Statistical Summary — Age 21 to 24**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Comparison to Benchmarks:** | | | | |  | **2010 Comparison Rates** | | | | | | | | |
| Nat'l Mcaid 90th Pctile: 73.4% Nat'l Mcaid Mean: 61.4% MassHealth Weighted Mean: 70.4%  Nat'l Mcaid 75th Pctile: 69.1% MA Commercial Mean: 58.9% MassHealth Median: 69.8% | | | | | | | | |
|  | **Nat’l Mcaid 75th Pctile** | **Nat’l Mcaid Mean** | **MA**  **Comm Mean** | **Plan’s 2008**  **Rate** |
|  | **MassHealth Plan Rates** | | | | | | | | |
| **PCCP(A)** | **•**  **\***  **\***  O  O | **\***  **\***  **\***  **\***  **\*** | **\***  **\***  **\***  **\***  **\*** | n/a n/a n/a n/a  n/a |  | **2010** | **Num Den** | **Rate** | **LCL UCL** |  | **2008** | **Num Den** | **Rate** | **LCL UCL** |
| **NHP(A)** | **PCCP** | (A) 3,492 5,182 | 67.4% | 66.1% 68.7% | **PCCP** | (A) n/a n/a | n/a | n/a n/a |
| **NH(A)** | **NHP**  **NH** | (A) 1,931 2,519  (A) 1,534 2,139 | 76.7%  71.7% | 75.0% 78.3%  69.8% 73.6% | **NHP**  **NH** | (A) n/a n/a  (A) n/a n/a | n/a  n/a | n/a n/a  n/a n/a |
| **FCHP(A)** | **FCHP** | (A) 156 225 | 69.3% | 63.1% 75.6% | **FCHP** | (A) n/a n/a | n/a | n/a n/a |
| **BMCHP(A)** | **BMCHP** | (A) 2,805 4,021 | 69.8% | 68.3% 71.2% | **BMCHP** | (A) n/a n/a | n/a | n/a n/a |

**Legend:**

**\*** 2010 rate is significantly above the comparison rate.

O 2010 rate is not significantly different from the comparison rate.

* 2010 rate is significantly below the comparison rate.

**Num** indicates Numerator

**Den** indicates Denominator

**LCL** indicates Lower Confidence Level

**UCL** indicates Upper Confidence Level

(A) = Measure was collected using administrative method

*The source of the National Medicaid 90th Percentile, National Medicaid 75th Percentile, National Medicaid Mean, and MA Commercial Mean is Quality Compass, 2010.*

**Chlamydia Screening in Women**

## Statistical Summary — Age 16 to 24

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Comparison to Benchmarks:** | | | | |
|  | **Nat’l Mcaid 75th Pctile** | **Nat’l Mcaid Mean** | **MA**  **Comm Mean** | **Plan’s 2008**  **Rate** |
| **PCCP(A)** | O | **\*** | **\*** | n/a |
| **NHP(A)** | **\*** | **\*** | **\*** | n/a |
| **NH(A)** | **\*** | **\*** | **\*** | n/a |
| **FCHP(A)** | O | **\*** | **\*** | n/a |
| **BMCHP(A)** | **\*** | **\*** | **\*** | n/a |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **2010 Comparison Rates** | | | | | | | | | | |
| Nat'l Mcaid 90th Pctile: 68.9%  Nat'l Mcaid 75th Pctile: 63.7% | | | Nat'l Mcaid Mean:  MA Commercial Mean: | | 56.6%  56.4% | | MassHealth Weighted Mean:  MassHealth Median: | | | 66.9%  67.4% |
| **MassHealth Plan Rates** | | | | | | | | | | |
| **2010** | **Num Den** | **Rate** | **LCL UCL** |  | | **2008** | | **Num Den** | **Rate** | **LCL UCL** |
| **PCCP** | (A) 7,263 11,324 | 64.1% | 63.3% 65.0% | **PCCP** | | (A) n/a n/a | n/a | n/a n/a |
| **NHP** | (A) 4,205 5,899 | 71.3% | 70.1% 72.4% | **NHP** | | (A) n/a n/a | n/a | n/a n/a |
| **NH** | (A) 2,905 4,308 | 67.4% | 66.0% 68.8% | **NH** | | (A) n/a n/a | n/a | n/a n/a |
| **FCHP** | (A) 317 491 | 64.6% | 60.2% 68.9% | **FCHP** | | (A) n/a n/a | n/a | n/a n/a |
| **BMCHP** | (A) 5,725 8,492 | 67.4% | 66.4% 68.4% | **BMCHP** | | (A) n/a n/a | n/a | n/a n/a |

**Legend:**

**\*** 2010 rate is significantly above the comparison rate.

O 2010 rate is not significantly different from the comparison rate.

* 2010 rate is significantly below the comparison rate.

**Num** indicates Numerator

**Den** indicates Denominator

**LCL** indicates Lower Confidence Level

**UCL** indicates Upper Confidence Level

(A) = Measure was collected using administrative method

**Understanding the Results**

The chlamydia screening measure is included in this report for the first time this year. Consequently, there are no prior data comparisons to show.

Sixty-four percent (63.9%) of MassHealth female members who were 16 to 20 years of age and were identified as sexually active had at least one chlamy- dia test during 2009. Three plans (NHP, NH, and BMCHP) had significantly higher rates than the national Medicaid 75th percentile benchmark (61.1%), while two plans (PCCP and FCHP) were not significantly different. All five plans (PCCP, NHP, NH, FCHP, and BCMHP) had significantly higher rates compared to the Massachusetts commercial mean.

Compared to members ages 16 to 20 years, seventy percent (70.4%) of members who were age 21 to 24 years and identified as sexually active had at least one chlamydia test during 2009. Reported rates for two plans (NHP and NH) were significantly higher compared to the 2010 national Medicaid 75th percentile benchmark (69.1%), while the rate of one plan (PCCP) was significantly lower. In addition, all five plans (PCCP, NHP, NH, FCHP, and BCMHP) had significantly better rates than the Massachusetts commercial mean.

*The source of the National Medicaid 90th Percentile, National Medicaid 75th Percentile, National Medicaid Mean, and MA Commercial Mean is Quality Compass, 2010.*

**Chlamydia Screening in Women**

**Understanding the Results (continued)**

Overall, sixty-seven percent (66.9%) of sexually active female members 16 to 24 years of age had at least one chlamydia test during 2009.

Plan specific rates ranged from 64.1% to 71.3%. Reported rates for three plans (NHP, NH, and BMCHP) were significantly better than the na- tional Medicaid benchmark (63.7%), while two plans (PCCP and FCHP) were not significantly different. All five plans (PCCP, NHP, NH, FCHP, and BMCHP) had significantly higher rates of chlamydia screening among female members 16 to 24 years of age compared to the Massachu- setts commercial mean.

The HEDIS Chlamydia Screening measure esti- mates screening rates for each plan using ad- ministrative data. Although studies show that using administrative data is an acceptable method for identifying the eligible population (the denominator), overestimation can occur if sexu- ally active members who do not have claims are excluded from the measure.20,21 Miscoding of services can also affect HEDIS estimates by un- derestimating the actual screening rate (for ex- ample, when chlamydia screening tests are per- formed but are not captured in claims data).20,21

Living With Illness

**Use of Appropriate Medications for People with Asthma**

This measure assesses whether members with persistent asthma were appropriately prescribed medications deemed as preferred therapy for long-term asthma control. The National Heart, Lung, and Blood Institute’s (NHLBI) *Guidelines for the Diagnosis and Management of Asthma*, recommend daily long- term control therapy for patients experiencing persistent asthma symptoms.22 Medications that decrease airway inflammation, such as inhaled corticoster- oids (ICS), are considered to be the most effective for controlling asthma.23,24 These medications reduce the severity of symptoms 25 and prevent exacerba- tions 26 that can increase the risk of emergency department (ED) visits, hospitalizations, and death from asthma.27 Despite the effectiveness of ICS, their association with some degree of unwanted side effects may lead to reduced treatment compliance.28 Studies of Medicaid populations have reported under- utilization of asthma control medications29,30,31 and lower prescription rates compared to privately insured patients.32



Nat ' l Mcaid 75t h

Pct ile

89.1%

Nat ' l Mcaid Mean

86.0%

MA Comm Mean

91.2%

MassHealt h

84.1%

Nat ' l Mcaid 75t h

Pct ile

93.9%

Nat ' l Mcaid Mean

91.8%

MA Comm Mean

97.0%

MassHealt h

94.7%



Nat ' l Mcaid 75t h

Pct ile

90.8%

Nat ' l Mcaid Mean

88.6%

MA Comm Mean

92.6%

MassHealt h

87.5%

**Age 5 to 11 Years**

**Age 12 to 50 Years**

**Combined Ages 5 to 50 Years**

The percentage of members 5 to 11 years of age who were identified as having persistent asthma and who were appropriately prescribed medication during 2009.

The percentage of members 12 to 50 years of age who were identified as having persistent asthma and who were appropriately prescribed medication during 2009.

The percentage of members 5 to 50 years of age who were identified as having persistent asthma and who were appropriately prescribed medication during 2009.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Weight ed Mean |  |  |  |  |  |  |  | Weight ed Mean |  |  |  |  |  |  | Weight ed Mean |  | | | | |
| PCCP |  |  |  |  |  | 95.0% |  | PCCP |  |  |  |  | 82.7% |  | PCCP |  |  |  |  | 85.6% |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| NHP |  |  |  |  |  | 94.5% |  | NHP |  |  |  |  | 86.3% |  | NHP |  |  |  |  | 89.8% |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| NH |  |  |  |  |  | 92.4% |  | NH |  |  |  |  | 85.3% |  | NH |  |  |  |  | 88.0% |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| FCHP |  |  |  |  |  | 92.5% |  | FCHP |  |  |  |  | 84.4% |  | FCHP |  |  |  |  | 86.7% |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| BMCHP |  |  |  |  |  | 95.5% |  | BMCHP |  |  |  |  | 85.3% |  | BMCHP |  |  |  |  | 89.3% |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 0% | 20% | 40% | 60% | 80% | 100% |  |  | 0% | 20% 40% | 60% | 80% | 100% |  | 0% | 20% | 40% | 60% | 80% | 100% |
| **KEY:** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

Comparison rates (Source of National and MA Commercial data: Quality Compass, 2010) Rate is *significantly above* the 2010 national Medicaid 75th percentile



Rate is *not significantly different from* the 2010 national Medicaid 75th percentile Rate is *significantly below* the 2010 national Medicaid 75th percentile

**Use of Appropriate Medications for People with Asthma**

## Statistical Summary — Age 5 to 11 Years

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Comparison to Benchmarks:** | | | | |
|  | **Nat’l Mcaid 75th Pctile** | **Nat’l Mcaid Mean** | **MA**  **Comm Mean** | **Plan’s 2008**  **Rate** |
| **PCCP(A)** | O | **\*** | **•** | n/a |
| **NHP(A)** | O | **\*** | **•** | n/a |
| **NH(A)** | O | O | **•** | n/a |
| **FCHP(A)** | O | O | O | n/a |
| **BMCHP(A)** | **\*** | **\*** | **•** | n/a |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **2010 Comparison Rates** | | | | | | | | |
| Nat'l Mcaid 90th Pctile: 95.5% Nat'l Mcaid Mean: 91.8% MassHealth Weighted Mean: 94.7%  Nat'l Mcaid 75th Pctile: 93.9% MA Commercial Mean: 97.0% MassHealth Median: 94.5% | | | | | | | | |
| **MassHealth Plan Rates** | | | | | | | | |
| **2010** | **Num Den** | **Rate** | **LCL UCL** |  | **2008** | **Num Den** | **Rate** | **LCL UCL** |
| **PCCP** | (A) 1,435 1,511 | 95.0% | 93.8% 96.1% | **PCCP** | (A) n/a n/a | n/a | n/a n/a |
| **NHP** | (A) 861 911 | 94.5% | 93.0% 96.0% | **NHP** | (A) n/a n/a | n/a | n/a n/a |
| **NH** | (A) 597 646 | 92.4% | 90.3% 94.5% | **NH** | (A) n/a n/a | n/a | n/a n/a |
| **FCHP** | (A) 49 53 | 92.5% | 84.4% 100.0% | **FCHP** | (A) n/a n/a | n/a | n/a n/a |
| **BMCHP** | (A) 1,329 1,391 | 95.5% | 94.4% 96.7% | **BMCHP** | (A) n/a n/a | n/a | n/a n/a |

**Statistical Summary — Age 12 to 50 Years**

|  |  |  |  |
| --- | --- | --- | --- |
| **Comparison to Benchmarks:** | | | |
|  | **Nat’l Nat’l Mcaid 75th Mcaid**  **Pctile Mean** | **MA**  **Comm Mean** | **Plan’s 2008**  **Rate** |
| **PCCP(A)** | **• •** | **•** | n/a |
| **NHP(A)** | * O | **•** | n/a |
| **NH(A)** | * O | **•** | n/a |
| **FCHP(A)** | O O | **•** | n/a |
| **BMCHP(A)** | * O | **•** | n/a |

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **2010 Comparison Rates** | | | | | | | | | | | | |
| Nat'l Mcaid 90th Pctile: | | 90.7% | Nat'l Mcaid Mean: | | | 86.0% | | MassHealth Weighted Mean: | | |  | 84.1% |
| Nat'l Mcaid 75th Pctile: | | 89.1% | MA Commercial Mean: | | | 91.2% | | MassHealth Median: | | | 85.3% |
| **MassHealth Plan Rates** | | | | | | | | | | | | |
| **2010** | **Num** | **Den** | **Rate** | **LCL UCL** |  | | **2008** | | **Num Den** | **Rate** | **LCL UCL** | |
| **PCCP** | (A) 4,064 | 4,912 | 82.7% | 81.7% 83.8% | **PCCP** | | (A) n/a n/a | n/a | n/a n/a | |
| **NHP** | (A) 1,075 | 1,245 | 86.3% | 84.4% 88.3% | **NHP** | | (A) n/a n/a | n/a | n/a n/a | |
| **NH** | (A) 869 | 1,019 | 85.3% | 83.1% 87.5% | **NH** | | (A) n/a n/a | n/a | n/a n/a | |
| **FCHP** | (A) 114 | 135 | 84.4% | 78.0% 90.9% | **FCHP** | | (A) n/a n/a | n/a | n/a n/a | |
| **BMCHP** | (A) 1,839 | 2,156 | 85.3% | 83.8% 86.8% | **BMCHP** | | (A) n/a n/a | n/a | n/a n/a | |

**Legend:**

**\*** 2010 rate is significantly above the comparison rate.

O 2010 rate is not significantly different from the comparison rate.

* 2010 rate is significantly below the comparison rate.

**Num** indicates Numerator

**Den** indicates Denominator

**LCL** indicates Lower Confidence Level

**UCL** indicates Upper Confidence Level

(A) = Measure was collected using administrative method

**Use of Appropriate Medications for People with Asthma**

## Statistical Summary — Combined Age 5 to 50 Years

|  |  |  |  |
| --- | --- | --- | --- |
| **Comparison to Benchmarks:** | | | |
|  | **Nat’l Nat’l Mcaid 75th Mcaid**  **Pctile Mean** | **MA**  **Comm Mean** | **Plan’s 2008**  **Rate** |
| **PCCP(A)** | **• •** | **•** | n/a |
| **NHP(A)** | O O | **•** | n/a |
| **NH(A)** | * O | **•** | n/a |
| **FCHP(A)** | O O | **•** | n/a |
| **BMCHP(A)** | * O | **•** | n/a |

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **2010 Comparison Rates** | | | | | | | | | | | |
| Nat'l Mcaid 90th Pctile: 92.8%  Nat'l Mcaid 75th Pctile: 90.8% | | | Nat'l Mcaid Mean:  MA Commercial Mean: | | 88.6%  92.6% | | MassHealth Weighted Mean:  MassHealth Median: | | |  | 87.5%  88.0% |
| **MassHealth Plan Rates** | | | | | | | | | | | |
| **2010** | **Num Den** | **Rate** | **LCL UCL** |  | | **2008** | | **Num Den** | **Rate** | **LCL UCL** | |
| **PCCP** | (A) 5,499 6,423 | 85.6% | 84.7% 86.5% | **PCCP** | | (A) n/a n/a | n/a | n/a n/a | |
| **NHP** | (A) 1,936 2,156 | 89.8% | 88.5% 91.1% | **NHP** | | (A) n/a n/a | n/a | n/a n/a | |
| **NH** | (A) 1,466 1,665 | 88.0% | 86.5% 89.6% | **NH** | | (A) n/a n/a | n/a | n/a n/a | |
| **FCHP** | (A) 163 188 | 86.7% | 81.6% 91.8% | **FCHP** | | (A) n/a n/a | n/a | n/a n/a | |
| **BMCHP** | (A) 3,168 3,547 | 89.3% | 88.3% 90.3% | **BMCHP** | | (A) n/a n/a | n/a | n/a n/a | |

**Legend:**

**\*** 2010 rate is significantly above the comparison rate.

O 2010 rate is not significantly different from the comparison rate.

* 2010 rate is significantly below the comparison rate.

**Num** indicates Numerator

**Elig** indicates the Eligible Population

**Den** indicates Denominator

**LCL** indicates Lower Confidence Level

**UCL** indicates Upper Confidence Level

(A) = Measure was collected using administrative method

**Understanding the Results**

NCQA has made several changes to this measure. These changes include lowering the upper age limit from 56 to 50 years of age and modifying the age stratifications to 5 to 11 years, 12 to 50 years, and Total. Other changes include the deletion of several procedural codes for identifying visit type and the addition of exclusions for cystic fibrosis and acute respiratory failure. Because of the age stratification changes, comparisons of 2010 HEDIS results to HE- DIS 2008 data are inappropriate. (The age groupings for HEDIS 2008 were 5 to 9 years, 10 to 17 years, 18 to 56 years, and Total.)

Eighty-eight percent (87.5%) of MassHealth members ages 5 to 50 years with persistent asthma were appropriately prescribed asthma control medication during 2009. Three MassHealth plans (PCCP, NH, and BMCHP) had significantly lower rates than the national Medicaid 75th percentile benchmark (90.8%), while two plans (NHP and FCHP) were not significantly different. In addition, all five plans (PCCP, NHP, NH, FCHHP, and BMCHP) had significantly lower rates compared to the Massachusetts commercial mean.

The percentage of MassHealth children (age 5-11 years) with persistent asthma who were appropriately prescribed medication was ninety-five percent (94.7%). One MassHealth plan (BMCHP) had a significantly better rate than the 2010 national Medicaid 75th percentile benchmark (93.9%). However, for members ages 12 to 50 years, rates for four of the five plans (PCCP, NHP, NH, and BMCHP) were significantly lower than the benchmark rate of 89.1%. Overall, 84.1% of MassHealth members in the 12-50 age group were prescribed the appropriate medications.

**Use of Appropriate Medications for People with Asthma**

**Understanding the Results (continued)**

Healthy People 2010 set a number of objectives related to asthma that are directly (e.g., in- creased rates of appropriate asthma care) and indirectly (e.g., reductions in deaths, hospitaliza- tions, ED visits, activity restrictions. and missed school/work) associated with improved perform- ance on the asthma HEDIS measure.33 Appropri- ate asthma care emphasizes patient education and treatment with medication regimens that re- duce excessive use of short-acting beta agonists for symptom relief. Use of the asthma medica- tions assessed through the HEDIS measure (e.g., inhaled corticosteroids) can reduce the need for short-acting beta agonists and is associ- ated with reduced risk of subsequent ED visits and hospitalizations among patients with persis- tent asthma.34

**Antidepressant Medication Management**

The HEDIS Antidepressant Medication Management (AMM) measure assesses the level of clinical and pharmacological management of depression for newly diagnosed MassHealth members 18 years of age and older. Antidepressants and psychosocial therapy are an effective combination for treating major depression.35 However, discontinuation of prescribed antidepressants during the acute and continuous phase of treatment can increase the risk of relapse, the persistence of depressive symptoms, and new episodes of depression.36 Recent studies using the HEDIS AMM measure have reported decreases in antidepressant adherence rates over the course of treatment; by the end of the continuation phase less than half of patients remain on pre- scribed medication.37,38

The percentage of members 18 years of age and older who were diagnosed with a new episode of depression, were treated with antidepressant medication and re- mained on an antidepressant drug during the entire 84- day Acute Treatment Phase.

**Effective Acute Phase**

**Effective Continuation Phase**

**Understanding the Results**

**KEY:**



Nat ' l Mcaid 75t h

Pct ile

53.2%

Nat ' l Mcaid Mean

49.7%

MA Comm Mean

65.8%

MassHealt h

Weight ed Mean

49.4%

PCCP

52.0%

NHP

48.1%

NH

48.6%

FCHP

62.0%

BMCHP

45.4%

0%

20%

40%

60%

80%

Comparison rates (Source of National and MA Commercial data: Quality Compass, 2010) Rate is *significantly above* the 2010 national Medicaid 75th percentile



Rate is *not significantly different from* the 2010 national Medicaid 75th percentile Rate is *significantly below* the 2010 national Medicaid 75th percentile

For HEDIS 2010, NCQA deleted several procedural codes for identifying the eligible population for this measure. This change should be considered when comparing results to prior rates.

Forty-nine percent (49.4%) of MassHealth members age 18 years and older who were diagnosed with a new episode of depression and were treated with antidepressant medication remained on an antide- pressant drug during the entire 84-day Acute Treat- ment Phase. Rates from each MassHealth plan ranged from 45.4% to 62.0%. Three plans (NHP, NH, and BMCHP) had rates that were significantly lower than the national Medicaid 75th percentile benchmark (53.2%), while two plans (PCCP and FCHP) were not significantly different. Although one plan (BMCHP) significantly improved from 2008, there were no significant changes for four of the five plans (PCCP, NHP, NH, and FCHP).



Nat ' l Mcaid 75t h Pct ile

Nat ' l Mcaid Mean

MA Comm Mean

MassHealt h Weight ed Mean

PCCP

NHP

NH

FCHP

BMCHP

0%

20%

40%

60%

The percentage of members 18 years of age and older who where diagnosed with a new episode of depression and treated with antidepressant medication and who re- mained on an antidepressant drug for at least 180 days.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 35.4%  33.0%  50.3%  33.6% | | | | |
|  | | | 36.1% | |
|  | | | | |
|  | | 32.5% | | |
|  | 31.0% | | | |
|  |
|  |
|  | | | | 40.5% |
|  | 30.9% | | | |
|  |
|  |

Thirty-four percent (33.6%) of members age 18 years and older who were diagnosed with a new episode of depression and treated with antidepres- sant medication remained on an antidepressant drug for at least 180 days. Plan rates ranged from 30.9% to 40.5%. One plan rate (BMCHP) signifi- cantly improved from 2008, while the rates for the remaining four plans did not show a significant change. In addition, two plans (NH and BMCHP) had rates that were significantly below the national Medicaid 75th percentile benchmark (35.4%).

**Antidepressant Medication Management**

## Statistical Summary — Effective Acute Phase

|  |  |  |  |
| --- | --- | --- | --- |
| **Comparison to Benchmarks:** | | | |
|  | **Nat’l Nat’l Mcaid 75th Mcaid**  **Pctile Mean** | **MA**  **Comm Mean** | **Plan’s 2008**  **Rate** |
| **PCCP(A)** | O **\*** | **•** | O |
| **NHP(A)** | * O | **•** | O |
| **NH(A)** | * O | **•** | O |
| **FCHP(A)** | O **\*** | O | O |
| **BMCHP(A)** | **• •** | **•** | **\*** |

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **2010 Comparison Rates** | | | | | | | | | | | | |
| Nat'l Mcaid 90th Pctile: | | 58.4% | | Nat'l Mcaid Mean: | | 49.7% | MassHealth Weighted Mean: | | | |  | 49.4% |
| Nat'l Mcaid 75th Pctile: | | 53.2% | | MA Commercial Mean: | | 65.8% | MassHealth Median: | | | | 48.6% |
| **MassHealth Plan Rates** | | | | | | | | | | | | |
| **2010** | **Num** | **Den** | **Rate** | **LCL UCL** |  | **2008** |  | **Num** | **Den** | **Rate** | **LCL UCL** | |
| **PCCP** | (A) 1,215 | 2,336 | 52.0% | 50.0% 54.1% | **PCCP** | (A) | 944 | 1,937 | 48.7% | 46.5% 51.0% | |
| **NHP** | (A) 410 | 852 | 48.1% | 44.7% 51.5% | **NHP** | (A) | 260 | 576 | 45.1% | 41.0% 49.3% | |
| **NH** | (A) 329 | 677 | 48.6% | 44.8% 52.4% | **NH** | (A) | 257 | 548 | 46.9% | 42.6% 51.2% | |
| **FCHP** | (A) 49 | 79 | 62.0% | 50.7% 73.4% | **FCHP** | (A) | 39 | 79 | 49.4% | 37.7% 61.0% | |
| **BMCHP** | (A) 611 | 1,345 | 45.4% | 42.7% 48.1% | **BMCHP** | (A) | 391 | 1,121 | 34.9% | 32.0% 37.7% | |

**Statistical Summary — Effective Continuation Phase**

|  |  |  |  |
| --- | --- | --- | --- |
| **Comparison to Benchmarks:** | | | |
|  | **Nat’l Nat’l Mcaid 75th Mcaid**  **Pctile Mean** | **MA**  **Comm Mean** | **Plan’s 2008**  **Rate** |
| **PCCP(A)** | O **\*** | **•** | O |
| **NHP(A)** | O O | **•** | O |
| **NH(A)** | * O | **•** | O |
| **FCHP(A)** | O O | O | O |
| **BMCHP(A)** | * O | **•** | **\*** |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **2010 Comparison Rates** | | | | | | | | | | | | | | |
| Nat'l Mcaid 90th Pctile: | | 43.3% | | Nat'l Mcaid Mean: | | | 33.0% | MassHealth Weighted Mean: | | | | |  | 33.6% |
| Nat'l Mcaid 75th Pctile: | | 35.4% | | MA Commercial Mean: | | | 50.3% | MassHealth Median: | | | | | 32.5% |
| **MassHealth Plan Rates** | | | | | | | | | | | | | | |
| **2010** | **Num** | **Den** | **Rate** | | **LCL UCL** |  | **2008** |  | **Num** | **Den** | **Rate** |  | **LCL** | **UCL** |
| **PCCP** | (A) 843 | 2,336 | 36.1% | | 34.1% 38.1% | **PCCP** | (A) | 641 | 1,937 | 33.1% |  | 31.0% | 35.2% |
| **NHP** | (A) 277 | 852 | 32.5% | | 29.3% 35.7% | **NHP** | (A) | 162 | 576 | 28.1% |  | 24.4% | 31.9% |
| **NH** | (A) 210 | 677 | 31.0% | | 27.5% 34.6% | **NH** | (A) | 179 | 548 | 32.7% |  | 28.6% | 36.7% |
| **FCHP** | (A) 32 | 79 | 40.5% | | 29.0% 52.0% | **FCHP** | (A) | 28 | 79 | 35.4% |  | 24.3% | 46.6% |
| **BMCHP** | (A) 416 | 1,345 | 30.9% | | 28.4% 33.4% | **BMCHP** | (A) | 221 | 1,121 | 19.7% |  | 17.3% | 22.1% |

**Legend:**

**\*** 2010 rate is significantly above the comparison rate.

O 2010 rate is not significantly different from the comparison rate.

* 2010 rate is significantly below the comparison rate.

**Num** indicates Numerator

**Elig** indicates the Eligible Population

**Den** indicates Denominator

**LCL** indicates Lower Confidence Level

**UCL** indicates Upper Confidence Level

(A) = Measure was collected using administrative method

**Antidepressant Medication Management**

**Understanding the Results (continued)**

Non-adherence with antidepressant regimens during the first 30 days of treatment is more likely to occur among patients with certain socio- demographic characteristics including: younger age, fewer than 12 years of education, and lower income status.39,40,41,42 Other factors asso- ciated with higher rates of non-adherence in- clude: comorbid substance abuse or cardiovas- cular/metabolic conditions,43 lower severity of perceived mental health symptoms44,45 and anti- depressant side-effects such as weight gain, anxiety,46 and sexual dysfunction.47

Having access to mental health specialty care along with antidepressants is strongly associ- ated with higher rates of acute and continuous phase adherence.48 Patients are significantly more likely to continue taking their medication past 30 days if they receive care from a psychia- trist versus another specialist or general practi- tioner.49,50 In addition, treatment with newer medications, such as selective serotonin reup- take inhibitors (SSRIs) and serotonin- norepinephrine reuptake inhibitors (SNRIs)), at higher than target doses has been associated with increased rates of longer term adherence compared to other antidepressants.51,52 A recent study found that psychiatrists are more likely to prescribe SSRIs at levels that approximate the maximum recommended dose than general medical providers.53

Increasing patient access to psychiatric care directly or through collaborative care models may improve rates of adherence to antidepres- sants. A psychiatric telemedicine program for primary care clinics that lacked on-site psychia- trists was shown to improve adherence rates in rural communities with limited access to special- ized mental health services.54 In addition, im- proving provider-patient communication about treatment with antidepressants can also have a positive influence on adherence rates. Three key provider messages shown to have signifi- cantly increased the odds of adherence involve talking to patients about the length of time they should expect to take the medication, what to do if they have questions, and the importance of continuing to take the medication even if they are feeling better.55

**Follow-up After Hospitalization for Mental Illness**

This measure assesses the rate of follow-up care 7 and 30 days after hospitalization for the treatment of mental illness. Timely follow-up services for pa- tients discharged from psychiatric hospitalization can reduce the risk of readmission.56,57 Predictors of timely follow-up care include members’ sociodemo- graphic, clinical, and service utilization characteristics. For example, patients in mental health treatment before hospitalization have been shown to be more likely to have timely follow-up care than those who have not been in treatment.57 In another study, patients were found to be more likely to attend initial follow-up appointments when scheduled within two weeks of their discharge.58

The percentage of members 6 years of age and older who were discharged after treatment of selected mental health disorders and who were seen on an ambulatory basis or were in intermediate treatment with a mental health pro- vider within 7 days after discharge.

The percentage of members 6 years of age and older who were discharged after treatment of selected mental health disorders and who were seen on an ambulatory basis or were in intermediate treatment with a mental health provider within 30 days after discharge.

**7 Day**

**30 Day**

**Understanding the Results**

A number of procedural codes to identify mental health outpatient visits were removed. This change should be considered when comparing results with prior rates.

**KEY:**



Nat ' l Mcaid 75t h

Pct ile

59.1%

Nat ' l Mcaid Mean

42.9%

MA Comm Mean

72.4%

MassHealt h

Weight ed Mean

58.3%

PCCP

54.3%

NHP

64.3%

NH

64.0%

FCHP

66.7%

BMCHP

68.3%

0%

20%

40%

60%

80%

Comparison rates (Source of National and MA Commercial data: Quality Compass, 2010) Rate is *significantly above* the 2010 national Medicaid 75th percentile



Rate is *not significantly different from* the 2010 national Medicaid 75th percentile

Rate is *significantly below* the 2010 national Medicaid 75th percentile

Fifty-eight percent (58.3%) of MassHealth members age 6 years and older who were hospitalized for treatment of mental illness had a follow-up visit (i.e., outpatient (OP), intensive OP encounter, or partial hospitalization) within seven days of discharge.

Seven-day follow-up rates for individual plans ranged from 54.3% to 68.3%. The rate for one plan (BMCHP) significantly improved from 2008, while rates for four plans remained statistically unchanged. Compared to the national Medicaid 75th percentile benchmark (59.1%), three plans (NHP, NH, and BMCHP) had significantly higher rates, one plan (PCCP) had a significantly lower rate, and one plan (FCHP) had a rate that was not statistically different.

Nat ' l Mcaid 75t h

Pct ile

74.3%

Nat ' l Mcaid Mean

60.2%

MA Comm Mean

85.7%

MassHealt h

Weight ed Mean

78.3%

PCCP

75.6%

NHP

81.3%

NH

83.5%

FCHP

91.7%

BMCHP

84.2%

0%

20%

40%

60%

80% 100%

Seventy-eight percent (78.3%) of members age 6 years and older who were hospitalized for treatment of mental illness had a follow-up visit within 30 days. Thirty-day follow-up rates from individual plans ranged from 75.6% to 91.7%. All five MassHealth plans (PCCP, NHP, NH, FCHP, and BMCHP) had rates that were significantly above the national Medi- caid 75th percentile benchmark (74.3%).

**Follow-up After Hospitalization for Mental Illness**

## Statistical Summary — 7 Day

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Comparison to Benchmarks:** | | | | |
|  | **Nat’l Mcaid 75th Pctile** | **Nat’l Mcaid Mean** | **MA**  **Comm Mean** | **Plan’s 2008**  **Rate** |
| **PCCP(A)** | **•**  **\***  **\***  O  **\*** | **\***  **\***  **\***  **\***  **\*** | **•**  **•**  **•** O  **•** | O O O O  **\*** |
| **NHP(A)** |
| **NH(A)** |
| **FCHP(A)** |
| **BMCHP(A)** |

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **2010 Comparison Rates** | | | | | | | | | | | | |
| Nat'l Mcaid 90th Pctile: | | | 64.3% | | Nat'l Mcaid Mean: | | 42.9% |  | MassHealth Weighted Mean: | | | 58.3% |
| Nat'l Mcaid 75th Pctile: | | | 59.1% | | MA Commercial Mean: | | 72.4% | MassHealth Median: | | | 64.3% |
| **MassHealth Plan Rates** | | | | | | | | | | | | |
| **2010** |  | **Num** | **Den** | **Rate** | **LCL UCL** |  | **2008** | **Num Den** | | **Rate** | **LCL** | **UCL** |
| **PCCP** | (A) | 3,428 | 6,308 | 54.3% | 53.1% 55.6% | **PCCP** | (A) 3,016 5,480 | | 55.0% | 53.7% | 56.4% |
| **NHP** | (A) | 656 | 1,021 | 64.3% | 61.3% 67.2% | **NHP** | (A) 467 748 | | 62.4% | 58.9% | 66.0% |
| **NH** | (A) | 486 | 759 | 64.0% | 60.6% 67.5% | **NH** | (A) 346 598 | | 57.9% | 53.8% | 61.9% |
| **FCHP** | (A) | 72 | 108 | 66.7% | 57.3% 76.0% | **FCHP** | (A) 80 114 | | 70.2% | 61.3% | 79.0% |
| **BMCHP** | (A) | 950 | 1,390 | 68.3% | 65.9% 70.8% | **BMCHP** | (A) 755 1,402 | | 53.9% | 51.2% | 56.5% |

**Statistical Summary — 30 Day**

|  |  |  |  |
| --- | --- | --- | --- |
| **Comparison to Benchmarks:** | | | |
|  | **Nat’l Nat’l Mcaid 75th Mcaid**  **Pctile Mean** | **MA**  **Comm Mean** | **Plan’s 2008**  **Rate** |
| **PCCP(A)** | **\* \***  **\* \***  **\* \***  **\* \***  **\* \*** | **•**  **•** O  **\***  O | O O O O  **\*** |
| **NHP(A)** |
| **NH(A)** |
| **FCHP(A)** |
| **BMCHP(A)** |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **2010 Comparison Rates** | | | | | | | | | | | | | |
| Nat'l Mcaid 90th Pctile: | | | 83.6% | | Nat'l Mcaid Mean: | | | 60.2% | MassHealth Weighted Mean: | | |  | 78.3% |
| Nat'l Mcaid 75th Pctile: | | | 74.3% | | MA Commercial Mean: | | | 85.7% | MassHealth Median: | | | 83.5% |
| **MassHealth Plan Rates** | | | | | | | | | | | | | |
| **2010** |  | **Num** | **Den** | **Rate** | | **LCL UCL** |  | **2008** | **Num Den** | **Rate** | **LCL UCL** | | |
| **PCCP** | (A) | 4,769 | 6,308 | 75.6% | | 74.5% 76.7% | **PCCP** | (A) 4,175 5,631 | 74.1% | 73.0% 75.3% | | |
| **NHP** | (A) | 830 | 1,021 | 81.3% | | 78.9% 83.7% | **NHP** | (A) 443 482 | 91.9% | 89.4% 94.4% | | |
| **NH** | (A) | 634 | 759 | 83.5% | | 80.8% 86.2% | **NH** | (A) 442 574 | 77.0% | 73.5% 80.5% | | |
| **FCHP** | (A) | 99 | 108 | 91.7% | | 86.0% 97.3% | **FCHP** | (A) 67 84 | 79.8% | 70.6% 88.9% | | |
| **BMCHP** | (A) | 1,170 | 1,390 | 84.2% | | 82.2% 86.1% | **BMCHP** | (A) 1,102 1,405 | 78.4% | 76.2% 80.6% | | |

**Legend:**

**\*** 2010 rate is significantly above the comparison rate.

O 2010 rate is not significantly different from the comparison rate.

* 2010 rate is significantly below the comparison rate.

**Num** indicates Numerator

**Elig** indicates the Eligible Population

**Den** indicates Denominator

**LCL** indicates Lower Confidence Level

**UCL** indicates Upper Confidence Level

(A) = Measure was collected using administrative method

*The source of the National Medicaid 90th Percentile, National Medicaid 75th Percentile, National Medicaid Mean, and MA Commercial Mean is Quality Compass, 2010.*

**Follow-up After Hospitalization for Mental Illness**

**Understanding the Results (continued)**

However, only one plan (BMCHP) significantly improved from 2008, while the rates of the other four plans remained statistically unchanged.

Other significant predictors of missed follow-up appointments may include: lack of prior psychiat- ric treatment and continuation of care following discharge; involuntary admission to the hospital; discharge against medical advice; and the pres- ence of psychosocial stressors.58-60 In a recent study, adult Medicaid-enrollees from a large mid- Atlantic state who received clinical services for mental health in the month leading up to hospital admission were more than three times likely to adhere to scheduled follow-up care within 7 or 30 days after discharge than individuals who did not.61

Plans serving MassHealth members with mental illness might improve their follow-up rates by pur- suing interventions targeting individuals with one or more of the above risk factors for poor atten- dance at outpatient visits. For example, hospital discharge planning designed to consider patient preferences for outpatient treatment, promote early and ongoing communication between clini- cian and patients, and set appropriate expecta- tions for the type and timing of follow-up care could foster compliance with scheduled appoint- ments.62,63 Designating staff to coordinate patient care after hospital discharge has been shown to

increase rates of compliance with follow-up care.64

For patients lacking primary social support, plans could initiate interventions that help strengthen existing family supports or create linkages to consumer supports in the community. One model, the Peer Bridger Project of the New York Association of Psychiatric Rehabilitation Ser- vices, connects individuals who have a history of psychiatric hospitalization with admitted patients, with the aim of helping them identify positive community support groups following their dis- charge.65

Getting Better

**Appropriate Treatment for Children with Upper Respiratory Infection**

This measure assesses whether children 3 months to 18 years of age who were given a diagnosis of upper respiratory infection (URI) were not dispensed an antibiotic prescription. Current experts recommend against prescribing antibiotics for URIs which are commonly caused by viruses, not bacteria. Adher- ence to these recommendations is important to the control of the emergence and spread of antibiotic-resistant bacteria. This is due in part to the inappropri- ate use of antibiotics for conditions which do not warrant antibiotic treatment. Despite this, approximately 75 percent of all outpatient prescriptions are given to children with URIs.66

**Appropriate Treatment for URI**

**Understanding the Results**

NCQA added competing diagnosis criteria for acne to this measure. This change should be consid- ered when comparing HEDIS 2010 results with prior rates.

Ninety-three percent (92.6%) of MassHealth members 3 months to 18 years of age who had a URI were not prescribed an antibiotic within the first three days after diagnosis. Rates from individual plans ranged from 89.0% to 98.3%. One plan (PCCP) had a rate that was significantly lower than the na- tional Medicaid 75th percentile benchmark (90.7%), while the remaining four plans (NHP, NH, FCHP, BMCHP) had significantly higher rates. In addition, the rates for two plans (PCCP and NH) significantly improved from 2008, while three plans (NHP, FCHP, BMCHP) did not significantly change.



Nat'l M caid 75th Pct ile

90.7%

Nat'l M caid M ean

86.0%

MA Comm M ean

93.1%

M assHealt h Weight ed M ean

92.6%

PCCP

89.0%

NHP

94.8%

NH

94.7%

FCHP

98.3%

BM CHP

94.6%

0% 20% 40% 60% 80% 100%

The percentage of members 3 months to 18 years of age who were given a diagnosis of URI and were not dis- pensed an antibiotic prescription on or three days after the outpatient visit where the URI diagnosis was made. Higher rates indicate more appropriate use of antibiotics.

A number of factors influence the inappropriate prescription of antibiotics for children with URI. These factors include physician’s perception of parental expectations for an antibiotic prescription in re- sponse to an illness episode, if the child is of school age, the existence of a chronic illness such as asthma, whether the physician is a pediatrician, and the number of years the provider has been in practice.67-69 Activities that can help decrease rates of inappropriate antibiotic use for URIs include provider education about current clinical guidelines as well as availability and distribution of educa- tional materials in examination rooms.70

**KEY:**



Comparison rates (Source of National and MA Commercial data: Quality Compass, 2010) Rate is *significantly above* the 2010 national Medicaid 75th percentile

Rate is *not significantly different from* the 2010 national Medicaid 75th percentile Rate is *significantly below* the 2010 national Medicaid 75th percentile

**Appropriate Treatment for Children with URI**

## Statistical Summary

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Comparison to Benchmarks:** | | | | |
|  | **Nat’l Mcaid 75th Pctile** | **Nat’l Mcaid Mean** | **MA**  **Comm Mean** | **Plan’s 2008**  **Rate** |
| **PCCP(A)** | **•** | **\*** | **•** | **\*** |
| **NHP(A)** | **\*** | **\*** | **\*** | O |
| **NH(A)** | **\*** | **\*** | **\*** | **\*** |
| **FCHP(A)** | **\*** | **\*** | **\*** | O |
| **BMCHP(A)** | **\*** | **\*** | **\*** | O |

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **2010 Comparison Rates** | | | | | | | | | | | | |
| Nat'l Mcaid 90th Pctile: | | | 94.9% | | Nat'l Mcaid Mean: | | | 86.0% | | MassHealth Weighted Mean: 92.6% | | |
| Nat'l Mcaid 75th Pctile: | | | 90.7% | | MA Commercial Mean: | | | 93.1% | | MassHealth Median: 94.7% | | |
| **MassHealth Plan Rates** | | | | | | | | | | | | |
| **2010** |  | **Num** | **Den** | **Rate \*** | | **LCL UCL** |  | | **2008** | **Num Den** | **Rate \*** | **LCL UCL** |
| **PCCP** | (A) | 1,603 | 14,593 | 89.0% | | 88.5% 89.5% | **PCCP** | (A) 1,890 13,778 | 86.3% | 85.7% 86.9% |
| **NHP** | (A) | 386 | 7,494 | 94.8% | | 94.3% 95.4% | **NHP** | (A) 328 6,356 | 94.8% | 94.3% 95.4% |
| **NH** | (A) | 266 | 5,030 | 94.7% | | 94.1% 95.3% | **NH** | (A) 380 4,104 | 90.7% | 89.8% 91.6% |
| **FCHP** | (A) | 9 | 528 | 98.3% | | 97.1% 99.5% | **FCHP** | (A) 19 515 | 96.3% | 94.6% 98.0% |
| **BMCHP** | (A) | 577 | 10,645 | 94.6% | | 94.1% 95.0% | **BMCHP** | (A) 591 9,500 | 93.8% | 93.3% 94.3% |

\* Reported percentages are inverted rates (i.e., 1-(numerator/denominator)).

**Legend:**

**\*** 2010 rate is significantly above the comparison rate.

O 2010 rate is not significantly different from the comparison rate.

* 2010 rate is significantly below the comparison rate.

**Num** indicates Numerator

**Elig** indicates the Eligible Population

**Den** indicates Denominator

**LCL** indicates Lower Confidence Level

**UCL** indicates Upper Confidence Level

(A) = Measure was collected using administrative method

Use of Services

**Mental Health Utilization**

The HEDIS 2010 Mental Health Utilization measure assesses utilization of mental health services (e.g., inpatient, intensive outpatient, partial hospitaliza- tion, outpatient, and emergency department) by MassHealth members during 2009. These data provide insights into the volume of mental health services utilized but do not address their quality (i.e., the appropriateness or effectiveness of care) or the potential for over- or under-utilization of services, particu- larly across various mental health conditions, such as depression or schizophrenia. The relationship between the volume and quality of mental health ser- vices has not been thoroughly studied. One study, however, concluded that health plans with low utilization for outpatient and inpatient mental health ser- vices are more likely to demonstrate poor results on other HEDIS behavior health measures, e.g., rates of 7-day and 30-day follow-up after hospitalization for mental illness, and rates of provider contact and acute and continuation phase treatment with antidepressant medication.71 (Data for these measures are presented on pages 32-38).

According to the 2008 National Survey on Drug Use and Health (NSDUH), rates of mental health services utilization by U.S. adults have remained relatively constant compared to the 2007 survey re- sults: 13.4% (vs. 13.25% in 2007) received mental health services during the 12-months prior to the survey; 0.9% (vs. 1.0% in 2007) re- ceived inpatient treatment and 6.8% (vs. 6.9% in 2007) received out- patient treatment during the same time period.72

**Percentage of Members Using Services**

The number and percentage of members who received mental health services during 2009. Mental health services are broken down by inpatient, intermediate, ambulatory, and any service. (The Intermediate category refers to intensive outpatient services and partial hospitalization programs.) The denominator used to calculate the percentages is member years (i.e., member months divided by 12). Data stratified by gender and age (0-12, 13-17, 18-64, and 65+) appear in Appendix H.

**Member Inpatient Intermediate Ambulatory Any Service**

For HEDIS 2010, NCQA modified the criteria for identifying utilization of mental health services (including inpatient, intensive outpatient or partial hospitalization, and outpatient or emergency services).

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Months** | **N** | **%** | **N** | **%** | **N** | **%** | **N** | **%** |
| **PCCP** | 3,567,282 | 8,148 | 2.7% | 12,563 | 4.2% | 89,151 | 30.0% | 90,505 | 30.4% |
| **NHP** | 1,588,376 | 1,171 | 0.9% | 1,782 | 1.3% | 21,952 | 16.6% | 22,291 | 16.8% |
| **NH** | 1,265,777 | 1,006 | 1.0% | 348 | 0.3% | 18,583 | 17.6% | 18,709 | 17.7% |
| **FCHP** | 142,411 | 98 | 0.8% | 30 | 0.3% | 2,101 | 17.7% | 2,111 | 17.8% |
| **BMCHP** | 2,135,430 | 2,044 | 1.1% | 884 | 0.5% | 38,248 | 21.5% | 38,375 | 21.6% |

**2010 National Medicaid 75th Percentile**

1.0% 0.5% 11.75% 11.83%

*The source of the National Medicaid 75th Percentile is Quality Compass, 2010.*

Appendix A:

MassHealth Regions and Service Areas

**MassHealth Service Areas and Regions**

#### Region Service Areas\*

Western Adams, Greenfield, Holyoke, Northampton, Pittsfield, Springfield, and Westfield

Central Athol, Framingham, Gardner-Fitchburg, Southbridge, Waltham, and Worcester

Northern Beverly, Gloucester, Haverhill, Lawrence, Lowell, Lynn, Malden, Salem, and Woburn Boston-Greater Boston Boston, Revere, Somerville, and Quincy

Southern Attleboro, Barnstable, Brockton, Fall River, Falmouth, Nantucket, New Bedford, Oak Bluffs, Orleans, Plymouth, Taunton, Wareham

\* each service area includes multiple cities and towns.

Appendix B:

Childhood immunization Combinations 4 through 10 (Plan Rates Only)

**Childhood Immunization Combinations 4 through 10**

#### Combo 4 Combo 5

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Num** | | **Elig** | **Den** | **Rate** | **LCL** | **UCL** |
| **PCCP** | (H) | 137 | 4,029 | 411 | 33.3% | 28.7% | 38.0% |
| **NHP** | (H) | 155 | 4,360 | 411 | 37.7% | 32.9% | 42.5% |
| **NH** | (H) | 143 | 3,978 | 411 | 34.8% | 30.1% | 39.5% |
| **FCHP** | (H) | 193 | 294 | 293 | 65.9% | 60.3% | 71.5% |
| **BMCHP** | (H) | 163 | 6,035 | 411 | 39.7% | 34.8% | 44.5% |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Num** | | **Elig** | **Den** | **Rate** | **LCL** | **UCL** |
| **PCCP** | (H) | 191 | 4,029 | 411 | 46.5% | 41.5% | 51.4% |
| **NHP** | (H) | 239 | 4,360 | 411 | 58.2% | 53.3% | 63.0% |
| **NH** | (H) | 197 | 3,978 | 411 | 47.9% | 43.0% | 52.9% |
| **FCHP** | (H) | 192 | 294 | 293 | 65.5% | 59.9% | 71.1% |
| **BMCHP** | (H) | 202 | 6,035 | 411 | 49.1% | 44.2% | 54.1% |

**Combo 6 Combo 7**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Num** | | **Elig** | **Den** | **Rate** | **LCL** | **UCL** |
| **PCCP** | (H) | 192 | 4,029 | 411 | 46.7% | 41.8% | 51.7% |
| **NHP** | (H) | 226 | 4,360 | 411 | 55.0% | 50.1% | 59.9% |
| **NH** | (H) | 193 | 3,978 | 411 | 47.0% | 42.0% | 51.9% |
| **FCHP** | (H) | 180 | 294 | 293 | 61.4% | 55.7% | 67.2% |
| **BMCHP** | (H) | 219 | 6,035 | 411 | 53.3% | 48.3% | 58.2% |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Num** | | **Elig** | **Den** | **Rate** | **LCL** | **UCL** |
| **PCCP** | (H) | 99 | 4,029 | 411 | 24.1% | 19.8% | 28.3% |
| **NHP** | (H) | 111 | 4,360 | 411 | 27.0% | 22.6% | 31.4% |
| **NH** | (H) | 104 | 3,978 | 411 | 25.3% | 21.0% | 29.6% |
| **FCHP** | (H) | 157 | 294 | 293 | 53.6% | 47.7% | 59.5% |
| **BMCHP** | (H) | 107 | 6,035 | 411 | 26.0% | 21.7% | 30.4% |

**Combo 8 Combo 9**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Num** | | **Elig** | **Den** | **Rate** | **LCL** | **UCL** |
| **PCCP** | (H) | 98 | 4,029 | 411 | 23.8% | 19.6% | 28.1% |
| **NHP** | (H) | 105 | 4,360 | 411 | 25.5% | 21.2% | 29.9% |
| **NH** | (H) | 95 | 3,978 | 411 | 23.1% | 18.9% | 27.3% |
| **FCHP** | (H) | 147 | 294 | 293 | 50.2% | 44.3% | 56.1% |
| **BMCHP** | (H) | 122 | 6,035 | 411 | 29.7% | 25.1% | 34.2% |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Num** | | **Elig** | **Den** | **Rate** | **LCL** | **UCL** |
| **PCCP** | (H) | 134 | 4,029 | 411 | 32.6% | 27.9% | 37.3% |
| **NHP** | (H) | 162 | 4,360 | 411 | 39.4% | 34.6% | 44.3% |
| **NH** | (H) | 131 | 3,978 | 411 | 31.9% | 27.2% | 36.5% |
| **FCHP** | (H) | 147 | 294 | 293 | 50.2% | 44.3% | 56.1% |
| **BMCHP** | (H) | 152 | 6,035 | 411 | 37.0% | 32.2% | 41.8% |

**Combo 10**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Num** | | **Elig** | **Den** | **Rate** | **LCL** | **UCL** |
| **PCCP** | (H) | 77 | 4,029 | 411 | 18.7% | 14.8% | 22.6% |
| **NHP** | (H) | 77 | 4,360 | 411 | 18.7% | 14.8% | 22.6% |
| **NH** | (H) | 75 | 3,978 | 411 | 18.2% | 14.4% | 22.1% |
| **FCHP** | (H) | 126 | 294 | 293 | 43.0% | 37.2% | 48.8% |
| **BMCHP** | (H) | 84 | 6,035 | 411 | 20.4% | 16.4% | 24.5% |

Appendix C:

Antigen-Specific Childhood Immunization Rates

**2010 Comparison Rates—3 HepB**

Nat'l Medicaid 90th Percentile: Nat'l Medicaid 75th Percentile: Nat'l Medicaid Mean:

MA Commercial Mean: MassHealth Weighted Mean:

MassHealth Median:

96.4%

94.3%

89.1%

90.9%

93.6%

93.9%

**Antigen-Specific Childhood Immunization Rates**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **2010 Comparison Rates— 4 DTaP/DT** | | | | |
| Nat'l Medicaid 90th Percentile: | | 88.5% | |  |
| Nat'l Medicaid 75th Percentile: | | 85.2% | |
| Nat'l Medicaid Mean: | | 79.6% | |
| MA Commercial Mean: | | 87.9% | |
| MassHealth Weighted Mean: | | 86.8% | |
| MassHealth Median: | | 87.1% | |
| **DTaP** | **Num Elig Den** | **Rate** | **LCL** | **UCL** |
| PCCP | (H) 356 4,029 411 | 86.6% | 83.2% | 90.0% |
| NHP | (H) 366 4,360 411 | 89.1% | 85.9% | 92.2% |
| NH | (H) 344 3,978 411 | 83.7% | 80.0% | 87.4% |
| FCHP | (H) 260 294 293 | 88.7% | 84.9% | 92.5% |
| BMCHP | (H) 358 6,035 411 | 87.1% | 83.7% | 90.5% |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **2010 Comparison Rates— 3 IPV** | | | | |
| Nat'l Medicaid 90th Percentile: | | 95.6% | |  |
| Nat'l Medicaid 75th Percentile: | | 93.7% | |
| Nat'l Medicaid Mean: | | 89.0% | |
| MA Commercial Mean: | | 91.6% | |
| MassHealth Weighted Mean: | | 93.0% | |
| MassHealth Median: | | 94.9% | |
| **IPV** | **Num Elig Den** | **Rate** | **LCL** | **UCL** |
| PCCP | (H) 391 4,029 411 | 95.1% | 92.9% | 97.3% |
| NHP | (H) 396 4,360 411 | 96.4% | 94.4% | 98.3% |
| NH | (H) 362 3,978 411 | 88.1% | 84.8% | 91.3% |
| FCHP | (H) 278 294 293 | 94.9% | 92.2% | 97.6% |
| BMCHP | (H) 380 6,035 411 | 92.5% | 89.8% | 95.1% |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **2010 Comparison Rates—1 MMR** | | | | |
| Nat'l Medicaid 90th Percentile: | | 95.8% | |  |
| Nat'l Medicaid 75th Percentile: | | 93.9% | |
| Nat'l Medicaid Mean: | | 91.2% | |
| MA Commercial Mean: | | 90.5% | |
| MassHealth Weighted Mean: | | 92.6% | |
| MassHealth Median: | | 93.4% | |
| **MMR** | **Num Elig Den** | **Rate** | **LCL** | **UCL** |
| PCCP | (H) 382 4,029 411 | 92.9% | 90.3% | 95.5% |
| NHP | (H) 391 4,360 411 | 95.1% | 92.9% | 97.3% |
| NH | (H) 362 3,978 411 | 88.1% | 84.8% | 91.3% |
| FCHP | (H) 276 294 293 | 94.2% | 91.4% | 97.0% |
| BMCHP | (H) 384 6,035 411 | 93.4% | 90.9% | 95.9% |

*The source of the National Medicaid 90th Percentile, National Medicaid 75th Percentile, National Medicaid Mean, and MA Commercial Mean is Quality Compass, 2010.*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **2010 Comparison Rates—3 HiB** | | | | |
| Nat'l Medicaid 90th Percentile: 97.8%  Nat'l Medicaid 75th Percentile: 96.6%  Nat'l Medicaid Mean: 93.7%  MA Commercial Mean: 93.8%  MassHealth Weighted Mean: 95.5%  MassHealth Median: 96.4% | | | | |
| **HiB** | **Num Elig Den** | **Rate** | **LCL** | **UCL** |
| PCCP | (H) 397 4,029 411 | 96.6% | 94.7% | 98.5% |
| NHP | (H) 403 4,360 411 | 98.1% | 96.6% | 99.5% |
| NH | (H) 371 3,978 411 | 90.3% | 87.3% | 93.3% |
| FCHP | (H) 282 294 293 | 96.2% | 93.9% | 98.6% |
| BMCHP | (H) 396 6,035 411 | 96.4% | 94.4% | 98.3% |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **2010 Comparison Rates—1 VZV** | | | | |
| Nat'l Medicaid 90th Percentile: | | 95.4% | |  |
| Nat'l Medicaid 75th Percentile: | | 93.9% | |
| Nat'l Medicaid Mean: | | 90.6% | |
| MA Commercial Mean: | | 91.1% | |
| MassHealth Weighted Mean: | | 92.3% | |
| MassHealth Median: | | 90.5% | |
| **VZV** | **Num Elig Den** | **Rate** | **LCL** | **UCL** |
| PCCP | (H) 372 4,029 411 | 90.5% | 87.6% | 93.5% |
| NHP | (H) 392 4,360 411 | 95.4% | 93.2% | 97.5% |
| NH | (H) 361 3,978 411 | 87.8% | 84.6% | 91.1% |
| FCHP | (H) 264 294 293 | 90.1% | 86.5% | 93.7% |
| BMCHP | (H) 388 6,035 411 | 94.4% | 92.1% | 96.7% |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **HepB** | **Num** | | **Elig** | **Den** | **Rate** | **LCL** | **UCL** |
| PCCP | (H) | 388 | 4,029 | 411 | 94.4% | 92.1% | 96.7% |
| NHP | (H) | 402 | 4,360 | 411 | 97.8% | 96.3% | 99.3% |
| NH | (H) | 363 | 3,978 | 411 | 88.3% | 85.1% | 91.5% |
| FCHP | (H) | 275 | 294 | 293 | 93.9% | 90.9% | 96.8% |
| BMCHP | (H) | 384 | 6,035 | 411 | 93.4% | 90.9% | 95.9% |

**Antigen-Specific Childhood Immunization Rates**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **2010 Comparison Rates—4 PCV** | | | | | | | |
| Nat'l Medicaid 90th Percentile: | | | |  | 87.8% | |  |
| Nat'l Medicaid 75th Percentile: | | | | 84.1% | |
| Nat'l Medicaid Mean: | | | | 77.7% | |
| MA Commercial Mean: | | | | 87.6% | |
| MassHealth Weighted Mean: | | | | 86.2% | |
| MassHealth Median: | | | | 86.1% | |
| **PCV** |  | **Num** | **Elig** | **Den** | **Rate** | **LCL** | **UCL** |
| PCCP | (H) | 346 | 4,029 | 411 | 84.2% | 80.5% | 87.8% |
| NHP | (H) | 373 | 4,360 | 411 | 90.8% | 87.8% | 93.7% |
| NH | (H) | 342 | 3,978 | 411 | 83.2% | 79.5% | 86.9% |
| FCHP | (H) | 264 | 294 | 293 | 90.1% | 86.5% | 93.7% |
| BMCHP | (H) | 354 | 6,035 | 411 | 86.1% | 82.7% | 89.6% |

Appendix D:

Well-Child Visits in the First 15 Months of Life (Rates for 0, 1, 2, 3, 4 and 5 Visits)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **2010 Comparison Rates—3 visits** |  |  | **2010 Comparison Rates—4 visits** |  |
| Nat'l Medicaid 90th Percentile: | 9.5% |  | Nat'l Medicaid 90th Percentile: | 15.3% |
| Nat'l Medicaid 75th Percentile: | 7.4% |  | Nat'l Medicaid 75th Percentile: | 12.6% |
| Nat'l Medicaid Mean: | 5.7% |  | Nat'l Medicaid Mean: | 10.7% |
| MA Commercial Mean: | 1.0% |  | MA Commercial Mean: | 2.3% |
| MassHealth Weighted Mean: | 1.3% |  | MassHealth Weighted Mean: | 4.3% |
| MassHealth Median: | 1.2% |  | MassHealth Median: | 3.8% |

**Well-Child rates (0,1,2,3,4 and 5 Visits)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **2010 Comparison Rates—0 visits** | | | | |
| Nat'l Medicaid 90th Percentile: 5.1%  Nat'l Medicaid 75th Percentile: 3.1%  Nat'l Medicaid Mean: 2.3%  MA Commercial Mean: 1.5%  MassHealth Weighted Mean: 0.4%  MassHealth Median: 0.4% | | | | |
| **0 visits** | **Num Elig Den** | **Rate** | **LCL** | **UCL** |
| PCCP | (H) 0 2,681 250 | 0.0% | 0.0% | 0.2% |
| NHP | (H) 1 3,457 260 | 0.4% | 0.0% | 1.3% |
| NH | (H) 1 3,061 376 | 0.3% | 0.0% | 0.9% |
| FCHP | (A) 1 224 224 | 0.4% | 0.0% | 1.5% |
| BMCHP | (H) 2 5,072 270 | 0.7% | 0.0% | 1.9% |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **2010 Comparison Rates—1 visit** | | | | |
| Nat'l Medicaid 90th Percentile: 4.4%  Nat'l Medicaid 75th Percentile: 2.9%  Nat'l Medicaid Mean: 2.1%  MA Commercial Mean: 0.7%  MassHealth Weighted Mean: 0.4%  MassHealth Median: 0.4% | | | | |
| **1 visit** | **Num Elig Den** | **Rate** | **LCL** | **UCL** |
| PCCP | (H) 1 2,681 250 | 0.4% | 0.0% | 1.4% |
| NHP | (H) 2 3,457 260 | 0.8% | 0.0% | 2.0% |
| NH | (H) 3 3,061 376 | 0.8% | 0.0% | 1.8% |
| FCHP | (A) 1 224 224 | 0.4% | 0.0% | 1.5% |
| BMCHP | (H) 0 5,072 270 | 0.0% | 0.0% | 0.2% |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **2010 Comparison Rates—2 visits** | | | | | | | |
| Nat'l Medicaid 90th Percentile: | | | | | 5.9% | | |
| Nat'l Medicaid 75th Percentile: | | | | | 4.6% | | |
| Nat'l Medicaid Mean: | | | | | 3.4% | | |
| MA Commercial Mean: | | | | | 0.8% | | |
| MassHealth Weighted Mean: | | | | | 0.4% | | |
| MassHealth Median: | | | | | 0.0% | | |
|  | | | | |  | | |
| **2 visits** | **Num** | | **Elig** | **Den** | **Rate** | **LCL** | **UCL** |
| PCCP | (H) | 0 | 2,681 | 250 | 0.0% | 0.0% | 0.2% |
| NHP | (H) | 1 | 3,457 | 260 | 0.4% | 0.0% | 1.3% |
| NH | (H) | 5 | 3,061 | 376 | 1.3% | 0.0% | 2.6% |
| FCHP | (A) | 0 | 224 | 224 | 0.0% | 0.0% | 0.2% |
| BMCHP | (H) | 0 | 5,072 | 270 | 0.0% | 0.0% | 0.2% |

*The source of the National Medicaid 90th Percentile, National Medicaid 75th Percentile, National Medicaid Mean, and MA Commercial Mean is Quality Compass, 2008.*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **2010 Comparison Rates—5 visits** | | | | |
| Nat'l Medicaid 90th Percentile: 22.2%  Nat'l Medicaid 75th Percentile: 18.9%  Nat'l Medicaid Mean: 16.5%  MA Commercial Mean: 7.7%  MassHealth Weighted Mean: 7.7%  MassHealth Median: 8.1% | | | | |
| **5 visits** | **Num Elig Den** | **Rate** | **LCL** | **UCL** |
| PCCP | (H) 13 2,681 250 | 5.2% | 2.2% | 8.2% |
| NHP | (H) 18 3,457 260 | 6.9% | 3.6% | 10.2% |
| NH | (H) 36 3,061 376 | 9.6% | 6.5% | 12.7% |
| FCHP | (A) 24 224 224 | 10.7% | 6.4% | 15.0% |
| BMCHP | (H) 22 5,072 270 | 8.1% | 4.7% | 11.6% |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **3 visits** | **Num** | | **Elig** | **Den** | **Rate** | **LCL** | **UCL** |
| PCCP | (H) | 3 | 2,681 | 250 | 1.2% | 0.0% | 2.7% |
| NHP | (H) | 4 | 3,457 | 260 | 1.5% | 0.0% | 3.2% |
| NH | (H) | 6 | 3,061 | 376 | 1.6% | 0.2% | 3.0% |
| FCHP | (A) | 2 | 224 | 224 | 0.9% | 0.0% | 2.3% |
| BMCHP | (H) | 3 | 5,072 | 270 | 1.1% | 0.0% | 2.5% |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **4 visits** | **Num** | | **Elig** | **Den** | **Rate** | **LCL** | **UCL** |
| PCCP | (H) | 5 | 2,681 | 250 | 2.0% | 0.1% | 3.9% |
| NHP | (H) | 10 | 3,457 | 260 | 3.8% | 1.3% | 6.4% |
| NH | (H) | 20 | 3,061 | 376 | 5.3% | 2.9% | 7.7% |
| FCHP | (A) | 6 | 224 | 224 | 2.7% | 0.3% | 5.0% |
| BMCHP | (H) | 14 | 5,072 | 270 | 5.2% | 2.4% | 8.0% |

Appendix E:

PCC Plan Antidepressant Medication Management Rates for Members with Basic, Essential, and Non-Basic/Non- Essential Coverage

**PCC Plan Antidepressant Medication Management Rates for Members with Basic, Essential, and Non-Basic/Non-Essential Coverage**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Effective Acute Phase Treatment** | | | | | | |
| **2010** |  | **Num** | **Den** | **Rate** | **LCL** | **UCL** |
| **Basic** | (A) | 90 | 143 | 62.9% | 54.7% | 71.2% |
| **Essential** | (A) | 330 | 577 | 57.2% | 53.1% | 61.3% |
| **NonBasic/NonEssntl** | (A) | 795 | 1,616 | 49.2% | 46.7% | 51.7% |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Effective Continuous Phase Treatment** | | | | | | |
| **2010** |  | **Num** | **Den** | **Rate** | **LCL** | **UCL** |
| **Basic** | (A) | 56 | 143 | 39.2% | 30.8% | 47.5% |
| **Essential** | (A) | 230 | 577 | 39.9% | 35.8% | 43.9% |
| **NonBasic/NonEssntl** | (A) | 557 | 1,616 | 34.5% | 32.1% | 36.8% |

Appendix F:

PCC Plan Follow-up After Hospitalization for Mental Illness Rates for Members with Basic, Essential, and Non-Basic/ Non-Essential Coverage

**PCC Plan Follow-up After Hospitalization for Mental Illness for Members with Basic, Essential, and Non-Basic/Non-Essential Coverage**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **7 Day** | | | | | | |
| **2010** |  | **Num** | **Den** | **Rate** | **LCL** | **UCL** |
| **Basic** | (A) | 204 | 370 | 55.1% | 49.9% | 60.3% |
| **Essential** | (A) | 624 | 1,324 | 47.1% | 44.4% | 49.9% |
| **NonBasic/NonEssntl** | (A) | 2,600 | 4,614 | 56.4% | 54.9% | 57.8% |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **30 Day** | | | | | | |
| **2010** |  | **Num** | **Den** | **Rate** | **LCL** | **UCL** |
| **Basic** | (A) | 279 | 370 | 75.4% | 70.9% | 79.9% |
| **Essential** | (A) | 889 | 1,324 | 67.1% | 64.6% | 69.7% |
| **NonBasic/NonEssntl** | (A) | 3,601 | 4,614 | 78.0% | 76.8% | 79.3% |

Appendix G:

PCC Plan Mental Health Utilization Rates for Members with Basic, Essential, and Non-Basic/Non-Essential Coverage

**PCC Plan Mental Health Utilization for Members with Basic, Essential, and Non-Basic/Non-Essential Coverage**

### Members with Basic Coverage

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Months** | **N** | **%** | **N %** | **N** | **%** | **N** | **%** |
| Ages 18-64 | 74,592 | 569 | 9.2% | 770 12.4% | 5,056 | 81.3% | 5,153 | 82.9% |

**Member Inpatient Intermediate Outpatient/ED Any Service**

### Members with Essential Coverage

**Member Inpatient Intermediate Outpatient/ED Any Service Months N % N % N % N %**

Ages 18-64

764,226 1,971 3.1% 2,326 3.7% 15,231 23.9% 15,711 24.7%

### Members with

**Non-Basic/Non-Essential Coverage**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Months** | **N** | **%** | **N** | **%** | **N** | **%** | **N** | **%** |
| Ages 0-12 | 886,493 | 581 | 0.8% | 1,938 | 2.6% | 13,462 | 18.2% | 13,282 | 18.0% |
| Ages 13-17 | 373,623 | 833 | 2.7% | 1,818 | 5.8% | 9,261 | 29.7% | 9,296 | 29.9% |
| Ages 18-64 | 1,468,337 | 4,228 | 3.5% | 6,081 | 5.0% | 47,939 | 39.2% | 48,491 | 39.6% |
| Ages Total | 2,728,453 | 5,642 | 2.5% | 9,837 | 4.3% | 70,662 | 31.1% | 71,069 | 31.3% |

**Member Inpatient Intermediate Outpatient/ED Any Service**

Appendix H:

Mental Health Utilization Rates, Age and Gender Stratifications, All Plans

**Mental Health Utilization—Percentage of Members Using Services**

### Ages 0-12

Male Female

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Member** | **Inpatient** | | **Intermediate** | | **Ambulatory** | | **Any Service** | | **Member Inpatient Intermediate Ambulatory Any Service** | | | | | | | | | |
| **Months** | **N %** | | **N %** | | **N %** | | **N %** | | **Months N % N % N % N %** | | | | | | | | | |
| **PCCP** | 461,633 | 415 1.1% | | 1,284 3.3% | | 8,166 21.2% | | 8,208 21.3% | | **PCCP** 424,871 166 0.5% 621 1.8% 4,957 14.0% 4,998 14.1% | | | | | | | | | |
| **NHP** | 377,771 | 100 | 0.3% | 345 | 1.1% | 3,323 | 10.6% | 3,394 | 10.8% | **NHP** | 365,282 | 22 | 0.1% | 147 | 0.5% | 2,101 | 6.9% | 2,139 | 7.0% |
| **NH** | 316,714 | 89 | 0.3% | 9 | 0.0% | 3,860 | 14.6% | 3,863 | 14.6% | **NH** | 307,690 | 27 | 0.1% | 2 | 0.0% | 2,479 | 9.7% | 2,480 | 9.7% |
| **FCHP** | 30,547 | 3 | 0.1% | 0 | 0.0% | 348 | 13.7% | 349 | 13.7% | **FCHP** | 28,732 | 0 | 0.0% | 0 | 0.0% | 188 | 7.9% | 188 | 7.9% |
| **BMCHP** | 521,790 | 150 | 0.3% | 99 | 0.2% | 7,703 | 17.7% | 7,708 | 17.7% | **BMCHP** | 505,731 | 71 | 0.2% | 27 | 0.1% | 4,764 | 11.3% | 4,767 | 11.3% |

Male

**Ages 13-17**

Female

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Member** | **Inpatient** | **Intermediate** | **Ambulatory** | **Any Service** | **Member** | **Inpatient** | **Intermediate** | **Ambulatory** | **Any Service** |
| **Months** | **N %** | **N %** | **N %** | **N %** | **Months** | **N %** | **N %** | **N %** | **N %** |

143,048 142 1.2% 44 0.4% 2,760 23.2% 2,765 23.2%

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **PCCP** | 195,488 | 394 | 2.4% | 956 | 5.9% | 4,849 | 29.8% | 4,939 | 30.3% |  | | | | | | | | | |
| **NHP** | 113,069 | 92 | 1.0% | 265 | 2.8% | 1,776 | 18.9% | 1,865 | 19.8% | **PCCP** 178,135 439 3.0% 847 5.7% 4,229 28.5% 4,280 28.8% | | | | | | | | | |
|  |  |  |  |  |  |  |  |  |  | **NHP** | 115,378 | 115 | 1.2% | 276 | 2.9% | 1,864 | 19.4% | 1,919 | 20.0% |
| **NH**  **FCHP** | 81,709  9,356 | 76  4 | 1.1%  0.5% | 21  1 | 0.3%  0.1% | 1,260  144 | 18.5%  18.5% | 1,265  144 | 18.6%  18.5% | **NH** | 79,836 | 89 | 1.3% | 26 | 0.4% | 1,324 | 19.9% | 1,330 | 20.0% |
| **BMCHP** | **FCHP**  **BMCHP** | | | | | | | | | | 9,783 4 0.5% 0 0.0% 163 20.0% 163 20.0%  143,519 202 1.7% 82 0.7% 2,914 24.4% 2,922 24.4% | | | | | | | | |

**Mental Health Utilization—Percentage of Members Using Services**

### Ages 18-64

Male Female

**Member Inpatient Intermediate Ambulatory Any Service Member Inpatient Intermediate Ambulatory Any Service**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Months** | **N** | **%** | **N** | **%** | **N** | **%** | **N** | **%** |  | **Months** | **N** | **%** | **N** | **%** | **N** | **%** | **N** | **%** |
| **PCCP** | 1,100,610 | 3,685 | 4.0% | 4,427 | 4.8% | 28,830 | 31.4% | 29,455 | 32.1% | **PCCP** | 1,206,545 | 3,049 | 3.0% | 4,428 | 4.4% | 38,120 | 37.9% | 38,625 | 38.4% |
| **NHP** | 158,209 | 289 | 2.2% | 207 | 1.6% | 2,804 | 21.3% | 2,837 | 21.5% | **NHP** | 458,363 | 552 | 1.5% | 541 | 1.4% | 10,050 | 26.3% | 10,103 | 26.5% |
| **NH** | 138,122 | 264 | 2.3% | 83 | 0.7% | 2,278 | 19.8% | 2,333 | 20.3% | **NH** | 341,702 | 461 | 1.6% | 207 | 0.7% | 7,382 | 25.9% | 7,438 | 26.1% |
| **FCHP** | 19,545 | 26 | 1.6% | 5 | 0.3% | 305 | 18.7% | 305 | 18.7% | **FCHP** | 44,444 | 61 | 1.7% | 24 | 0.7% | 953 | 25.7% | 962 | 26.0% |
| **BMCHP** | 223,666 | 514 | 2.8% | 178 | 1.0% | 4,694 | 25.2% | 4,733 | 25.4% | **BMCHP** | 597,674 | 965 | 1.9% | 454 | 0.9% | 15,413 | 31.0% | 15,480 | 31.1% |

# Male

### Ages 65+\*

Female

**Member Inpatient Intermediate Ambulatory Any Service**

**Member Inpatient Intermediate Ambulatory Any Service**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Months** | **N** | **%** | **N** | **%** | **N** | **%** | **N** | **%** |
| **PCCP** | 0 | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% |
| **NHP** | 130 | 0 | 0.0% | 0 | 0.0% | 11 | 101.5% | 11 | 101.5% |
| **NH** | 0 | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% |
| **FCHP** | 0 | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% |
| **BMCHP** | 1 | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Months** | **N** | **%** | **N** | **%** | **N** | **%** | **N** | **%** |
| **PCCP** | 0 | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% |
| **NHP** | 174 | 1 | 6.9% | 1 | 6.9% | 23 | 158.6% | 23 | 158.6% |
| **NH** | 4 | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% |
| **FCHP** | 4 | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% |
| **BMCHP** | 1 | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% |

\* The MassHealth managed care program serves members under the age of 65. MassHealth members 65 years and older were included in the eligible populations for the HEDIS 2008 measures whenever the specifications for the measure included the 65 and older population, the members’ coverage had not yet been terminated, and the members met all eligible population criteria such as the continuous enrollment and enrollment anchor date requirements.

**Mental Health Utilization—Percentage of Members Using Services**

### All Age Groups - Totals By Gender

Male Female

**Member Inpatient Intermediate Ambulatory Any Service**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Months** | **N** | **%** | **N** | **%** | **N** | **%** | **N** | **%** |
| **PCCP** | 1,809,551 | 3,654 | 2.4% | 5,896 | 3.9% | 47,306 | 31.4% | 47,903 | 31.8% |
| **NHP** | 939,197 | 690 | 0.9% | 965 | 1.2% | 14,038 | 17.9% | 14,184 | 18.1% |
| **NH** | 729,232 | 577 | 1.0% | 235 | 0.4% | 11,185 | 18.4% | 11,248 | 18.5% |
| **FCHP** | 82,963 | 65 | 0.9% | 24 | 0.4% | 1,304 | 18.9% | 1,313 | 19.0% |
| **BMCHP** | 1,246,925 | 1,238 | 1.2% | 563 | 0.5% | 23,091 | 22.2% | 23,169 | 22.3% |

**Member Inpatient Intermediate Ambulatory Any Service**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Months** | **N** | **%** | **N** | **%** | **N** | **%** | **N** | **%** |
| **PCCP** | 1,757,731 | 4,494 | 3.1% | 6,667 | 4.6% | 41,845 | 28.6% | 42,602 | 29.1% |
| **NHP** | 649,179 | 481 | 0.9% | 817 | 1.5% | 7,914 | 14.6% | 8,107 | 15.0% |
| **NH** | 536,545 | 429 | 1.0% | 113 | 0.3% | 7,398 | 16.6% | 7,461 | 16.7% |
| **FCHP** | 59,448 | 33 | 0.7% | 6 | 0.1% | 797 | 16.1% | 798 | 16.1% |
| **BMCHP** | 888,505 | 806 | 1.1% | 321 | 0.4% | 15,157 | 20.5% | 15,206 | 20.5% |

# Total Male/Female: Ages 0-12 Total Male/Female: Ages 13-17

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Member** | **Inpatient** | | **Intermediate** | | **Ambulatory** | | **Any Service** | |  | **Member** | **Inpatient** | | **Intermediate** | | **Ambulatory** | | **Any Service** | |
| **Months** | **N %** | | **N %** | | **N %** | | **N %** | |  | **Months** | **N %** | | **N %** | | **N %** | | **N %** | |
| **PCCP** | 886,504 | 581 0.8% | | 1,905 2.6% | | 13,123 17.8% | | 13,206 17.9% | | **PCCP** | 373,623 | 833 2.7% | | 1,803 5.8% | | 9,078 29.2% | | 9,219 29.6% | |
| **NHP** | 743,053 | 122 | 0.2% | 492 | 0.8% | 5,424 | 8.8% | 5,533 | 8.9% | **NHP** | 228,447 | 207 | 1.1% | 541 | 2.8% | 3,640 | 19.1% | 3,784 | 19.9% |
| **NH** | 624,404 | 116 | 0.2% | 11 | 0.0% | 6,339 | 12.2% | 6,343 | 12.2% | **NH** | 161,545 | 165 | 1.2% | 47 | 0.4% | 2,584 | 19.2% | 2,595 | 19.3% |
| **FCHP** | 59,279 | 3 | 0.1% | 0 | 0.0% | 536 | 10.9% | 537 | 10.9% | **FCHP** | 19,139 | 8 | 0.5% | 1 | 0.1% | 307 | 19.3% | 307 | 19.3% |
| **BMCHP** | 1,027,521 | 221 | 0.3% | 126 | 0.2% | 12,467 | 14.6% | 12,475 | 14.6% | **BMCHP** | 286,567 | 344 | 1.4% | 126 | 0.5% | 5,674 | 23.8% | 5,687 | 23.8% |

**Mental Health Utilization—Percentage of Members Using Services**

### All Age Groups - Totals By Gender

Total Male/Female: Ages 18-64 Total Male/Female: Ages 65+

**Member Inpatient Intermediate Ambulatory Any Service Member Inpatient Intermediate Ambulatory Any Service**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Months** | **N** | **%** | **N** | **%** | **N** | **%** | **N** | **%** |  | **Months** | **N** | **%** | **N** | **%** | **N** | **%** | **N** | **%** |
| **PCCP** | 2,307,155 | 6,734 | 3.5% | 8,855 | 4.6% | 66,950 | 34.8% | 68,080 | 35.4% | **PCCP** | 0 | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% |
| **NHP** | 616,572 | 841 | 1.6% | 748 | 1.5% | 12,854 | 25.0% | 12,940 | 25.2% | **NHP** | 304 | 1 | 4.0% | 1 | 4.0% | 34 | 134.2% | 34 | 134.2% |
| **NH** | 479,824 | 725 | 1.8% | 290 | 0.7% | 9,660 | 24.2% | 9,771 | 24.4% | **NH** | 4 | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% |
| **FCHP** | 63,989 | 87 | 1.6% | 29 | 0.5% | 1,258 | 23.6% | 1,267 | 23.8% | **FCHP** | 4 | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% |
| **BMCHP** | 821,340 | 1,479 | 2.2% | 632 | 0.9% | 20,107 | 29.4% | 20,213 | 29.5% | **BMCHP** | 2 | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% |

\* The MassHealth managed care program serves members under the age of 65. MassHealth members 65 years and older were included in the eligible populations for the HEDIS 2008 measures whenever the specifications for the measure included the 65 and older population, the members’ coverage had not yet been terminated, and the members met all eligible population criteria such as the continuous enrollment and enrollment anchor date requirements.

**References**

1. Centers for Disease Control and Prevention. (2010). Recommended immunization schedules for persons aged 0--18 years---United States, 2010. *MMWR*, 58(51&52):1-4.
2. Fairbrother G, Freed GL, Thompson JW. (2000). Measuring Immunization Coverage. *Am J Prev Med*, 19(3S):78-88.
3. Glauber JH. (2003). The Immunization Delivery Effectiveness Assessment Score: A Better Immu- nization Measure? *Pediatrics*, 112(1):e39-e45.
4. Fairbrother G, et. al. (2000).
5. Ibid.
6. Maes EF, Rodewald L, Coronado VG, Battaglia MP. Applying HEDIS Pediatric Immunization Cri- teria to Population-Based Survey Data. Abstract

217. Presented at the Pediatric Academy Socie- ties Meeting, New Orleans, LA. May 1998.

1. Wooten KG, Kolasa M, Singleton JA, Shefer A. (2010). National, State, and Local Area Vaccina- tion Coverage Among Children Aged 19-35 Months—United States, 2009. *MMWR,* 59 (36):1171-1177.
2. Levine RS, Briggs NC, Husaini BA, Foster I, et al. (2005). HEDIS Prevention Performance Indica- tors, Prevention Quality Assessment and Healthy People 2010. *J Health Care Poor Underserved*, 16:64-82.
3. Neumann PJ and Levine B. (2002). Do HEDIS Measures Reflect Cost-Effective Practices? *Am J Prev Med*, 23(4):276-289.
4. Committee on Practice and Ambulatory Medicine and Bright Futures Steering Committee (2007). Recommendations for Preventive Pediatric Health Care. *Pediatrics,* 120(6):1376.
5. Hakim RB and Bye BV. (2001). Effectiveness of Compliance with Pediatric Preventive Care Guide- lines Among Medicaid Beneficiaries. *Pediat- rics*,108(1):90-97.
6. National Committee on Quality Assurance. (2005). *HEDIS 2006 Narrative: What’s In It and Why It Matters*. Washington, DC: National Com- mittee on Quality Assurance.
7. Byrd RS, Hoekelman RA and Auinger P. (1999). Adherence to AAP Guidelines for Well-Child Care Under Managed Care. *Pediatrics*, 104(3):536-540.
8. Irwin CE, Adams SH, Park J, and Newacheck PW. (2009). Preventive care for adolescents: Few get visits and fewer get services. *Pediatrics,* 123 (4):e565-572.
9. Chung PJ, Lee TC, Morrison JL and Schuster MA. (2006). Preventive Care for Children in the United States: Quality and Barriers. *Ann Rev Public Health,* 27:491-515.
10. Yu SM, Bellamy HA, Kogan MD, Dunbar JL, Schwalber RH and Schuster MA. (2002). Factors that Influence Receipt of Recommended Preven- tive Pediatric Health and Dental Care. *Pediat- rics*,110:e73.
11. Schneider KM, Wiblin RT, Downs KS, and O’Don- nell BE. (2001). Methods for Evaluating the Provi- sion of Well Child Care. *Jt Comm J Qual Im- prov*,27:673-682.
12. U.S. Preventive Services Task Force. (2007). Screening for chlamydial infection: U.S. Preven- tive Services Task Force recommendation state- ment. *Ann Intern Med,* 147(2):128-34.
13. Meyers DS, Halvorson H, Luckhaupt S. (2007). Screening for chlamydial infection: an evidence update for the U.S Preventive Services Task Force. *Ann Intern Med,* 147:135-42.
14. Mangione-Smith R, McGlynn EA, and Hiatt L. (2000). Screening for Chlamydia in Adolescents and Young Women. *Arch Pediatr Adolesc Med,* 154:1108-1113.
15. Ahmed K, Scholle S, Baasiri H, Hoover KW, Kent CK, Romaguera R, and Tao G. (2009). Chlamydia Screening Among Sexually Active Young Female Enrollees of Health Plans—United States, 2000- 2007. *MMWR,* 58(14):362-365.
16. National Heart, Lung, and Blood Institute National Asthma Education and Prevention Program (2007). *Expert Panel Report 3: Guidelines for the Diagnosis and Management of Asthma*. NIH Pub- lication Number 08-5846.
17. Haahtela T, Jarvinen M, Kava T, Kiviranta K, Koskinen S, Lehtonen K, Nikander K, Persson T,Reinikainen K, Selroos O, et al. (1991). Com- parison of a Beta-2-agonist, Terbutaline, with an Inhaled Corticosteroid, Budesonide, in Newly De- tected Asthma. *New Engl J Med*, 325(6):388–92.
18. Laitinen LA, Laitinen A, Haahtela T (1992). A Comparative Study of the Effects of an Inhaled Corticosteroid, Budesonide, and a Beta 2-agonist, Terbutaline, on Airway Inflammation in Newly Diagnosed Asthma: A Randomized, Double-blind, Parallel-group Controlled Trial*. J Allergy Clin Im- munol,* 90(1):32-42.
19. Van Essen-Zandvliet EE, Hughes MD, Waalkens HJ, Duiverman EJ, Pocock SJ, Kerrebijn KF (1992). Effects of 22 Months of Treatment with Inhaled Corticosteroids and/or Beta-2-agonists on Lung function, Airway Responsiveness, and Symptoms in Children with Asthma. The Dutch Chronic Non-specific Lung Disease Study Group. *Am Rev Respir Dis,* 146(3):547-54.
20. Pauwels RA, Pedersen S, Busse WW, Tan WC, Chen YZ, Ohlsson SV, Ullman A, Lamm CJ, O'Byrne PM (2003). Early Intervention with Budesonide in Mild Persistent Asthma: A Ran- domised, Double-Blind Trial. *Lancet*, 361 (9363):1071–6.
21. Rodrigo GJ, Rodrigo C, Hall JB (2004). Acute Asthma in Adults: A Review. *Chest*, 125(3):1081- 102.
22. Stoloff S. (2008). Asthma management and pre- vention: Current perspectives. *Clinical Corner- stone,* 8(4):26-43.
23. Laumann JM and Bjornson DC. (1998). Treatment of Medicaid Patients with Asthma: Comparison with Treatment Guidelines Using Disease-Based Drug Utilization Review Methodology. *Ann Phar- macother,* 32:1290-1294.
24. Piecoro LT, Potoski M, Talbert JC and Doherty DE. (2001). Asthma Prevalence, Cost, and Adher- ence with Expert Guidelines on the Utilization of Health Care Services and Costs in a State Medi- caid Population. *Health Serv Res*, 36(2):357-371.
25. Wilson SE, Leonard A, Moomaw C, Schneeweiss S and Eckman MH. (2005). Underuse of Control- ler Medications Among Children with Persistent Asthma in the Ohio Medicaid Population: Evolving Differences with New Medications. *Ambul Pediatr*, 5(2):83-39.
26. Finkelstein JA, Barton MB, Donahue JG, Algatt- Bergstrom P, et al. (2000). Comparing Asthma Care for Medicaid and Non-Medicaid Children in a

**References**

Health Maintenance Organization. *Arch Pediatr Adolesc Med,* 154(6):563-568.

1. U.S. Department of Health and Human Services. Office of Disease Prevention and Health Promo- tion. (n.d.). *Healthy People 2010*. http:// [www.health.gov/healthypeople/](http://www.health.gov/healthypeople/) (accessed 10/14/2010).
2. Fuhlbrigge A, Carey VJ, Adams RJ, Finkelstein KA, et al. (2004). Evaluation of Asthma Prescrip- tion Measures and Health System Performance Based on Emergency Department Utilization. *Med Care*, 42(5):465-471.
3. Melartin TK, Rytsala HJ, Leskela US, Lestela- Mielonen PS, Sokero TP, Isometsa ET. (2005). Continuity is the Main Challenge in Treating Ma- jor Depressive Disorder in Psychiatric Care. *J Clin Psychiatry,* 66(2):220-227.
4. Ibid.
5. Robinson RL, Long SR, Chang S, et al. (2006). Higher Costs and Therapeutic Factors Associ- ated with Adherence to NCQA HEDIS Antide- pressant Medication Management Measures: Analysis of Administrative Claims. *J Manag Care Pharm,* 12(1):43-54.
6. Akincigil A, Bowblis JR, Levin C, Walkup JT, Jan S, Crystal S. (2007). Adherence to Antidepres- sant Treatment Among Privately Insured Patients Diagnosed with Depression. *Med Care,* 45 (4):363-369.
7. Olfson M, Marcus SC, Tedeschi M, Wan GJ. (2006). Continuity of Antidepressant Treatment for Adults with Depression in the United States. *Am J Psychiatry*, 163(1):101-108.
8. Akincigil A, et. al. (2007).
9. Burra TA, Chen E, McIntyre RS, Grace SL, Blackmore ER, Stewart DE. (2007). Predictors of Self-reported Antidepressant Adherence*. Behav Med*, 32(4):127-34.
10. Demyttenaere K, Adelin A, Patrick M, Walthère D, Katrien de B, Michèle S. (2008). Six-month Compliance with Antidepressant Medication in the Treatment of Major Depressive Disorder. *Int Clin Psychopharmacol*, 23(1):36-42.
11. Akincigil A, et. al. (2007).
12. Olfson M, et. al. (2006).
13. Demyttanaere K, et. al. (2008).
14. Goethe JW, Woolley SB, Cardoni AA, Woznicki BA, Piez DA. (2007). Selective Serotonin Reup- take Inhibitor Discontinuation: Side Effects and Other Factors that Influence Medication Adher- ence. *J Clin Psychopharmacol*, 27(5):451-8.
15. Burra TA, et. al. (2007).
16. Robinson RL, et. al. (2006).
17. Bambauer KZ, Soumerai SB, Adams AS, Zhang F, Ross-Degnan D. (2007). Provider and Patient Characteristics Associated with Antidepressant Nonadherence: the Impact of Provider Specialty. *J Clin Psychiatry*, 68(6):867-873.
18. Mojtabai R, Olfson M. (2008) National Patterns in Antidepressant Treatment by Psychiatrists and General Medical Providers: Results from the Na- tional Comorbidity Survey Replication. *J Clin Psy- chiatry*, 69(7):1064-74.
19. Olfson M, et. al. (2006).
20. Robinson RL, et. al. (2006).
21. Mojtabai R and Olfson M. (2008).
22. Fortney JC, Pyne JM, Edlund MJ, et al. (2007). A Randomized Trial of Telemedicine-based Col- laborative Care for Depression. *J Gen Intern Med,* 22(8):1086-1093.
23. Brown C, Battista DR, Sereika SM, Bruehlman RD, Dunbar-Jacob J, Thase ME. (2007). How Can You Improve Antidepressant Adherence? *J Fam Pract,* 56(5):356-363.
24. Nelson EA, Maruish ME, Axler JL. (2000). Effects of Discharge Planning and Compliance with Out- patient appointments on readmission rates. *Psy- chiatr Serv*, 51(7):885-889.
25. Stein BD, Kogan JN, Sorbero MJ, Thompson W, Hutchinson AL (2007). Predictors of Timely Fol- low-Up Care Among Medicaid-Enrolled Adults After Psychiatric Hospitalization. *Psychiatric Ser- vices*, 58(12):1563-1569.
26. Kruse GR, Rohland BM. (2002). Factors Associ- ated with Attendance at a First Appointment after Discharge from a Psychiatric Hospital. *Psychiatric Services,* 53(4):473-476.
27. Compton MT, Rudisch BE, Craw J, Thompson T, Owens DA. (2006). Predictors of Missed First Appointments at Community Mental Health Cen-

ters after Psychiatric Hospitalization. *Psychiatr Serv*, 57(4):531-537.

1. Stein BD, et al. (2007).
2. Ibid.
3. Ibid.
4. Compton MT, et. al. (2006).
5. Orlosky MJ, Caiati D, Hadad J, Arnold G, Camarro J. (2007). Improvement of Psychiatric Ambulatory Follow-Up Care by Use of Care Coor- dinators, *Am J Med Qual*, 22(2):95-7.
6. Compton MT, et. al. (2006).
7. Mangione-Smith R, Elliott MN, Stivers T, McDon- ald LL, Heritage J. (2006). Ruling out the need for antibiotics: are we sending the right message? *Arch Pediatr Adolesc Med,* 160(9):945-52.
8. Mangione-Smith R, McGlynn EA, Elliott MN, Krogstad P, Brook RH. (1999). The relationship between perceived parental expectations and pediatrician antimicrobial prescribing behavior. *Pediatrics,* 103(4 Pt 1):711-718.
9. Nyquist AC, Gonzales R, Steiner JF, Sande MA. (1998.) Antibiotic prescribing for children with colds, upper respiratory tract infections, and bron- chitis. *JAMA,* 279(11):875-877.
10. Mainous AG, 3rd, Hueston WJ, Love MM. Antibi- otics for colds in children: who are the high pre- scribers? (1998). *Arch Pediatr Adolesc Med,* 152 (4):349-352.
11. Harris RH, MacKenzie TD, Leeman-Castillo B, et al. (2003). Optimizing antibiotic prescribing for acute respiratory tract infections in an urban ur- gent care clinic. *J Gen Intern Med,* 18(5):326- 334.
12. Druss BG, Miller CL, Pincus HA and Shih S. (2004). The Volume-Quality Relationship of Men- tal Health Care: Does Practice Make Perfect? *Am J Psychiatry*, 161(12):2282-2286.
13. Substance Abuse and Mental Health Services Administration. (2009). *Results from the 2008 National Survey on Drug Use and Health: Na- tional Findings* (Office of Applied Studies, NSDUH Series H-36, HHS Publication No. SMA 09-4434). Rockville, MD.