

Data Brief April 2004

Marion Becker, Ph.D.
Ren Chen, M.S.



THE LOUIS DE LA PARTE FLORIDA MENTAL HEALTH INSTITUTE

Medicaid Service Use and Costs of Care for Children with Mental Health Disorders

Background

Medicaid has contributed enormously to expanding access to mental health care for the nation's low-income children. Although not specifically designed to serve children, nationally more than half of all Medicaid beneficiaries are children and more than one-fifth of all children in the United States are covered by Medicaid (Kaiser Commission on Medicaid and the Uninsured 1999). This report examines both physical and mental health service use and costs of care in FY02-03 for Florida's Medicaid enrolled children (ages 0-18) with a diagnosed mental disorder.

Method

Diagnosis codes on claims were used to identify Medicaid enrolled children with mental illnesses. Using ICD-9-CM codes between 290-316, a file was compiled that included all Medicaid enrolled children to whom mental health diagnoses were applied on at least one inpatient or outpatient claim record. The most common diagnoses assigned were for non-psychotic conditions (e.g., attention deficit hyperactivity disorder, conduct disorder). The diagnostic algorithm, definitions and percentage of children with a primary diagnosis in each diagnostic category are shown in Table 1. Once the file of children with mental health diagnoses was compiled, all fee-for-service claims (excluding pharmacy) were examined and the mean per user per eligible month (PUPM) and mean per eligible per month (PEPM) cost for Medicaid funded services provided in FY02-03 were determined. Children in AHCA areas 1 and 6 were excluded because most children in these areas are enrolled in managed behavioral healthcare. Additionally, it is important to note that for the remainder of the state, our data will likely understate the number of children with mental illnesses and the amount of resources used to serve them because they may be enrolled in managed care plans (HMOs). HMO capitated premiums include physician and hospital services for mental illnesses, thus, there are no claims recorded for those services.



Policy and Services
Research Data Center
Mental Health Law & Policy
Louis de la Parte
Florida Mental Health Institute
University of South Florida
13301 Bruce B. Downs Blvd.
Tampa, Florida 33612



Table 1.
Diagnosis Definitions

| | |
|---|---|
| Major Psychotic Disorder 1,496 Children (1.34%) | Anyone with an ICD-9 diagnosis code beginning with 295 (schizophrenia), 297.1 (delusional disorder), 297.3 (paranoid disorder), 298.8 (brief psychotic disorder), or 298.9 (psychotic disorder NOS) |
| Bipolar Disorder 2,780 Children (2.49%) | Anyone without a major psychotic disorder and with an ICD-9 diagnosis code beginning with 296.0, 296.4, 296.5, 296.6, 296.7, or 296.8 |
| ADHD/Disruptive Behavior Disorder 48,922 Children (43.82%) | Anyone without a major psychotic disorder or bipolar disorder and with an ICD-9 diagnosis code beginning with 312.8, 312.9, 313.8, or 314 |
| Major Affective Disorder 2,738 Children (2.45%) | Anyone without a major psychotic disorder, bipolar disorder or ADHD/Disruptive Disorder and with an ICD-9 diagnosis code beginning with 296.2, 296.3, 296.89, 296.9 |
| Other Non-psychotic Disorders 55,707 Children (49.90%) | Any child without any of the above disorders and with an ICD-9 diagnosis code between 290 and 316 |

In addition to determining the expenditures for each type of service, this study examined total annual costs as well as the annual penetration rate for each type of mental health service used. The annual penetration rate for this study was calculated by dividing the number of children in the sample with any service contact in the year by the total number of Medicaid enrolled children with a mental health diagnosis in FY02-03.

Results

The total annual fee-for-service expenditures for Medicaid funded health services for children with a mental health diagnosis in this sample (excluding AHCA areas 1 and 6 and pharmacy costs) was \$416,668,654. The data show that in FY02-03 in Florida there were a total of 1,305,250 Medicaid enrolled children under 18 years of age. A little more than half of the Medicaid enrolled children 667,193 (51%) were male and 638,057 (49%) were female. In this study 71,521 (10.7%), of all Medicaid enrolled male children and 41,166 (6.4 %) of the Medicaid enrolled female children received a mental health diagnosis and used at least one Medicaid funded service. The data show that mental health services were used by more children in this sample and were more costly than physical health services. Nearly all (99%) of children with a diagnosed mental illness used mental health services. The annual fee-for-service costs for this sample's mental health services in FY02-03 were \$253,400,363. In comparison, 89,046 (79%) of children with a diagnosed mental illness used at least one physical health service at an annual cost of \$163,268,292 (Table 2)

Table 2.
Medicaid Costs for Children with a Mental Illness Diagnosis by Service Category

| Health Services | Total # Users | Mean PUPM Cost | Mean PEPM Cost | Total Annual Cost |
|-----------------|---------------|----------------|----------------|-------------------|
| Mental | 111,643 | 218.86 | 21.71 | 253,400,363 |
| Physical | 89,046 | 173.82 | 13.99 | 163,268,292 |

For the study population the combined PUPM cost of mental and physical health services (excluding pharmacy service) was \$358.35 PUPM. Table 3 displays the number of mental health service users, along with the mean per user per month (PUPM) cost, mean per eligible per month (PEPM) cost, total cost in dollars and annual penetration rate for specific services. Outpatient services were the most frequently used service and had the highest total cost. Outpatient services were utilized by 94,434 children at a total annual cost in FY02-03 of \$69,505,934.

Table 3.
Distribution of Mental Health Costs

| Service Type | # Users | Mean PUPM Cost | Mean PEPM Cost | Total Annual Cost | Rate (%) |
|--------------|---------|----------------|----------------|-------------------|----------|
| MH-Inpt | 3,452 | 1,529 | 4.71 | 54,966,490 | 3.06 |
| Day Rx | 1,790 | 230 | 0.39 | 4,597,721 | 1.56 |
| TFC | 709 | 1,689 | 1.18 | 13,789,783 | 0.63 |
| CBC | 25,955 | 168 | 4.10 | 47,837,306 | 23.03 |
| SBC | 7,923 | 11 | 0.08 | 969,724 | 7.03 |
| TCM | 16,547 | 161 | 2.53 | 29,570,857 | 14.68 |
| MH-Otpt | 94,434 | 70 | 5.96 | 69,505,934 | 83.80 |
| Other | 48,930 | 63 | 2.76 | 32,162,547 | 43.42 |

TFC – Therapeutic Foster Care SBC – School Based Care
 CBC – Community Based Care TCM – Targeted Case Mgt.
 Service types are based on procedure codes

Overall, more male than female children in the study sample used Medicaid funded mental and physical health services. Male service users (in comparison to females) also received a greater amount of each type of service. For example, 59,717 male children compared to 34,717 female children used outpatient services. The mean PEPM cost of outpatient services for female children was \$4.43, well below the average PEPM cost of \$7.41 for male children (Table 4).

Table 4.
Comparison of Costs for Outpatient MH

| Outpatient MH Service | N | Mean PUPM Cost | Mean PEPM Cost | Total Annual Cost |
|-----------------------|---------------|----------------|----------------|-------------------|
| Male | 59,717 | 70.49 | 7.41 | 44,254,166 |
| Female | 34,717 | 69.08 | 4.43 | 25,251,768 |
| Total | 94,434 | 69.97 | 5.96 | 69,505,934 |

A comparatively low number (709) of children with a mental health diagnosis used specialized therapeutic foster care (TFC). While only a small number of children used specialized TFC services, total PUPM cost for this service was \$1,689 making specialized therapeutic foster care more costly PUPM than inpatient care which cost \$1,529 PUPM for the study population (Tables 3 and 5).

Table 5.
Comparison of Cost for Therapeutic Foster Care

| Therapeutic Foster Care | N | Mean PUPM Cost | Mean PEPM Cost | Total Annual Cost |
|-------------------------|------------|----------------|----------------|-------------------|
| Male | 422 | 1,710 | 1.39 | 8,302,392 |
| Female | 287 | 1,658 | .96 | 5,487,391 |
| Total | 709 | 1,689 | 1.18 | 13,789,783 |

Overall, next to day treatment services, school based mental health services were the least costly Medicaid-funded service provided to the study population. Total annual cost for this service in FY02-03 was \$969,724. In keeping with the pattern seen in the provision of other services, more than twice as many male children as female children used these services (Table 6).

Table 6.
Comparison of Costs for School Based Services

| School Based Service | N | Mean PUPM Cost | Mean PEPM Cost | Total Annual Cost |
|----------------------|--------------|----------------|----------------|-------------------|
| Male | 5,649 | 11.90 | 0.12 | 722,338 |
| Female | 2,274 | 10.09 | 0.04 | 247,386 |
| Total | 7,923 | 11.38 | 0.08 | 969,724 |

Almost four fifths (89,046 or 79%) of children including (55,556 or 78% of the male children and (33,490 or 81%) of female children used physical health services. Unlike other types of service, the PUPM expenditures for physical health were higher for the female children. However, because there were more male users of physical health service over half (60%) of the total annual Medicaid expenditures for physical health services provided to children in the study sample was for services provided to male children Table 7.

Table 7.
Comparison of Cost for Physical Health Services

| Physical Health Service | N | Mean PUPM Cost | Mean PEPM Cost | Total Annual Cost |
|-------------------------|---------------|----------------|----------------|--------------------|
| Male | 55,556 | 165.75 | 16.29 | 97,266,348 |
| Female | 33,490 | 187.26 | 11.58 | 66,001,944 |
| Total | 89,046 | 173.82 | 13.99 | 163,268,292 |

Discussion

These data summarize the treated prevalence of specific mental disorders and cost of care during FY02-03 for Medicaid enrolled children under age 18 that have been diagnosed with a mental health disorder. These data only report fee-for-service expenditures and underestimate both mental health and physical health, inpatient or physician expenditures for children enrolled in HMOs because we do not have access to those data. Results showed that children with a diagnosed mental disorder represented about 8.6% of the total Medicaid enrolled population under the age of 18. Total annual cost of physical and mental health services for the study population is significant at \$416,668,654 and the costs are increasing. For the same population, FY02-03 total costs for physical health services were 12.1% higher than in FY01-02. Total mental health service costs were 14.8% higher.

As expected, (with the exception of specialized TFC and inpatient services) costs were generally associated with the number of service users. In Florida, the most costly per-user per-year (PUPY) service for children with a mental disorder was specialized TFC at \$19,450 PUPY followed by inpatient care that cost \$15,923 PUPY. Inpatient care estimates, however, understate overall costs for those services since HMO enrolled children's inpatient services are not included in these estimates. Although specialized TFC was used by less than one percent (0.63%) of the study population, this service accounted for 5.4% of total mental health costs. Given the high cost of specialized TFC relative to other mental health services, TFC (a relatively unstudied service) warrants further examination to determine its benefits for the children served. Future research will examine and compare the statewide Medicaid-funded mental health service use and expenditure pattern, (including pharmacy costs) for separate age cohorts of children.