

OUTPATIENT TREATMENT FOR CHILDREN SERVED IN WASHINGTON'S PUBLIC MENTAL HEALTH SYSTEM: USAGE PATTERNS AND OUTCOMES

According to national estimates, at any given time, between 14 and 20 percent of children and adolescents have a diagnosable mental, emotional, or behavioral disorder.¹ The prevalence of childhood mental health issues raises concerns not only because these disorders can interfere with a young person's social and academic development, but because of the significant lifetime economic costs associated with these conditions. According to a recent report from the National Research Council, "the annual quantifiable cost of such disorders among young people was estimated in 2007 to be \$247 billion."² Many of these costs result from the increased strain that untreated mental illness places on the child welfare, juvenile justice, and primary medical systems.

In 2001, the Washington State Legislature directed the Washington State Institute for Public Policy (Institute) to "conduct a longitudinal study of long-term client outcomes to assess any changes in client status The measures tracked shall include client change as a result of services, employment and/or education, housing stability, criminal justice involvement, and level of services needed."³

Previous Institute reports on this topic examined the relationship between service utilization and long-term outcomes among adult public mental health consumers. This report includes the first analysis on service patterns and outcomes for child consumers.

¹ U.S. Department of Health and Human Services (1999). *Mental health: A report of the surgeon general*. Rockville, MD: Substance Abuse and Mental Health Services Administration, Center for Mental Health Services, National Institutes of Health, National Institute of Mental Health.

² National Research Council and Institute of Medicine. (2009). *Preventing mental, emotional, and behavioral disorders among young people: Progress and possibilities*. Washington, DC: The National Academies Press.

³ ESSB 5583, Section 5, Chapter 334, Laws of 2001

Summary

The 2001 Washington State Legislature directed the Washington State Institute for Public Policy to "conduct a longitudinal study of long-term [mental health] client outcomes to assess any changes in client status at two, five and ten years."

Previous reports in this research series focused on outcomes for adults receiving public mental health services. This report focuses on children who received outpatient treatment in the state's public mental health system. The analysis follows 30,055 youth who received individual or family therapy in 2004. We looked at the most significant episode of treatment during the youth's entire treatment history and found:

- 17 percent had "one-time" episodes lasting fewer than 30 days
- 48 percent had short-term episodes lasting fewer than six months
- 10 percent had an episode of intermediate duration (six to 12 months)
- 25 percent had a long-term episode lasting longer than 12 months

In terms of outcomes, we found that among youth in public mental health care in Washington:

- 8 percent were in a foster placement following treatment (compared with 1.3 percent of the state population)
- 10 percent had a criminal conviction in the year following treatment (compared with 2.2 percent of the general population)
- Less than half (47 percent) of 18-year-olds had any paid employment (compared with 88 percent of all 18-year-olds)

Youth Treatment Characteristics

To analyze outcomes of children receiving mental health services, we identified a group of **30,055** youth between the ages of 5 and 17 who received outpatient therapy in Washington State during 2004.⁴ We then categorized the service utilization patterns for these youth using the following steps:

1. Determined how many **mental health treatment episodes** the youth had over the course of four years. A treatment episode was defined as ongoing individual or family therapy sessions. When more than 90 days elapsed without treatment, we considered the episode closed, or ended.
2. Based on a youth's treatment history, we selected the **most significant treatment episode** during the time he/she received public mental health services. For each youth, this single episode was defined according to:
 - a) **Duration:** episodes with a longer time span were selected over short episodes.
 - b) **Consistency:** episodes where the youth received regular (three times per month) therapy sessions were selected before episodes with more sporadic treatment.
3. Given these criteria, we identified the most significant treatment episode for each of the 30,055 youth in the study cohort and looked at outcomes after the treatment episode concluded.

Exhibit 1 shows the definitions for each treatment group and the percentage of youth in each category. While there are no commonly accepted standards to describe utilization patterns for children receiving mental health treatment, creating service categories offers practical advantages for policy analysis. First, by examining service activity, we can look at treatment variations among consumers with different clinical characteristics (such as diagnosis, functioning, and age).

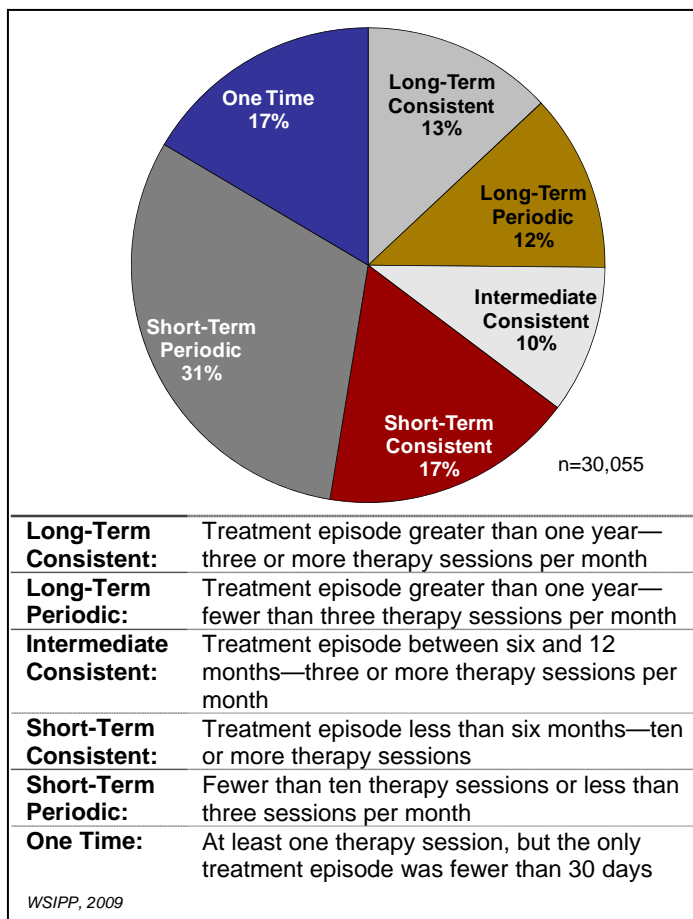
Second, categorizing service episodes permits us to assess how the level of treatment relates to consumer outcomes and other characteristics (such

as diagnosis and functioning level). For each service group, we analyze the following outcomes:

1. Housing Outcomes (living in family home, foster home, or institution)
2. Emergency Room Visits (Medicaid-related fee-for-service claims)
3. Crime (criminal convictions)
4. Employment (employment level, wages)

Exhibit 1

Most Significant Treatment Episode for Study Sample



This approach *does not* evaluate the effectiveness of mental health services; existing data do not allow us to compare outcomes to those of similar individuals who did not receive mental health treatment. In addition, this analysis omits many factors that may be related to treatment quality (such as treatment setting, therapist experience, and approach). This analysis *does* provide a profile of children receiving public mental health care and explores the extent of services received and how these periods of treatment relate to consumer outcomes.

⁴ Approximately 900 youth received inpatient psychiatric treatment through the public mental health system in 2004. Outcomes for these youth will be covered in a separate report.

Youth Consumers—Treatment Episodes

While youth in this study are categorized according to treatment length, there are also important differences in the average number of sessions the youth participated in during treatment. It is worth noting that nearly half (48 percent) of the youth examined for this study were considered short-term consumers with an average episode of four to five months (Exhibit 2). Short-term consistent youth had about twice as many treatment sessions and hours of treatment as short-term periodic youth (14 versus seven hours of therapy during the treatment episode).

Intermediate consistent consumers received treatment for six to 12 months, by definition, and had an average of 38 treatment sessions. This level of treatment is almost the same for the long-term periodic youth, who had treatment episodes averaging 21 months, with an average of 39 treatment sessions.

Youth in the cohort with a long-term episode received treatment for an average of 21 to 23 months. Within this group, however, those with consistent treatment had the highest average number of outpatient therapy sessions (99), approximately three to ten times as many sessions as any other outpatient group.

The following sections explore other characteristics of these youth and how outcomes vary among youth with these treatment patterns.

Youth Consumers—Demographics, Geography, and Clinical Profile

Youth in this study were more likely to be male (56 percent) and younger than age 13 (56 percent). Nearly half (45 percent) of the study sample received services in one of Washington’s three largest counties (King, Pierce, or Spokane). Exhibit 3 shows how these demographic characteristics vary by service utilization.

Youth with a long-term treatment episode (both consistent and periodic) were more likely to be male and more likely to be younger (age 5 to 12) at the start of the episode. Teenagers (age 13 to 17), however, were more likely to have a one-time episode (55 percent versus 45 percent).

In addition, youth in King County were in long-term episodes more frequently than youth in other Regional Support Networks (RSNs). While youth in the King County RSN represented 25 percent of the entire study cohort, they accounted for 43 percent of long-term consistent consumers. Youth in Pierce County were more likely to have a one-time treatment episode. While these youth represented 12 percent of the cohort, they comprised 19 percent of all one-time treatment episodes.

Exhibit 2
Frequency of Mental Health Treatment by Episode Type

	Number of Youth (percentage)	Average Length of Episode (in months)	Average Number of Treatment Sessions in Episode	Average Number of Treatment Hours in Episode
Long-Term Consistent	3,915 (13%)	23	99	93
Long-Term Periodic	3,643 (12%)	21	39	31
Intermediate Consistent	3,040 (10%)	9	38	33
Short-Term Consistent	5,206 (17%)	4	17	14
Short-Term Periodic	9,293 (31%)	5	9	7
One Time	4,958 (17%)	0.3	2	1

Exhibit 3
Demographic Characteristics of Study Sample

	Long-Term Consistent	Long-Term Periodic	Intermediate Consistent	Short-Term Consistent	Short-Term Periodic	One Time	Total
Female	39.9%	38.8%	44.7%	45.3%	45.3%	47.3%	44.1%
Male	60.1%	61.2%	55.3%	54.7%	54.7%	52.7%	55.9%
Age 5 to 12	67.4%	68.5%	53.8%	53.5%	55.0%	45.5%	56.3%
Age 13 to 17	32.6%	31.5%	46.2%	46.5%	45.0%	54.5%	43.7%
Chelan-Douglas	2.5%	0.4%	4.5%	3.9%	1.6%	1.6%	2.3%
Clark	7.9%	6.9%	7.0%	7.7%	7.7%	6.3%	7.3%
Grays Harbor	0.6%	2.3%	1.3%	2.1%	3.0%	2.0%	2.1%
Greater Columbia	6.2%	14.3%	7.8%	10.6%	17.0%	15.1%	12.9%
King	43.3%	32.4%	31.2%	19.9%	19.7%	13.2%	24.5%
North Central	2.5%	2.7%	3.1%	3.0%	3.9%	4.6%	3.5%
North Sound	7.1%	13.2%	7.8%	11.8%	17.8%	16.1%	13.5%
Peninsula	2.8%	3.0%	2.6%	3.2%	3.6%	6.8%	3.8%
Pierce	7.3%	4.6%	14.4%	19.3%	8.0%	18.9%	11.9%
Southwest	2.3%	2.9%	2.9%	2.6%	3.6%	3.0%	3.0%
Spokane	12.7%	8.8%	11.8%	10.0%	5.7%	5.4%	8.3%
Thurston-Mason	2.6%	6.5%	3.7%	3.5%	5.4%	4.4%	4.5%
Timberland	2.2%	2.0%	2.0%	2.3%	2.9%	2.7%	2.5%
Total	3,915	3,643	3,040	5,206	9,293	4,958	30,055

Exhibit 4
Clinical Characteristics of Study Sample

	Long-Term Consistent	Long-Term Periodic	Intermediate Consistent	Short-Term Consistent	Short-Term Periodic	One Time	Total
Diagnosis⁵							
Anxiety	28.3%	24.2%	23.2%	21.1%	19.8%	10.4%	20.5%
Mood	28.3%	27.5%	28.8%	28.9%	26.5%	18.9%	26.3%
ADD and ADHD	16.1%	19.7%	12.8%	12.0%	13.2%	5.8%	12.9%
Behavioral	19.9%	19.3%	25.5%	26.2%	24.7%	14.2%	22.0%
Other MH	7.4%	8.6%	9.1%	9.1%	10.7%	10.0%	9.5%
Missing	0.0%	0.6%	0.6%	2.7%	5.0%	40.6%	8.8%
Comorbidity							
Primary Diagnosis Only	57.5%	70.1%	70.8%	78.7%	82.0%	92.8%	77.5%
One Additional Diagnosis	29.0%	22.8%	22.4%	17.8%	15.1%	6.2%	17.6%
2-3 Additional Diagnoses	13.5%	7.2%	6.8%	3.5%	2.8%	0.0%	4.8%
CGAS							
Not Assessed	11.4%	9.9%	21.0%	25.8%	17.4%	39.7%	21.2%
1 to 40 Major	15.6%	6.9%	10.2%	7.4%	5.5%	4.7%	7.6%
41 to 50 Moderate	48.8%	45.5%	39.2%	33.0%	35.5%	24.8%	36.6%
51 to 60 Variable	20.4%	31.5%	23.1%	25.0%	30.8%	22.4%	26.4%
GT 60 Good	3.7%	6.2%	6.6%	8.7%	10.8%	8.5%	8.2%
Serious Emotional Disturbance	60.1%	51.9%	56.2%	51.6%	44.0%	26.3%	46.7%
Total	3,915	3,643	3,040	5,206	9,293	4,958	30,055

⁵ Diagnoses associated with each category are described in the Appendix.

Exhibit 4 includes additional detail about the diagnosis and functioning of youth in the study cohort. Overall, about half of the youth were diagnosed with a mood (26 percent) or anxiety (21 percent) disorder. The rates of youth with anxiety disorders were greater among groups with longer treatment episodes.

Exhibit 4 also includes information about the number of children who had comorbid conditions. These children have been given more than one (primary) diagnosis by their clinician. For the entire cohort, 18 percent of youth had one additional diagnosis and 5 percent had two or three additional diagnoses. Youth with longer treatment episodes were more likely to have multiple diagnoses. A longer and more consistent treatment episode may lead to more diagnoses. Or, youth with multiple mental health conditions may have had an increased need for services due to more complicated clinical presentations and greater functional impairment.

The Children’s Global Assessment Scale (CGAS) is a numerical rating scale used by clinicians to rate the general functioning of children under age 18.⁶ Medicaid-eligible youth must meet established Access to Care Standards to qualify for public mental health services.⁷ These standards include both a covered diagnosis and impaired functioning (indicated by a CGAS score lower than 60) to be considered eligible for services from Medicaid.

Not surprisingly, youth with longer-term treatment episodes had more severe impairment in functioning. Nearly half (49 percent) of youth with long-term consistent episodes had an assessment of moderate impairment, compared with 33 percent of youth with a short-term consistent treatment episode.

The Washington State Legislature established the definition of Serious Emotional Disturbance (SED) as those youth having an impairment level which is “clearly interfering with their functioning with family, school or with peers.”⁸ About half (47 percent) of the study cohort had a serious mental illness as indicated by this statutory definition. Six out of ten youth with a long-term consistent episode met this definition, while 44 percent of youth with a short-term consistent episode were seriously impaired.

⁶ D. Schaffer, M.S. Gould, J. Brasic, et al. (1983). A children’s global assessment scale (CGAS). *Archives of General Psychiatry*, 40, 1228–1231.

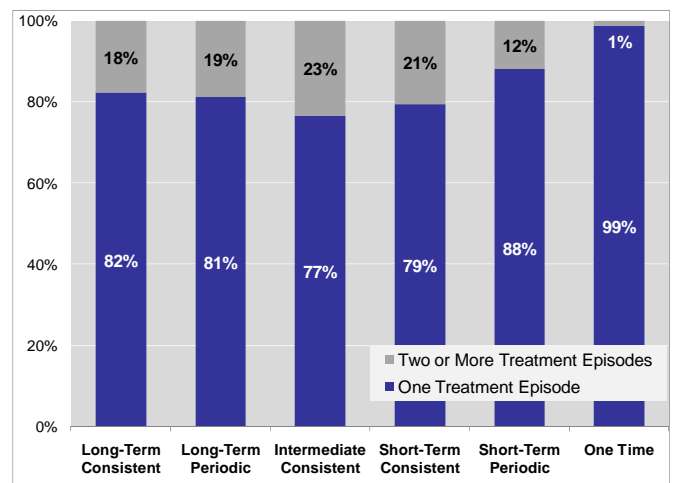
⁷ More information about these standards can be found at: www1.dshs.wa.gov/Mentalhealth/publications.shtml.

⁸ See RCW 71.24.025(28).

Subsequent Treatment Episodes

The descriptions included in this analysis have focused solely on the youth’s most significant treatment episode. Before discussing post-treatment outcomes, it is necessary to examine the number of subsequent episodes for youth in mental health treatment. Overall, about 85 percent of youth receiving outpatient therapy had only one treatment episode over a two-year period. Exhibit 5 shows the distribution of follow-up episodes by different service utilization types.

Exhibit 5
Total Treatment Episodes for Study Cohort (2004-2006)



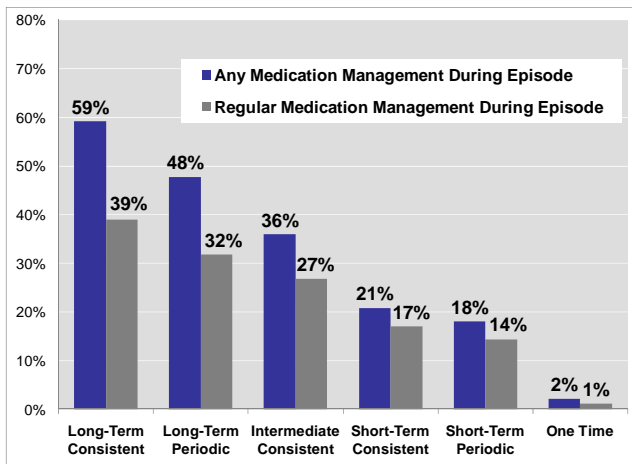
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Medication Management

Many youth who received psychotherapy may also have been prescribed psychotropic medications to help manage the symptoms associated with their disorder and better engage in treatment. Exhibit 6 shows the percentage of youth in each treatment category who had medication management services at least once during the episode and at regular intervals (at least once per month) during treatment.

As discussed previously, youth with shorter-term episodes may have had less severe symptoms and a higher level of functioning compared with youth in treatment for longer periods. Thus, it is not surprising that youth with longer treatment episodes were more likely to receive medication management while in treatment (48 to 59 percent of long-term consumers versus 18 to 21 percent of short-term consumers). It is also worth noting that of those youth who received medication management, a significant percentage received this service on a regular basis.

Exhibit 6
Percentage of Youth Receiving Medication Management Services During Treatment



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Analyzing treatment patterns and characteristics of consumers can help mental health professionals and administrators determine who is being served and how those services are being utilized. These measures, however, only provide insight into the number and type of youth involved in mental health treatment. To follow progress for youth in treatment, we need further information about factors such as housing outcomes, emergency room visits, criminal justice, and employment outcomes.

Housing Outcomes

For this study, the most accurate information about a youth's living situation comes from self-reports provided periodically by the consumer during treatment. While we cannot determine changes in housing after treatment, the housing status reported during treatment provides more insight into the living environment for the youth in the study. At the end of their treatment episode, youth in the study cohort had the following living situations:

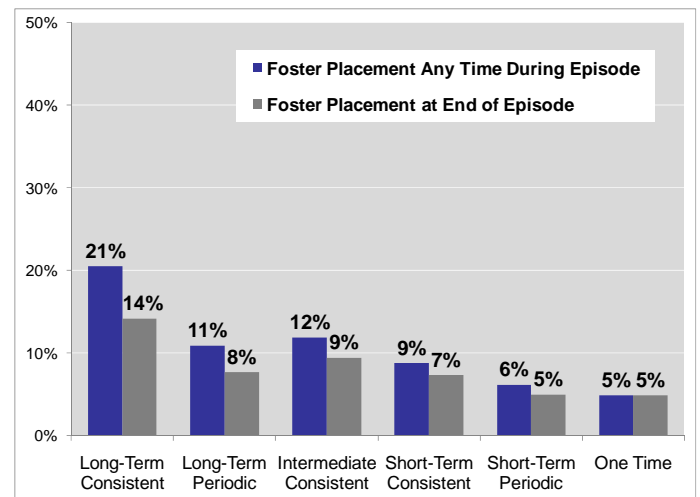
- **77 percent** lived in a private residence (home)
- **8 percent** lived in a foster home
- **4 percent** lived in other settings (institution, jail, shelter, or were homeless)
- **12 percent** had an unknown living situation

According to the Department of Social and Health Services, in 2007, **1.3 percent** of all youth aged 0 to 17 were in a foster care placement in Washington State.⁹ By comparison, **8 percent** of youth in public mental health care reported living in a foster home at the end of the treatment episode.

In a national evaluation of a mental health programs for children and families, Farmer et al. found that 6 percent of children went into a foster care placement at some point *within two years* of receiving mental health services. In addition, 32 percent of youth were placed out of home (jail/detention, inpatient psychiatric, residential treatment, foster home) for some time during the two-year follow-up period.¹⁰ Given this level of instability, it is important to know the residential settings and mobility patterns for youth undergoing individual and family treatment.

The rate of reported foster care placements varied considerably for youth with different service utilization patterns. Exhibit 7 shows the percentage of youth who reported living in a foster home at any time during the mental health treatment episode, and the percentage in foster care at the time the episode concluded.

Exhibit 7
Percentage of Youth Living in Foster Home During Treatment Episodes



WSIPP, 2009

⁹ <http://www.dshs.wa.gov/pdf/ca/07Report2intro.pdf>

¹⁰ E.M.Z. Farmer, S. Mustillo, B.J. Burns, & E.W. Holden (2008). Use and predictors of out-of-home placements within systems of care. *Journal of Emotional and Behavioral Disorders*, 16(1), 5–14.

As Exhibit 7 shows, about one in five (21 percent) of the long-term consistent consumers reported living in a foster home at some point during their treatment episode. In contrast, 11 to 12 percent of the next two levels of use lived in foster homes during treatment. And, while youth in the study cohort with short-term consistent treatment received services for six months or less, nearly one in ten (9 percent) of these youth reported living in a foster home during treatment.

In addition to out-of-home placements, physical health concerns are another factor that may affect treatment consistency and approach. The next section examines emergency room visits for youth in the study cohort.

Emergency Room Visits

Youth with mental health conditions may have observable physical health problems for a variety of reasons. Physical complications (e.g., rapid heartbeat, dizziness), loss of appetite, change in sleep patterns and other symptoms commonly occur in conjunction with a childhood mental health disorder.¹¹ Youth with disruptive behavior disorders or ADHD may also be more likely to engage in high-risk behaviors that can lead to injury or other physical health problems.¹² Emergency room visits for this population, therefore, is one useful indicator for analyzing the number of mental health treatment outcomes.

For the approximately 30,000 youth in the study cohort, we examined Medicaid fee-for-service (FFS) claims for inpatient hospital admissions and emergency room visits. Youth receiving ongoing public mental health treatment should also qualify for Medicaid services, so these claims are a useful indicator of hospital activity for the study cohort.

A large percentage of Medicaid-eligible youth, however, have health care services paid for by the state's Medicaid managed care program. Unfortunately, managed care data were not available for this analysis, so it is difficult to compare the overall utilization rate for youth in public mental health care with other youth.¹³ Nevertheless, the Medicaid FFS claims data can provide an indication of the differences in emergency room utilization for youth in the study cohort.

Among the study cohort, 15 percent visited the emergency room (for any reason) at least once in the two years following a mental health treatment episode. As noted previously, this number is likely to understate the true emergency room utilization rate, since it only includes fee-for-service Medicaid emergency room claims.

Among those with observed emergency room visits, many youth were seen multiple times. For the youth followed in this study:

- **8 percent** had one emergency room visit in the two years after treatment
- **5 percent** had two to four visits
- **1 percent** had five or more emergency room visits in two years

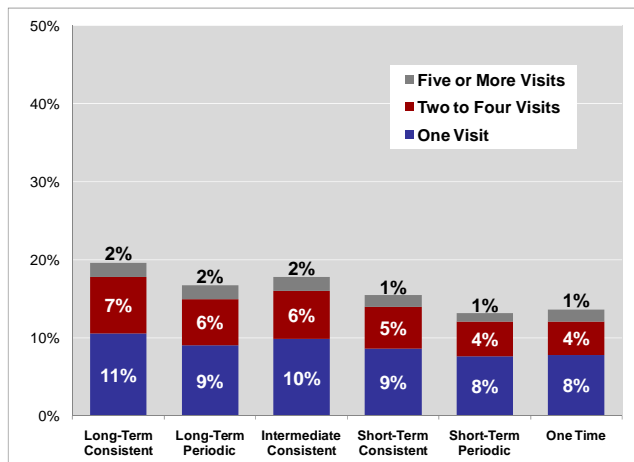
Exhibit 8 shows the breakdown of emergency room visits by service utilization group. Nearly 20 percent of youth with long-term consistent treatment episodes had at least one emergency room visit in the two-year follow-up period. In contrast, 13 percent of those with a short-term periodic episode or a one-time treatment episode visited the emergency room at some point following treatment. Youth with a long-term consistent treatment episode also had the highest rate of multiple emergency room visits (9 percent).

¹¹ See <http://mentalhealth.samhsa.gov/publications/allpubs/CA-0006/default.asp>

¹² G.A. Aarons, A.R. Monn, L.K. Leslie, A.F. Garland, L. Lugo, R.L. Hough, et al. (2008). Association between mental and physical health problems in high-risk adolescents: A longitudinal study. *Journal of Adolescent Health, 43*(3), 260.

¹³ According to the Department of Social and Health Services, 780,234 children received health care services from Medicaid in 2007. Approximately 25 percent (204,659) of these youth were in a fee-for-service plan, the remainder (74 percent) were in managed care. See: www.dshs.wa.gov/pdf/ms/rda/research/11/136.080.pdf

Exhibit 8
Percentage of Youth With Emergency Room Visit
in Two Years Following Treatment



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For this study cohort, subsequent emergency room visits did not differ significantly by mental health diagnosis. Youth with multiple diagnoses, however, were far more likely to visit the emergency room in the two years after treatment (Exhibit 9). Almost 20 percent of youth with two or more additional diagnoses visited the emergency room, compared with 15 percent of those youth with just one (primary) diagnosis.

Exhibit 9
Percentage of Youth With Emergency Room
Visits Following Mental Health Treatment

Comorbidity	Total Youth	Number (Percentage) of Youth With Subsequent Emergency Room Visits
Primary Diagnosis Only	23,280	3,415 (15%)
One Additional Diagnosis	5,292	914 (17%)
Two to Three Additional Diagnoses	1,483	287 (19%)
Total	30,055	4,616 (15%)

Criminal Justice Outcomes

Among all youth ages 10 to 17 in Washington State, approximately **10 percent** had a previous criminal conviction at some point during their lifetime.¹⁴ The figures reported in Exhibit 10 include youth with *any* prior felony, or *any* prior misdemeanor. If a youth was convicted of both a misdemeanor and felony, the youth would appear in both categories. Overall, **25 percent** of the youth aged 10 to 17 in the study cohort had at least one prior criminal conviction (felony or misdemeanor before 2004).

Felony crimes include violent offenses (such as homicide, sex crimes, robbery, and assault) and serious offenses (burglary, motor vehicle theft, and controlled substance crimes). Ten percent of the study sample had a previous felony conviction, compared to 2 percent of the general population.

Misdemeanors represent less serious offenses, and may include assault, theft, vandalism, and possession of controlled substances. Among the study cohort, 21 percent had at least one misdemeanor conviction in their background, a rate three times as high as other youth in this age group.

Exhibit 10
Criminal History of Youth aged 10 to 17

Conviction Type	General Youth Population (Washington)	Public Mental Health Youth (Washington)
Total Felony	17,373 (2.4%)	2,162 (10%)
Felony Violent	4,812 (0.6%)	866 (4%)
Felony Drug	2,779 (0.0%)	302 (1%)
Felony Other	11,996 (1.7%)	1,426 (6%)
Total Misdemeanor	52,903 (7.4%)	4,730 (21%)
Total Convictions	67,853 (9.6%)	5,512 (25%)
Total Youth (10-17)	710,316	22,242

Note: youth may appear in more than one category

¹⁴ Based on analysis of Institute's criminal justice database and OFM population figures for this age cohort.

Given the rate of prior convictions, it is evident that youth receiving public mental health treatment have a high level of involvement with the criminal justice system compared with the general population. To examine the subsequent criminal activity for different types of young mental health consumers, we analyzed criminal convictions in the year following a treatment episode.

For comparison purposes, in 2004, there were 710,316 youth aged 10 to 17 in Washington State. Exhibit 11 highlights the statewide juvenile conviction rate and the one-year conviction rate for youth in the study cohort.

Exhibit 11
One Year Conviction Rates: Juveniles Aged 10 to 17

	General Youth Population (Washington)	Public Mental Health Youth (Washington)
Total Persons	710,316	22,242
Felony Convictions	5,766 (0.8%)	838 (3.8%)
Misdemeanor Convictions	10,150 (1.4%)	1,762 (7.9%)
Total Convictions	15,916 (2.2%)	2,302 (10.3%)

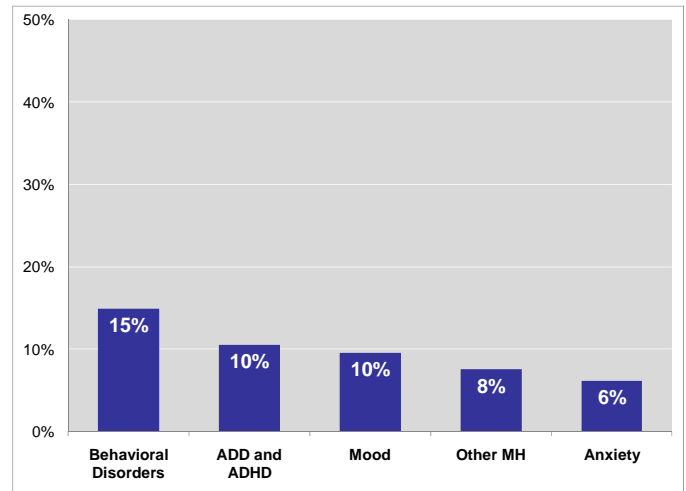
Note: youth may appear in more than one category

As Exhibit 11 indicates, youth with public mental health services had nearly five times the number of criminal convictions in one year compared with the overall population. While criminal activity did not differ by service utilization patterns, we did find that the youth's diagnosis may provide an indication of the likelihood of a future criminal conviction. Exhibit 12 shows the criminal conviction rate in the year following treatment, based on diagnosis.

Youth with disruptive behavior disorders (Conduct, Oppositional Defiant) had a higher rate of criminal activity than those youth with ADHD or internalizing disorders (mood, anxiety). Nearly 15 percent of youth with a behavior-related diagnosis had a criminal conviction within just *one* year after treatment. This pattern is consistent with diagnostic criteria, especially for Conduct Disorder, which may include aggression towards others, destruction of property, and theft.¹⁵

¹⁵ <http://www.psychology.net.org/dsm/conduct.html>

Exhibit 12
Post-Treatment Criminal Convictions for Study Cohort (aged 10 to 17) by Primary Diagnosis



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Employment Outcomes

Employment outcomes for adults receiving public mental health treatment may be one indicator of recovery and engagement. For youth receiving mental health treatment, expectations surrounding employment activity are much different. To the extent youth are enrolled in school and have positive connections to other social networks, the absence of employment activity may not be a concern. Unfortunately, school records were not available for this study, so educational outcomes could not be determined.

A significant percentage of teenagers in the general population have some work experience, so we can make some comparisons to youth receiving public mental health services. It should be noted, however, that the study cohort of youth receiving public mental health services consists of Medicaid-eligible youth who are by definition low-income. Teenage employment rates have been shown to increase as household income rises.¹⁶

¹⁶ A. Sum, I. Khatiwada, & J. McLaughlin (with S. Palma). (2008, September). *The historically low summer and year round 2008 teen employment rate: The case for an immediate national public policy response to create jobs for the nation's youth*. Boston: Northeastern University, Center for Labor Market Studies.
<http://www.nyec.org/content/documents/The_Historically_Low_Summer_2008_Teen_Employment_Rate.pdf>

To analyze employment outcomes for youth in this study, we included only those who were at least 15 years old at the end of treatment. In the two years following treatment, we examined the level of employment by age. These figures are compared against an analysis of teenage employment conducted by the United States Department of Labor.¹⁷ Exhibit 13 displays the employment level for a nationally representative sample of youth by age, as well as Washington State youth receiving public mental health services.

Exhibit 13
Percentage of Youths With Paid Employment, by Age
(National Sample and Public Mental Health Consumers)

	National Sample of Youth	Public Mental Health Youth (Washington)
Age 15	40.2%	7.8%
Age 16	69.1%	22.7%
Age 17	78.9%	34.1%
Age 18	88.1%	47.2%

Exhibit 13 includes paid employment that occurs during the school year or summer. Overall, youth in the general population work at a rate two to three times that of the study cohort of youth in public mental health. While most (88 percent) 18-year-olds have some paid employment, less than half in the study cohort had paid employment following a mental health treatment episode.

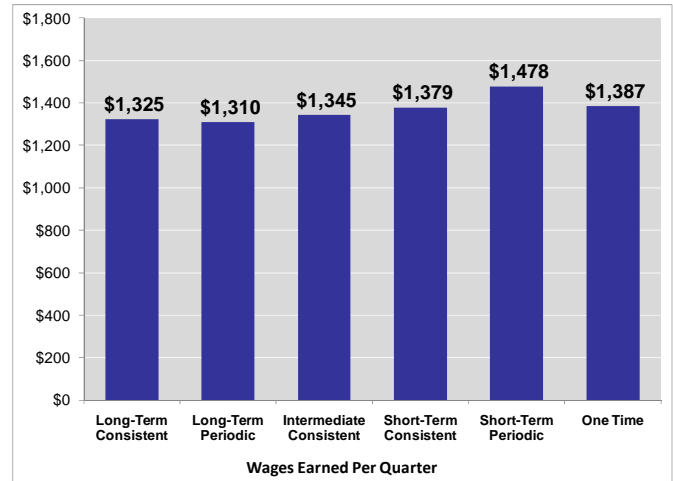
Among those employed after their treatment episode, we analyzed employment activity for youth 18 and older. Among the 6,547 youth aged 18 to 19, 58 percent had some employment activity in the two years after treatment.¹⁸ There were no significant differences in the two-year employment level among youth with different types of treatment episodes.

¹⁷ Bureau of Labor Statistics (2003, January 31). *Employment experience of youths during the school year and summer* (USDL 03-40). <http://www.bls.gov/nls/nlsy97r5.pdf>

¹⁸ A recent GAO study found that among youth aged 18 to 26, 63 percent of those with a serious mental illness were employed, and 68 percent of those with a mild or moderate mental illness were employed. See General Accountability Office (2008, June). *Young adults with serious mental illness: Some states and federal agencies are taking steps to address their transition challenges* (GAO-08-678). Washington DC: Author. Retrieved from GAO website: <http://www.gao.gov/new.items/d08678.pdf>

Among those youth who did work after treatment, there were only slight differences in average quarterly wages. Youth with a short-term periodic episode earned \$1,478 per quarter after mental health treatment compared with youth in a long-term consistent episode, who earned \$1,325 per quarter (Exhibit 14).

Exhibit 14
Post-Treatment Quarterly Wages
for Study Cohort (age 18 and older)



WSIPP, 2009

The quarterly employment data available for this analysis does not provide detailed information (such as hours worked per week) that may be useful in understanding youth employment patterns. Additional research is also needed to assess the high school completion rate and post-secondary activities (college, training) for youth transitioning to adulthood after a period of public mental health treatment.¹⁹

¹⁹ See M. Davis. (2001, December). *State efforts to expand transition supports for adolescents receiving public mental health services*. Alexandria, VA: National Association of State Mental Health Program Directors, National Technical Assistance Center for State Mental Health Planning.

Conclusion

This analysis of youth in the public mental health system demonstrates the diverse profile and experience of young persons served in Washington State. Given these variations, we may expect a range of outcomes and different rates of progress for child mental health consumers.

To investigate these differences, we looked at the length and consistency of treatment episodes for youth receiving public mental health treatment. Youth with long-term (longer than one year), consistent episodes had a higher level of impairment, higher rate of multiple diagnoses, and were more likely to live in a foster home and have regular medication monitoring during treatment. In addition, long-term youth visited the emergency room more often than youth with a short-term treatment episode.

There were no significant differences in criminal justice or employment outcomes among youth with different treatment episodes. However, compared with the general population, youth in public mental health services had a much higher rate of criminal convictions and a lower overall employment level.

This report provides baseline data on outcomes for youth in the public mental health system. This analysis also presents a framework for considering different levels of treatment received by these consumers. More information is needed, however, on specialized services and evidence-based practices delivered to youth and families in Washington's public mental health system.

The 2009 Washington State Legislature directed the Institute to continue ongoing work analyzing . . .

. . . return on investment to taxpayers from evidence-based prevention and intervention programs and policies that influence crime, K-12 education outcomes, child maltreatment, substance abuse, mental health, public health, public assistance, employment, and housing...and result in more cost-efficient use of public resources.²⁰

Future work by the Institute will examine the impact of various treatment approaches and determine which strategies have the potential to improve outcomes for child public mental health consumers in Washington State.

²⁰ ESHB 1244 Sec. 610(4), Chapter 564, Laws of 2009

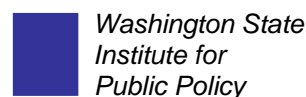
Appendix: Mapping ICD-9-CM Codes to Mental Health and Substance Abuse Clinical Classifications

Anxiety disorders	29384 30000 30001 30002 30009 30010 30020 30021 30022 30023 30029 3003 3005 30089 3009 3080 3081 3082 3083 3084 3089 30981 3130 3131 31321 31322 3133 31382 31383
Mood disorders	Bipolar disorders (29600 29601 29602 29603 29604 29605 29606 29610 29611 29612 29613 29614 29615 29616 29640 29641 29642 29643 29644 29645 29646 29650 29651 29652 29653 29654 29655 29656 29660 29661 29662 29663 29664 29665 29666 2967 29680 29681 29682 29689 29690 29699) Depressive disorders (29383 29620 29621 29622 29623 29624 29625 29626 29630 29631 29632 29633 29634 29635 29636 3004 311)
ADD/ADHD	Attention-deficit disorder and attention-deficit/hyperactivity disorder (31400 31401 3141 3142 3148 3149)
Behavioral disorders	Conduct disorder (31200 31201 31202 31203 31210 31211 31212 31213 31220 31221 31222 31223 3124 3128 31281 31282 31289 3129) Oppositional defiant disorder (31381)
Other Mental Health Disorders	Adjustment disorders (3090 3091 30922 30923 30924 30928 30929 3093 3094 30982 30983 30989 3099) Delirium, dementia, and amnesic and other cognitive disorders (2900 29010 29011 29012 29013 29020 29021 2903 29040 29041 29042 29043 2908 2909 2930 2931 2940 2941 29410 29411 2948 2949 3100 3102 3108 3109 3310 3311 33111 33119 3312 33182 797) Developmental disorders (3070 3079 31531 31534 31539 V401 31501 31502 31509 31532 3155 3158 317 3180 3181 3182 319 31500 3151 3152 3159 V400 3154) Disorders usually diagnosed in infancy, childhood, or adolescence (3076 3077 3073 30921 31323 31389 3139) 29900 29901 29910 29911 29980 29981 29990 29991 30720 30721 30722 30723) Impulse disorders, not elsewhere classified (31230 31231 31232 31233 31234 31235 31239) Personality disorders (3010 30110 30111 30112 30113 30120 30121 30122 3013 3014 30150 30151 30159 3016 3017 30181 30182 30183 30184 30189 3019) Schizophrenia and other psychotic disorders (29381 29382 29500 29501 29502 29503 29504 29505 29510 29511 29512 29513 29514 29515 29520 29521 29522 29523 29524 29525 29530 29531 29532 29533 29534 29535 29540 29541 29542 29543 29544 29545 29550 29551 29552 29553 29554 29555 29560 29561 29562 29563 29564 29565 29570 29571 29572 29573 29574 29575 29580 29581 29582 29583 29584 29585 29590 29591 29592 29593 29594 29595 2970 2971 2972 2973 2978 2979 2980 2981 2982 2983 2984 2988 2989) Alcohol-related disorders (2910 2911 2912 2913 2914 2915 2918 29181 29189 2919 30300 30301 30302 30303 30390 30391 30392 30393 30500 30501 30502 30503) Drug-related disorders (2920 29211 29212 2922 29281 29282 29283 29284 29289 2929 30400 30401 30402 30403 30410 30411 30412 30413 30420 30421 30422 30423 30430 30431 30432 30433 30440 30441 30442 30443 30450 30451 30452 30453 30460 30461 30462 30463 30470 30471 30472 30473 30480 30481 30482 30483 30490 30491 30492 30493 30510 30511 30512 30513 30520 30521 30522 30523 30530 30531 30532 30533 30540 30541 30542 30543 30550 30551 30552 30553 30560 30561 30562 30563 30570 30571 30572 30573 30580 30581 30582 30583 30590 30591 30592 30593 64830 64831 64832 64833 64834 65550 65551 65553 76072 76073 76075 7795 96500 96501 96502 96509 V6542) Miscellaneous mental disorders Dissociative disorders (30012 30013 30014 30015 3006) Eating disorders (3071 30750 30751 30752 30753 30754 30759) Factitious disorders (30016 30019) Mental disorders due to general medical condition not elsewhere classified (29389 2939 3101) Other miscellaneous mental conditions (316 64840 64841 64842 64843 64844 V402 V403 V409 V673) Psychogenic disorders (3060 3061 3062 3063 3064 30650 30652 30653 30659 3066 3067 3068 3069) Sexual and gender identity disorders (3021 3022 3023 3024 30250 30251 30252 30253 3026 30270 30271 30272 30273 30274 30275 30276 30279 30281 30282 30283 30284 30285 30289 3029 30651) Sleep disorders (30740 30741 30742 30743 30744 30745 30746 30747 30748 30749) Somatoform disorders (30011 3007 30081 30082 30780 30781 30789)

Source: <http://www.ahrq.gov/data/hcup/factbk10/factbk10appa.htm>

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Document No. 09-10-3401



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