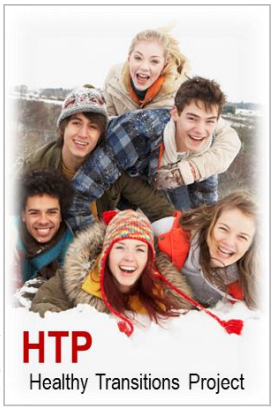

Washington State Healthy Transitions Project

Findings from the Impact Evaluation

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Funded by Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Mental Health Services, Grant Number 7H79SM082187-01.

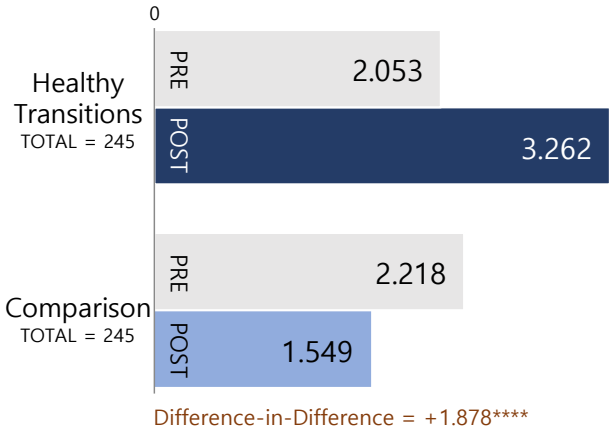
THE WASHINGTON STATE HEALTHY TRANSITIONS PROJECT (HTP) provided community-based, recovery-oriented care for transition-age youth and young adults (TAY) ages 16 to 25 who experienced serious emotional disturbance or serious mental illness. Funded by the federal Substance Abuse and Mental Health Services Administration (SAMHSA) from 2019 through 2023 and administered by the Washington State Health Care Authority, the program was designed to improve emotional and behavioral health functioning and to develop and refine an innovative, community-based, recovery-oriented model. This report describes the participants, services, and outcomes of the program, as implemented by four community-based provider sites in Washington State.

Key Findings

1. **HTP reached 424 participants with diverse demographics compared to the counties served by HTP providers.** Sixty-six percent of participants were Black, Indigenous, or People of Color (BIPOC) and nearly half were Lesbian, Gay, Bisexual or Questioning (LGBQ).
2. **TAY who participated in HTP reported increased rates of functioning in everyday life and retention in the community after six months in the program.** We found statistically significant increases of greater than 10 percentage points for HTP participants who reported functioning in everyday life (from 36 percent to 49 percent), and in enrollees retained in the community (from 80 percent to greater than 90 percent).
3. **HTP participants were more engaged in outpatient mental health treatment services one year after enrollment as compared to peers not enrolled in the program**, as shown in Figure 1.

FIGURE 1

Impact Estimate, Days[1] with Mental Health Outpatient Services[2]



SOURCE: DSHS-RDA Integrated Client Databases.

NOTES: Sample includes 245 HTP participants who joined the program before May 2022 and who were enrolled in Medicaid.

1. Days per Medicaid member month.
2. Services received 12 months before and after HTP enrollment, excluding crisis mental health services.

* p<0.05; ** p<0.01; ***p<0.001; ****p<0.0001

Introduction

The Washington State Health Care Authority (HCA), Division of Behavioral Health and Recovery (DBHR) received a grant from SAMHSA to implement the HTP. The overall objectives of the program were to develop and refine an innovative, community-based, recovery-oriented model of engaging transition-age youth and young adults (TAY) (ages 16-25) who experience serious emotional disturbance (SED) or serious mental illness (SMI), and to thereby improve emotional and behavioral health functioning for program participants and equip them for adulthood.

Two community-based provider sites implemented HTP beginning in 2019. Columbia River Mental Health Services in Clark County implemented the Transition to Independence Process (TIP) model, an evidence-supported practice that facilitates the transition of TAY into adult roles by involving them in a personalized process for future planning, and delivering supports and services that are developmentally appropriate, non-stigmatizing, trauma-informed, and culturally-competent. Comprehensive Healthcare in Yakima County, which initially planned to adopt the *Promotora de Salud* Model, discovered that community health worker services were not covered by Medicaid. Comprehensive Healthcare trained and transitioned to implement the TIP model in the third year of the grant.

An additional two sites joined HTP in 2022. Community Youth Services in Thurston County proposed low-barrier group services for TAY and used grant funds to provide basic needs and transportation support to program participants. Northwest Youth Services in Whatcom County created an Art Hive to provide a space for non-traditional healing and outreach opportunities to TAY at risk of or experiencing homelessness. Overall, the four HTP providers delivered varied support services using different service models. This evaluation report presents the characteristics and outcomes of TAY who received HTP services from these four provider sites.

Healthy Transitions Project Participants

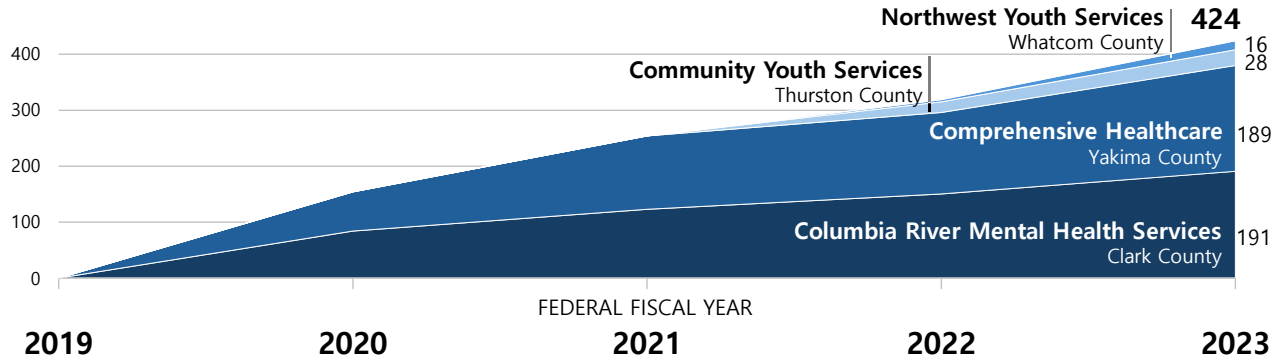
Enrollment

The four HTP sites enrolled a total of 424 participants as of the end of Federal Fiscal Year (FFY) 2023, as seen in Figure 2. The two sites that joined HTP at the inception of the grant (Comprehensive Healthcare and Columbia River Mental Health Services) enrolled cumulative totals of 189 and 191 participants respectively. Enrollment in the two newer sites (Northwest Youth Services and Community Youth Services) began in FFY 2022. The two newer sites enrolled 16 and 28 participants respectively.

FIGURE 2

Healthy Transitions Project Enrollment

REPORTING PERIOD: FFY 2019-FFY 2023



SOURCE: National Outcome Measures data and client lists maintained by primary provider sites for the HTP Project.
NOTE: Data include enrollment as of September 30, 2023.

Demographic Characteristics

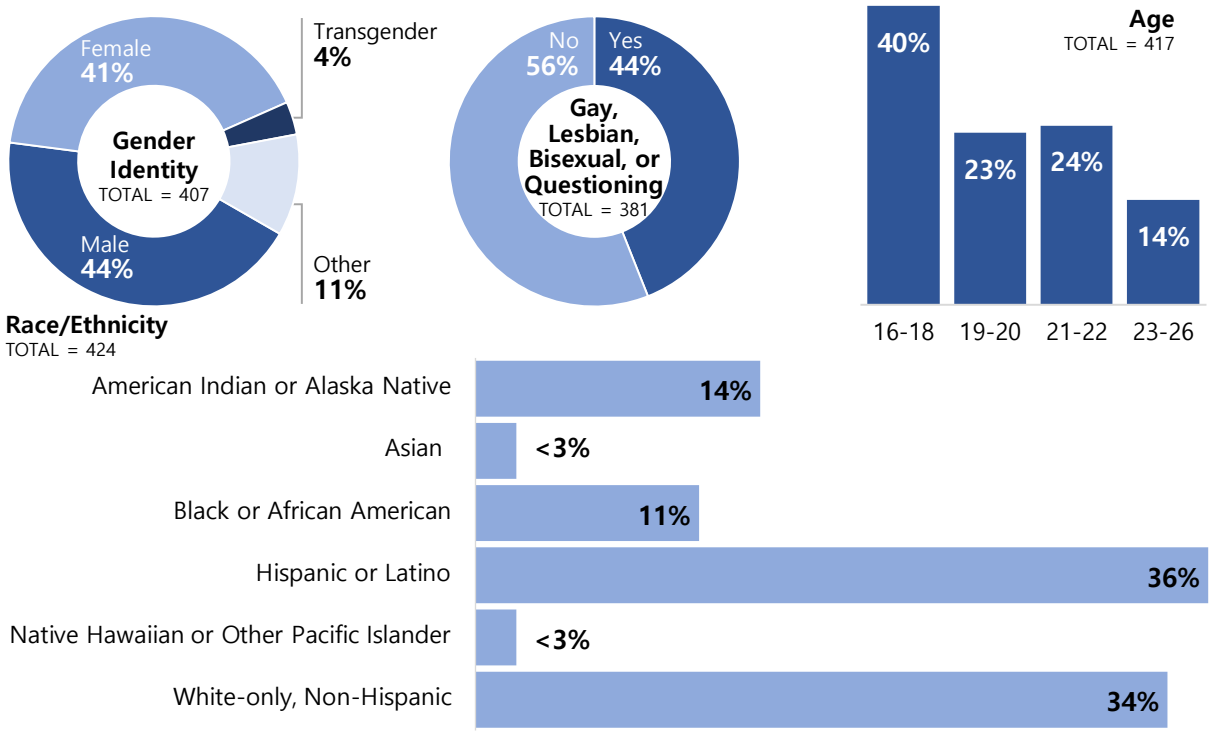
Figure 3 presents the demographic characteristics of individuals enrolled in HTP. Among the 424 HTP enrollees, 36 percent were Hispanic or Latino, 34 percent were non-Hispanic white, 14 percent were American Indian or Alaska Native, and 11 percent were Black or African American. Though the categories are not mutually exclusive (except for non-Hispanic white) because respondents could choose more than one selection, this result indicates that 66 percent of HTP participants were BIPOC, exceeding the enrollment target of 51 percent set forth in the project's disparity impact plan.

The race/ethnicity compositions of the HTP participants are influenced by the overall demographic characteristics of the Washington counties served by the provider sites, and in the case of both sites with a sufficiently large group of participants to compare, exceed the racial and ethnic diversity of the surrounding county. Comprehensive Healthcare in Yakima, which serves a county with a majority Hispanic or Latino population (65 percent) (Washington State Office of Financial Management 2017), enrolled 83 percent BIPOC participants. Columbia River MHS, located in Clark County with a population nearly three quarters white (74 percent) (Washington State Office of Financial Management 2017), enrolled a group of participants who were 49 percent BIPOC.

Forty-four percent of HTP participants reported a male gender identity, 41 percent a female gender identity, 4 percent a transgender identity, and the remaining 11 percent reported non-binary, gender expansive, questioning, gender nonconforming, or another gender identity. Forty-four percent reported they were gay, lesbian, bisexual, or questioning (LGBQ), compared to an enrollment target of 12 percent LGBQ participants in the disparity impact plan. Participant ages ranged from 16 to 26 years. Forty percent of the participants were 18 years old or younger at the time of enrollment.

FIGURE 3

Healthy Transitions Project Participant Demographics



SOURCE: National Outcome Measures data from the HTP Project.
NOTE: When cell sizes are smaller than 11, inequality expressions are used in the place of exact percentages so that small numbers cannot be recalculated. Total includes data from all four sites. Race and ethnicity groups are not mutually exclusive, except for "White-only, non-Hispanic"; responses do not sum to 100%.

Baseline Mental Health Needs

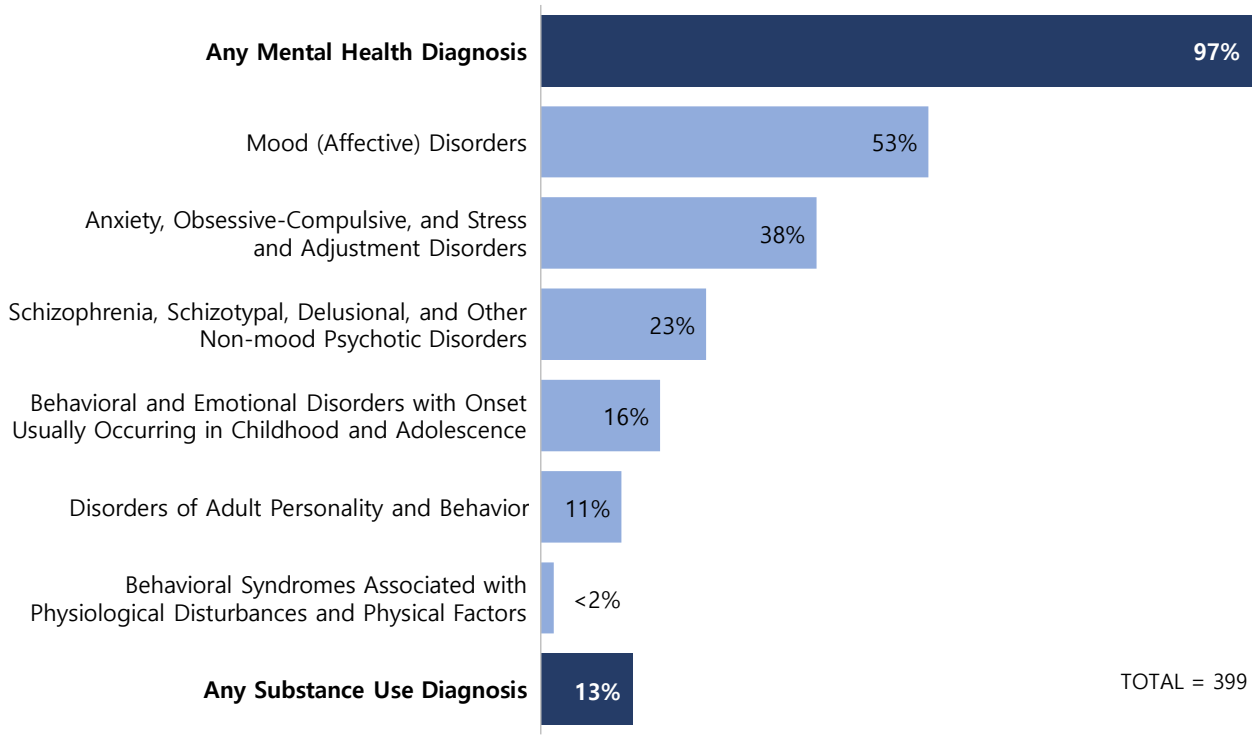
Healthcare providers at the four HTP sites also reported participant clinical diagnoses at the time of enrollment. Up to three current mental health or substance use diagnoses were reported for each participant in the National Outcome Measures (NOMs) intake interview (see details in the Technical Notes section). Of the 424 HTP participants, 399 had diagnosis information reported in the NOMs interviews, shown in Figure 4.

- Ninety-seven percent of participants had at least one mental health diagnosis at the time of enrollment, and 13 percent had at least one substance use diagnosis.
- Mood and affective disorders were the most frequently diagnosed mental illnesses, affecting 53 percent of participants, while anxiety disorders were diagnosed for 38 percent of participants.

FIGURE 4

Baseline Mental Health Diagnosis

REPORTING PERIOD: FFY 2019-FFY 2023

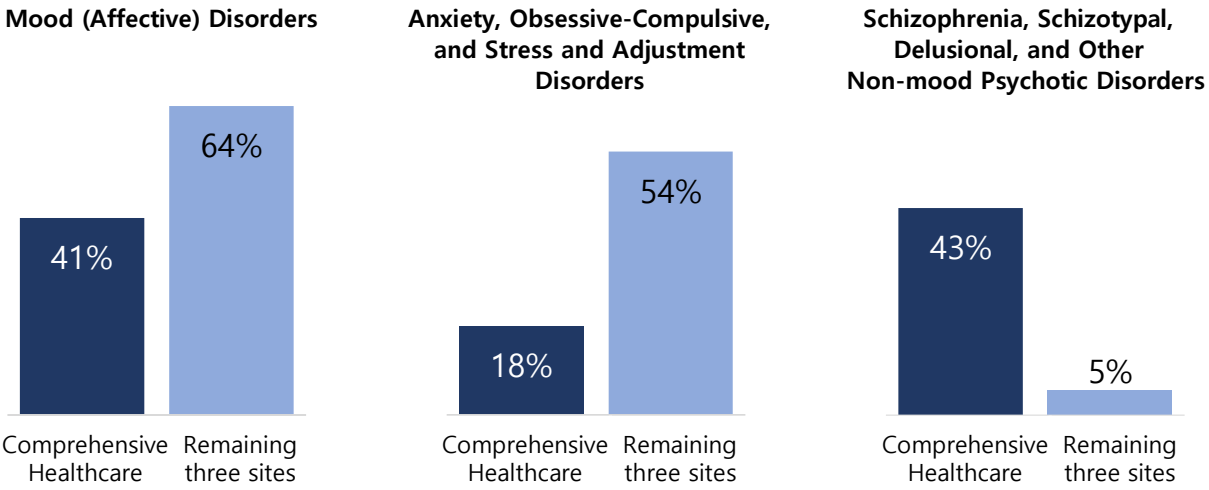


SOURCE: National Outcome Measures data from the HTP Project.
NOTE: When cell sizes are smaller than 11, inequality expressions are used in the place of exact percentages so that small numbers cannot be recalculated. Total includes data from all four sites. The data collection tool in use prior to November 2022 had slight differences in the way anxiety and personality diagnoses were entered and did not group diagnoses by category. Because these changes have only minor effects on data comparability, we report the results from both versions of the instrument together.

Comprehensive Healthcare provides early intervention services for individuals experiencing first episode psychosis, and 43 percent of the individuals enrolled in Comprehensive Healthcare's HTP program were diagnosed with a psychotic disorder at baseline, as compared to 5 percent in the remaining three sites combined. Figure 5 illustrates the variation in mental health diagnoses at Comprehensive Healthcare as compared to the other sites. The most commonly diagnosed conditions for participants in the remaining three sites were mood (affective) disorders (64 percent) and anxiety disorders (54 percent). Comprehensive Healthcare participants exhibited lower rates of these diagnoses, at 41 and 18 percent, respectively.

FIGURE 5

Baseline Mental Health Needs by HTP Site



SOURCE: National Outcome Measures data from the HTP Project.

Service Encounters Prior to Enrollment

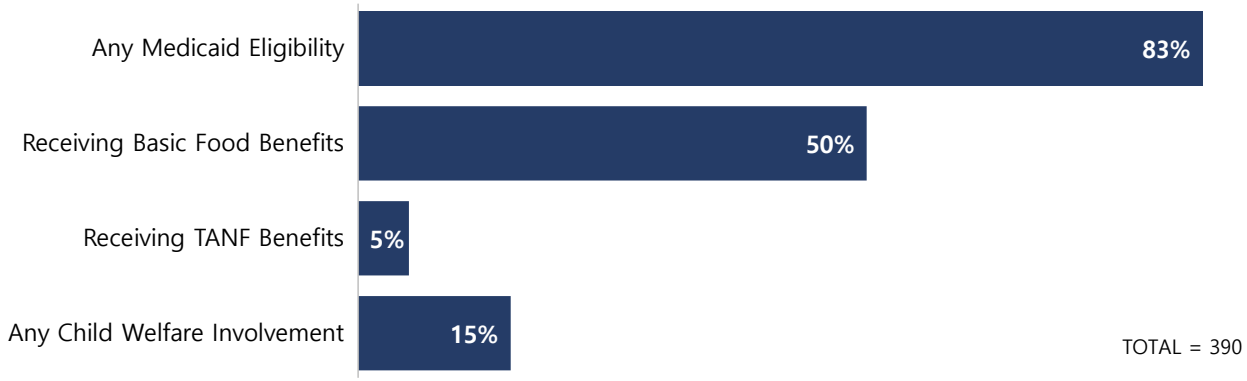
Of the 424 HTP participants, 390 could be linked to our administrative databases (see methods in the Technical Notes section), and 324 (83 percent) were enrolled in Medicaid in at least one month in the 12-month period prior to HTP enrollment. Figure 6 presents the Washington State-funded services received during the 12-month baseline period prior to program enrollment by HTP participants who could be linked to administrative databases.

- Fifty percent received Basic Food benefits (food stamps), and 5 percent received Temporary Assistance for Needy Families (TANF) benefits.
- Fifteen percent of these participants had any child welfare involvement.

FIGURE 6

Receipt of State-funded Services in the 12-Month Period Prior to HTP Enrollment

REPORTING PERIOD: FFY 2019-FFY 2023



SOURCE: Washington State Administrative Data, DSHS-RDA Integrated Client Databases.
NOTE: Sample is limited to participants linked to Washington State administrative data.

Mental Health and Support Services Delivered to HTP Participants

HTP providers delivered both core mental health treatment services (screening, assessment, treatment planning or review, psychopharmological services, mental health services, co-occurring services, case management, or trauma-specific services), and non-treatment services that support recovery or healthy lifestyles (employment services, social recreational activities, education services, transportation, housing support, family services, consumer-operated services, medical care, alcohol/drug-free activities support, basic needs support, financial literacy support, health support, or advocacy/youth voice support). Because these services are a key aspect of HTP programming, and are theorized to be a potential mechanism of impact for the grant, we have compiled data on services received from three sources: NOMs records (core and support services from any funding source), administrative databases (Medicaid-funded mental health services), and recovery support service logs maintained at the provider sites (support services funded through HTP).

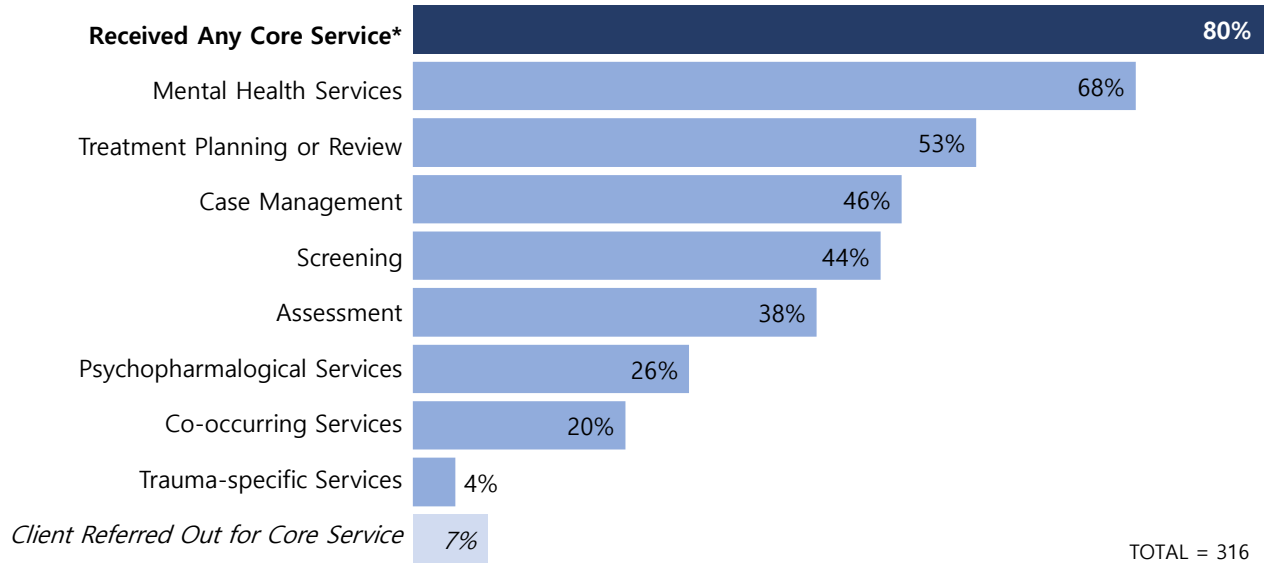
Core Mental Health Services

Upon discharge, data on mental health service delivery are reported in NOMs records by HTP program staff. Of the 316 participants with NOMs discharge data, 252 (80 percent) received at least one core service. Services delivered by the community providers are reported regardless of whether they were funded by the HTP grant, by Medicaid, or by another funding source. As seen in Figure 7, mental health services (received by 68 percent of participants with discharge data), treatment planning (53 percent), case management (46 percent), and screening (44 percent) were the most frequently delivered core services.

FIGURE 7

NOMs Core Mental Health Services Received by Category

REPORTING PERIOD: FFY 2019-FFY 2023



SOURCE: National Outcome Measures data from the HTP Project. The sample is restricted to HTP participants with a discharge interview or administrative discharge with non-missing items collected using the old or new NOMs instrument.
NOTE: Excludes 108 cases without discharge data. Codes N/A, Unknown, and Service Not Available are considered services not received and are not excluded. * Total does not include "Client Referred Out for Core Service".

In addition to NOMs data, we analyzed administrative data on Medicaid-funded mental health services received by Medicaid-enrolled HTP participants during the 12 months following HTP enrollment. To ensure data availability, the analysis is limited to individuals who joined HTP before May 2022. A total

of 245 participants met these criteria. As shown in Figure 8, 97 percent of these participants received non-crisis outpatient treatment during the 12-month period after HTP enrollment, 9 percent received crisis mental health services, and 13 percent received mental health inpatient treatment services in a community hospital.

FIGURE 8

Medicaid-funded Mental Health Treatment Services Received in the 12 Months After HTP Enrollment

SOURCE: Washington State Administrative Data, DSHS-RDA Integrated Client Databases.

NOTE: The sample is limited to Medicaid-eligible participants identified from Washington State administrative data who joined HTP before May 2022. Administrative data are subject to data lags, which may result in underestimates.

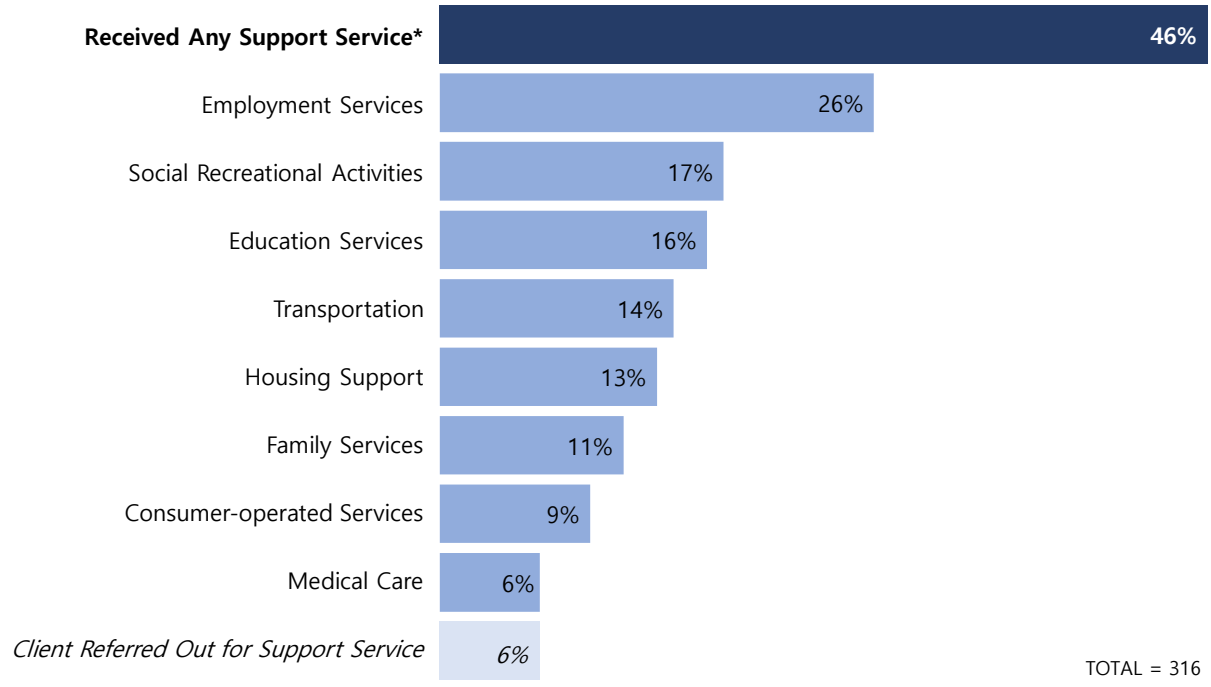
Mental Health Support Services

Support services received by HTP participants are reported by program staff in the NOMs discharge records as well as the recovery support service logs. As shown in Figure 9, 144 of the 316 participants with discharge data in NOMs (46 percent) received at least one support service.

FIGURE 9

NOMs Support Services Received by Category

REPORTING PERIOD: FFY 2019-FFY 2023



SOURCE: National Outcome Measures data from the HTP Project. The sample is restricted to HTP participants with a discharge interview or administrative discharge with non-missing items collected using the old or new NOMs instrument.

NOTE: Excludes 108 cases without discharge data. Codes N/A, Unknown, and Service Not Available are considered services not received and are not excluded. * Total does not include "Client Referred Out for Support Service".

Employment services (received by 26 percent of all participants), social recreational activities (17 percent), and education services (16 percent) were the most common support services reported. Services delivered by the community provider are reported regardless of whether they were funded by the HTP grant, by Medicaid, or by another funding source.

HTP sites also maintained service logs to report HTP-funded support services and direct costs associated with the services. According to data from monthly recovery support service logs tracked throughout the duration of the grant (Table 1), approximately three in four (305) HTP participants received support services funded by the grant. Between the two sites that have been operating since the inception of the project, Columbia River MHS delivered program-funded services to a higher percentage of enrollees than Comprehensive Healthcare. While the two newer sites (Northwest Youth Services and Community Youth Services) enrolled fewer participants, they delivered program-funded services to nearly all of them.

TABLE 1

Support Services after Enrollment by Site

REPORTING PERIOD: FFY 2019-FFY 2023

	NUMBER Participants Receiving Services	TOTAL PARTICIPANTS	PERCENT Participants Receiving Services	TOTAL HOURS	TOTAL DOLLARS
Columbia River MHS	158	191	83%	2466	$56,871
Comprehensive Healthcare	111	189	59%	538	$37,587
Community Youth Services	28	28	100%	0	$2,706
Northwest Youth Services	8	16	50%	31	$246
TOTAL	305	424	72%	3035	$97,410

SOURCE: Recovery support services logs maintained by the HTP sites for services delivered between December 1, 2019, and September 30, 2023. Data submission for September 2023 was optional and received from only one site.
NOTE: Some service events were recorded as dollar amounts only and some were recorded as time only. Does not include grant-funded core mental health or substance use services.

The recovery support service logs recorded more than 4,000 service events and more than 3,000 hours of services provided, totaling nearly $100,000 in expenditures (Table 2).

TABLE 2

Support Services by Category

REPORTING PERIOD: FFY 2019-FFY 2023

	SERVICE EVENTS	TOTAL HOURS	TOTAL DOLLARS
Any Recovery Support Service	4181	3035	$97,410
Advocacy/Youth Voice Support	1823	1366	$4,361
Alcohol/Drug-Free Activities Support	804	491	$19,316
Basic Needs Support	614	241	$35,488
Educational Services Support	296	403	$9,326
Transportation Support	212	162	$7,662
Health Support	136	109	$16,166
Housing Support	104	103	$478
Pre-employment Support	103	88	$4,054
Financial Literacy Support	27	23	$0
Other	62	48	$560

SOURCE: Recovery support services logs maintained by the HTP sites for services delivered between December 1, 2019, and September 30, 2023. Data submission for September 2023 was optional and received from only one site.
NOTE: Some service events were recorded as dollar amounts only and some were recorded as time only. Does not include grant-funded core mental health or substance use services.

The most service events and hours were dedicated to advocacy and youth voice support and alcohol/drug-free activities. The greatest expenditures were on basic needs support, alcohol/drug-free activities, and health support. The categories of support service data collected in the NOMs survey are more limited than those reported by sites in the recovery support service logs, which may explain why rates of support services received are lower according to the NOMs source than from the service logs. For example, advocacy and youth voice activities were frequently reported in the service logs but are not included in the service list in the NOMs instrument.

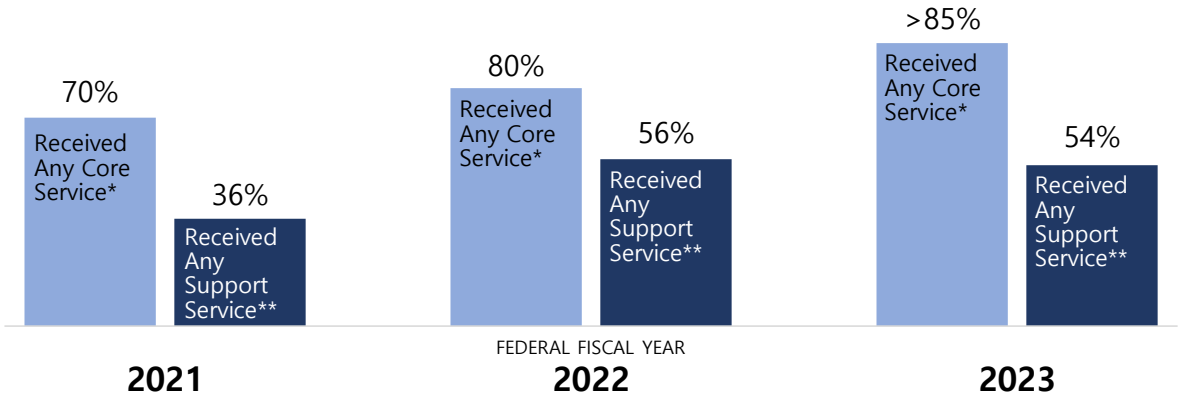
Mental Health Service Trends

Figure 10 demonstrates that service delivery increased over the time frame of the grant, with more than 85 percent of the participants discharged during FFY 2023 receiving at least one core service and 54 percent receiving at least one support service.

FIGURE 10

Core and Support Services Received: Administratively Reported in NOMs at Discharge

REPORTING PERIOD: FFY 2019-FFY 2023



SOURCE: National Outcome Measures data from the HTP Project. The sample is restricted to HTP participants with a discharge interview or administrative discharge with non-missing items collected using the old or new NOMs instrument.
NOTE: Excludes 108 cases without discharge data. Codes N/A, Unknown, and Service Not Available are considered services not received and are not excluded. When cell sizes are smaller than 11, inequality expressions are used in the place of exact percentages so that small numbers cannot be recalculated.

* Core services include: Screening, assessment, treatment planning or review, psychopharmological services, mental health services, co-occurring services, case management, or trauma-specific services.

** Support services include: Medical care, employment services, family services, child care, transportation, education services, housing support, social recreational activities, consumer-operated services, or HIV testing.

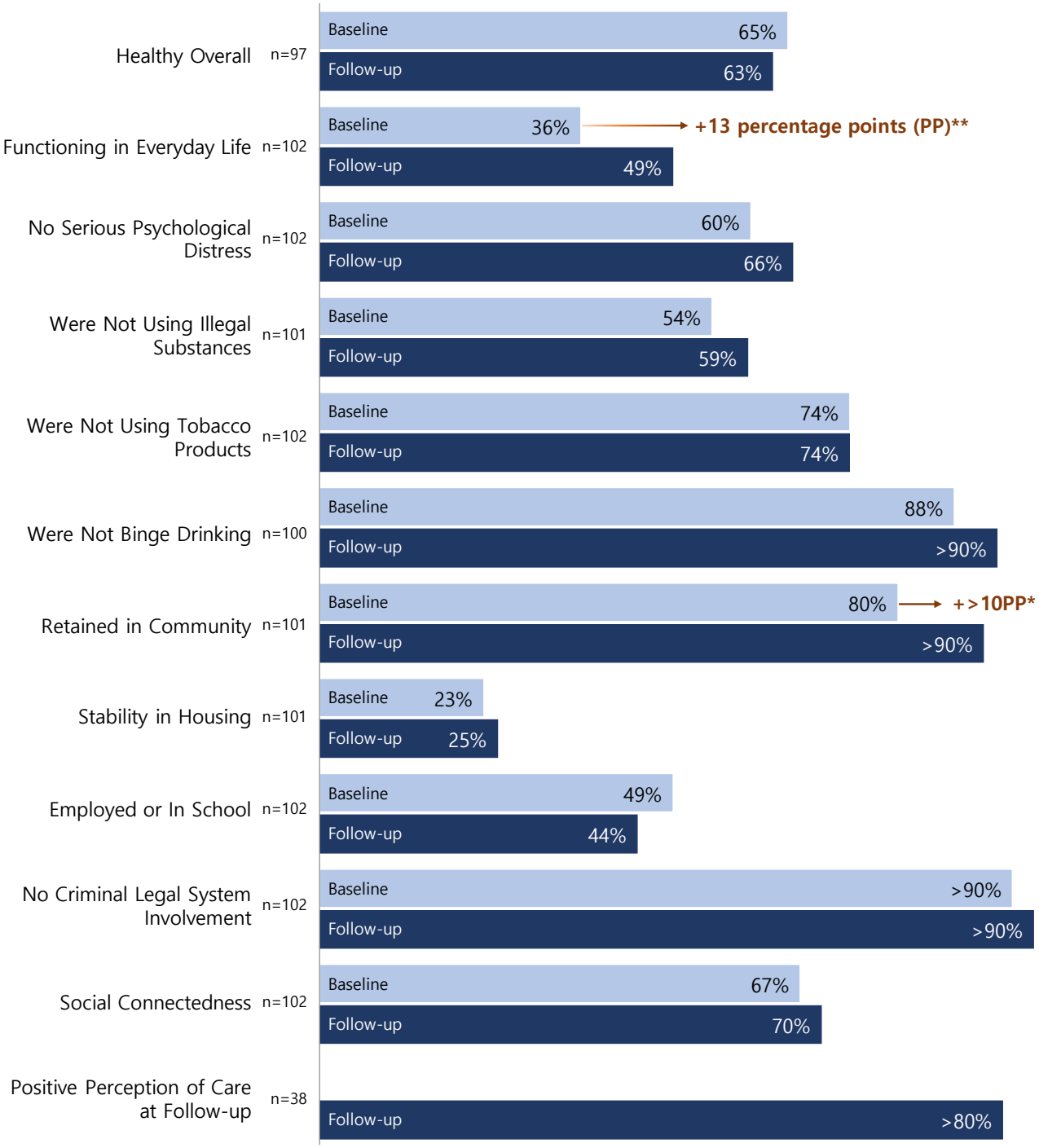
NOMs Performance Measures

In Figure 11, we present the results of key measures obtained from NOMs interviews. As of the end of September 2023, 340 of the 424 HTP participants had completed intake interviews. Baseline results for this sample of participants can be found in Appendix Table 1. Among the 102 enrollees who completed both the baseline interview and the six-month reassessment, we found improvement in several outcome measures. The percentage of enrollees who reported functioning well in everyday life increased 13 percentage points, from 36 percent at baseline to 49 percent at six months ($p<0.01$). The percentage of enrollees retained in the community increased from 80 percent to greater than 90 percent ($p<0.05$). Several measures, including the percentage of enrollees reporting no serious psychological distress, no use of illegal substances, no binge drinking, and stability in housing improved by a smaller but not statistically significant amount. Only one outcome measure, employment/education, saw a decline from 49 percent to 44 percent, though this decrease was not statistically significant. At the six-month reassessment, more than 90 percent of participants reported positive perceptions of the care they had received.

FIGURE 11

NOMs Performance Measures: Self-reported at Intake & 6-Month Follow-up

REPORTING PERIOD: FFY 2019-FFY 2023



SOURCE: National Outcome Measures data from the HTP Project. The sample is restricted to HTP participants with completed NOMs intake interviews in the old instrument with non-missing data. Measures were identified from the CMHS Consumer-Level Outcome Measures Report Guide (April 2021).

NOTE: For participants with multiple service episodes, only data collected for the first episode are included. When cell sizes are smaller than 11, inequality expressions are used in the place of exact percentages so that small numbers cannot be recalculated.

* p<0.05; ** p<0.01; ***p<0.001; ****p<0.0001

Impact Evaluation

To assess the impact of HTP services on HTP participants, we employed a quasi-experimental design. We identified a comparison group of transition-age youth and young adults with comparable baseline characteristics to HTP participants through a propensity score matching process. To ensure data availability both before and after enrollment, the analyses are restricted to HTP participants who were enrolled in the program before May 2022 and received Medicaid benefits. A total of 245 HTP participants fulfilled these criteria. The comparison group consists of 245 transition-age youth and young adults who share similar characteristics at baseline in terms of demographics, mental illness diagnoses, behavioral health service utilization, and receipt of other state services (see Appendix Table 2). We then modeled a set of several outcomes for HTP participants and the comparison group using a difference-in-difference approach, showing predicted values in Figures 12-14. We report additional results in Appendix Tables 3-4, including raw frequencies for HTP and comparison groups at pre- and post- periods. See the Technical Notes section for additional details on the methods.

What is Difference-in-Difference?

Difference-in-difference (DID) rates are the differences in change over time between the participant and comparison groups. To calculate the adjusted DID for MH non-crisis outpatient services, we:

- Ran a regression model predicting the values for estimated number of days per Medicaid member month with MH non-crisis outpatient services received:
  - For HTP participants: **2.053** in pre-period and **3.262** in post-period
  - For the comparison group: **2.218** in pre-period and **1.549** in post-period
- Calculated pre-post change for HTP participants: **3.262 – 2.053 = +1.209**
- Calculated pre-post change for comparison group: **1.549 – 2.218 = -0.669**
- Calculated the adjusted difference-in-difference rate: **(+1.209) – (-0.669) = +1.878**

In this report we present adjusted DID rates to account for remaining imbalances between HT participants and the comparison group. We present raw frequencies for each group in Appendix Table 3.

See the Technical Notes section for more detail.

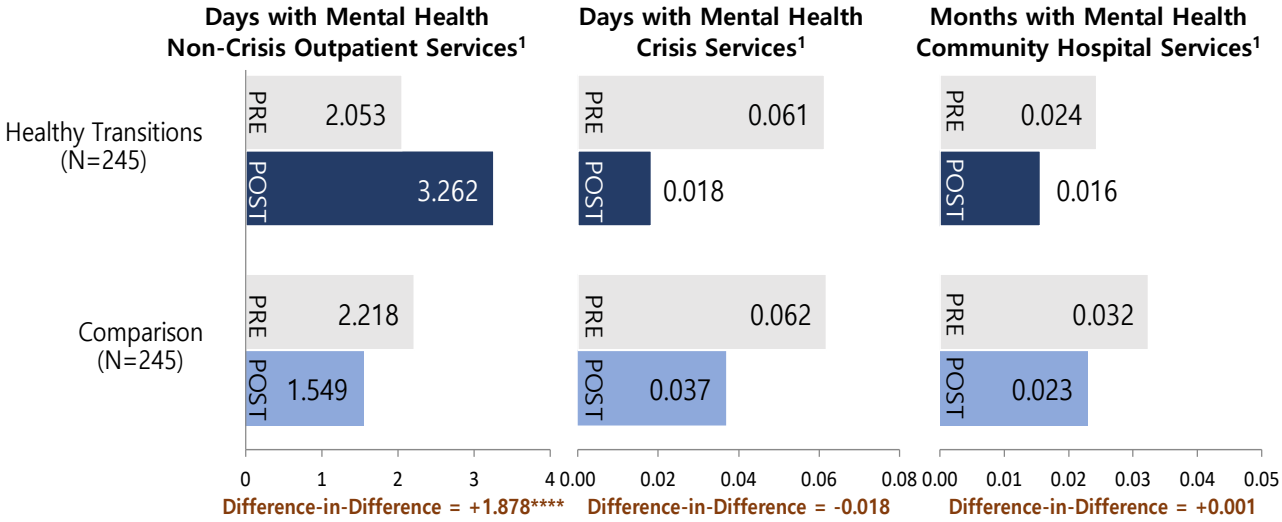
Mental Health Treatment Services

Our analysis examined treatment utilization of several mental health services, as shown in Figure 12. We found that HTP enrollees were more engaged with non-crisis outpatient treatment services after participation in the program, with an estimated difference-in-difference of 1.878 days more per Medicaid member month with services received than comparison group members. The number of days with outpatient services increased from an average of 2.053 in the 12 months prior to enrollment to 3.262 in the 12 months following enrollment for the group of HTP participants, while the days with outpatient services received decreased from an average of 2.218 in the 12 months prior to the index month to 1.549 in the 12 months following for the comparison group (significant at $p<0.0001$).

We did not observe a meaningful difference in the number of days per Medicaid member month with mental health crisis services received nor the number of months per member month with mental health inpatient treatment services received at a community hospital. These two measures tended to be higher in the 12 months prior to the index month and decreased over time for both HTP and comparison groups.

FIGURE 12

Impact Estimates, Mental Health Treatment Service Utilization



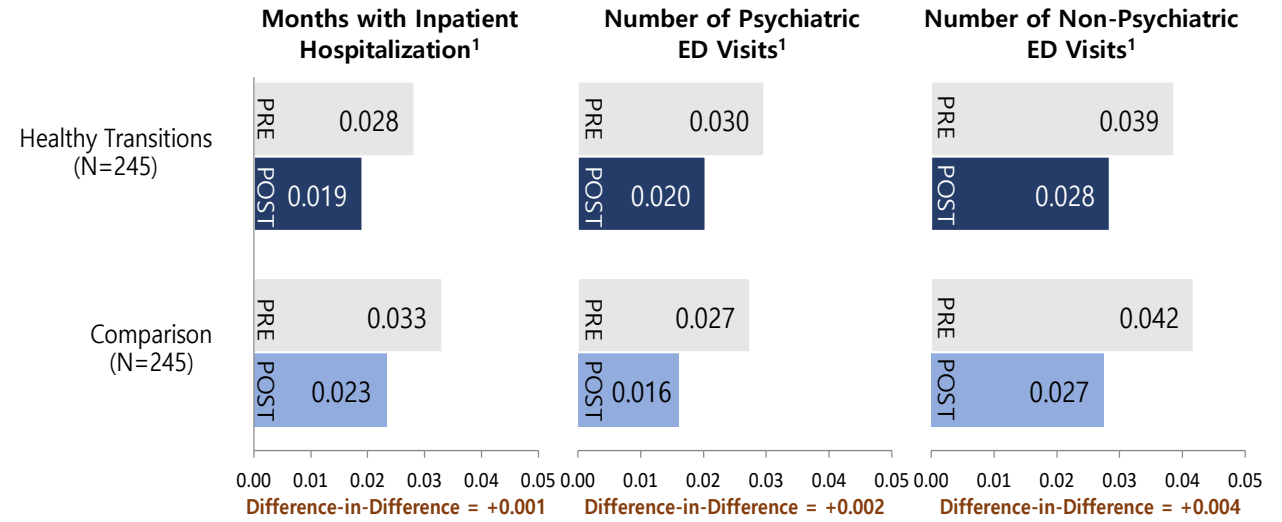
SOURCE: Washington State Administrative Data, DSHS-RDA Integrated Client Databases.
NOTES: 1. Per Medicaid member month.
* p<0.05; ** p<0.01; ***p<0.001; ****p<0.0001

Medical Service Utilization

We analyzed inpatient hospitalization and emergency department (ED) outcomes and found these measures dropped marginally in the post-period for both HTP and comparison groups, with no significant differences between the groups (Figure 13). For HTP participants, the ratio of months with inpatient hospitalization per Medicaid member month dropped from 0.028 in the 12 months prior to enrollment to 0.019 in the 12 months following enrollment. The number of psychiatric emergency visits per Medicaid member month dropped from 0.03 to 0.02, while the number of non-psychiatric emergency visits dropped from 0.039 to 0.028. We observe similar baselines and trends in the comparison group.

FIGURE 13

Impact Estimates, Medical Service Utilization



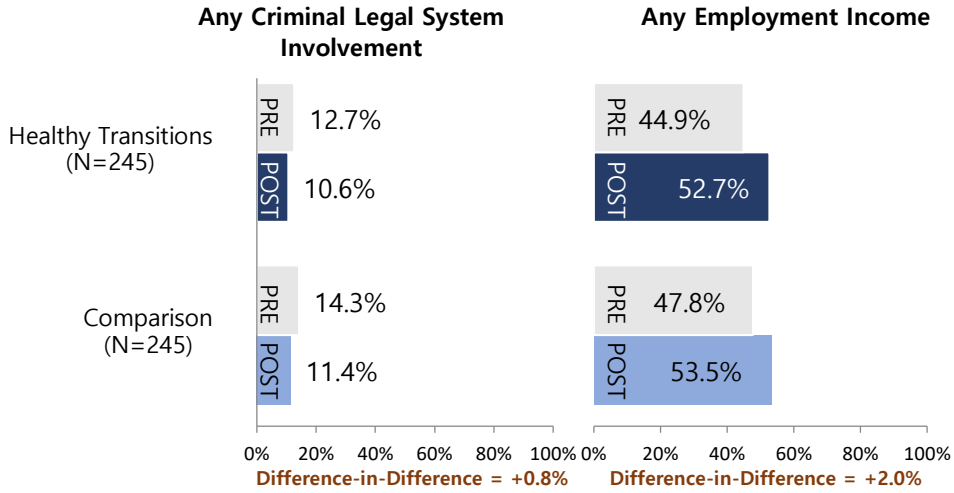
SOURCE: Washington State Administrative Data, DSHS-RDA Integrated Client Databases.
NOTES: 1. Per Medicaid member month.

Other Outcomes

We also modeled program impact on employment income and criminal legal system involvement (Figure 14). Both HTP and comparison groups were slightly less likely to have criminal legal system involvement in the post-period than the pre-period, and the difference between groups was not statistically significant. Both groups were more likely to have income from employment in the post-period, and the difference between groups was not statistically significant.

FIGURE 14

Criminal Legal System and Employment Outcomes



SOURCE: Washington State Administrative Data, DSHS-RDA Integrated Client Databases.

Discussion

Results from self-reported participant data (NOMs), service log reporting by provider sites, and administrative data (Integrated Client Databases) suggest that HTP served a group of TAY with substantial need for mental health services in Yakima, Clark, Thurston, and Whatcom Counties. Notably, a considerable percentage of HTP participants were identified as BIPOC and LGBQ youth and young adults. Following program participation, some measures of wellbeing, including functioning in everyday life and retention in community, improved notably among participants.

Through a propensity score matching approach, we were able to construct a suitable comparison group for the HTP participants that was well-matched on baseline characteristics. While most of the difference-in-difference estimates from our models were not statistically significant, we do observe a meaningful and highly significant increase in receipt of non-crisis mental health outpatient services after participation in HTP. If we accept the assumption that the need for mental health services persisted throughout program participation, then we may interpret this increase in services received relative to the comparison group as reflecting promising growth in engagement with outpatient treatment services for program participants. This interpretation is supported by the high proportion of enrollees who reported receiving core and support services in the NOMs discharge interview, as well as data from the recovery support service logs showing delivery to the majority of program participants.

Study Limitations

Both sample size and data availability constrained the evaluation.

- Limited sample sizes hindered our ability to conduct site-specific analyses. Two of the four HTP sites enrolled fewer than 30 participants each, which prevented the release of site-specific estimates for most outcomes. Comprehensive Healthcare had a unique participant population with a higher proportion of participants with psychotic disorders. Given the small sample size, we were not able to conduct a separate impact analysis for this subgroup of participants, who may possess mental health needs distinct from other HTP participants.
- National Outcome Measures (NOMs) survey data may yield biased estimates where response rates are low, such as for outcomes based on the six-month reassessment or the discharge survey. Additionally, a new version of the NOMs questionnaire was released in 2022, and some HTP participants completed interviews using the new form, limiting data comparability for key outcomes and reducing the sample size where estimates are based on the older questionnaire alone.
- Many, but not all, HTP participants were enrolled in Medicaid. Participants not enrolled in Medicaid are excluded from the impact analysis because we could not access data on their treatment outcomes. Furthermore, the design of the impact analysis necessitated follow-up data for a period of 12 months after enrollment in the program. Thus, participants enrolled in HTP during or after May 2022 could not be included in this analysis.

Directions for Future Research

Additional lines of inquiry could be pursued with additional data resources to maximize sample size and to more thoroughly explore how program participation is related to outcomes of interest.

- Additional information on the core and support services delivered to HTP participants would allow for a dose-response analysis to explore the impact of HTP on participants with varying levels of engagement and differing care needs.
- Data on education outcomes would allow us to explore the impact of HTP participation on enrollment in and completion of high school (or equivalent) and university degrees.

As the Washington State Health Care Authority has secured additional funding from SAMHSA for the HTP, we hope to conduct these analyses in the future to comprehensively assess the program's effectiveness.

APPENDIX TABLE 1

Baseline HTP National Outcome Measures: Self-reported at Intake

REPORTING PERIOD: FFY 2019-FFY 2023

	TOTAL		Columbia River MHS (Clark County)		Comprehensive Healthcare (Yakima County)	
	NUMBER Non-Missing Responses	PERCENT at Intake	NUMBER Non-Missing Responses	PERCENT at Intake	NUMBER Non-Missing Responses	PERCENT at Intake
Healthy Overall: Were healthy overall	331	67%	150	56%	153	82%
Functioning in Everyday Life: Consumer perceptions of functioning in everyday life	338	39%	155	23%	154	59%
No Serious Psychological Distress: No serious psychological distress reported in the last 30 days	336	61%	154	47%	153	75%
Were Not Using Illegal Substances: Were not using illegal substances in the last 30 days.	335	54%	154	50%	153	60%
Were Not Using Tobacco Products: Were not using tobacco products in the last 30 days.	337	71%	155	71%	153	75%
Were Not Binge Drinking: Were not binge drinking in the last 30 days.	334	88%	152	88%	153	88%
Retention: Retained in the community	335	73%	153	85%	153	63%
Stability in Housing: Had a stable place to live in the community	337	23%	155	20%	153	22%
Employment/Education: Were currently employed or in school	338	54%	155	55%	154	51%
No Criminal Legal System Involvement: Had **no** arrests in the past 30 days	338	97%	155	>90%	154	>90%
Social Connectedness: Were socially connected	336	63%	155	57%	153	69%

SOURCE: National Outcome Measures data from the HTP Project. Because outcome data collected from the new combined instrument cannot be directly compared to the data collected using the old adult instrument, we report results exclusively from interviews conducted with the old adult instrument, which are based on a larger sample. Sample is restricted to HTP participants with completed NOMs intake interviews with nonmissing data. Measures were identified based on CMHS NOMs Client-Level Measures (Services Activities): Outcome Measures Report Guide (April 2021).

NOTE: For participants with multiple services episodes, only data collected for the first episode are included. When cell sizes are smaller than 11, inequality expressions are used in the place of exact percentages so that small numbers cannot be recalculated.

APPENDIX TABLE 2

Baseline Characteristics of HTP Participants and Comparison Group

	Healthy Transitions Participants (N=245)	Comparison Group (N=245)	Absolute Standardized Mean Difference
Demographics			
Age 19-26	78.8%	78.8%	n.a.
Male Gender	46.5%	48.6%	-0.041
Race and Ethnicity[1]			
American Indian or Alaska Native	13.9%	15.9%	-0.059
Asian, Native Hawaiian or Other Pacific Islander	6.1%	7.3%	-0.051
Black or African American	11.0%	9.4%	0.052
Hispanic or Latino	34.3%	35.1%	-0.017
White-only, non-Hispanic	46.1%	42.4%	0.074
Geography			
County of Residence Urban-High Density	52.2%	52.2%	n.a.
County of Residence Urban-Medium/Low Density	44.5%	43.3%	0.025
County of Residence in Western Washington	54.3%	57.1%	-0.057
Mental Health Diagnosis, 12 Months Prior to Index Month			
Anxiety Diagnosis	60.0%	61.2%	-0.025
Depression Diagnosis	57.1%	58.8%	-0.033
Psychotic Diagnosis	31.4%	35.1%	-0.079
Disruptive/Impulse/Conduct Diagnosis	20.0%	20.4%	-0.010
ADHD Diagnosis	17.1%	19.2%	-0.054
Mania/Bipolar Diagnosis	14.3%	15.5%	-0.035
Adjustment Diagnosis	5.7%	6.1%	-0.018
Substance Use Disorder Treatment Need	29.0%	28.6%	0.009
Treatment Services, 12 Months Prior to Index Month			
Medicaid Enrollment (1-9 months prior to index)	98.8%	99.6%	-0.074
Medicaid Enrollment (10-12 months prior to index)	91.8%	92.2%	-0.015
Any Psychotropic Medications Filled	67.3%	69.4%	-0.044
Any Inpatient Hospitalization	21.6%	20.8%	0.020
Any Mental Health Community Hospital Services	17.6%	17.1%	0.011
Any Mental Health Crisis Services	13.9%	18.0%	-0.118
Any Psychiatric ED Utilization (1-3 months prior to index)	18.0%	15.5%	0.064
Any Psychiatric ED Utilization (4-12 months prior to index)	15.1%	14.3%	0.023
Days Receiving Mental Health Outpatient Services (0 days)[2]	18.4%	13.9%	0.116
Days Receiving Mental Health Outpatient Services (1-15)[2]	33.1%	32.7%	0.009
Days Receiving Mental Health Outpatient Services (16-30)[2]	19.2%	20.4%	-0.031
Days Receiving Mental Health Outpatient Services (30+)[2]	29.4%	33.1%	-0.081
State-funded Services, 12 Months Prior to Index Month			
Receiving Basic Food Benefits	58.4%	56.3%	0.041
Housing Instability	18.0%	18.8%	-0.021
Any Child Welfare Involvement	16.3%	15.1%	0.033
Receiving TANF Benefits	6.5%	5.3%	0.050
Receiving DDA Services	1.2%	2.4%	-0.111

SOURCE: Washington State Administrative Data, DSHS-RDA Integrated Client Databases.
NOTE: Baseline is defined as 12 months prior to enrollment, unless otherwise indicated. An absolute standardized mean difference (ASMD) less than 0.1 indicates good sample balance. The comparison group members were exact matched on age category (18 and above vs. below 18), resulting in perfect balance between the two groups on this variable.
1. Race and ethnicity groups are not mutually exclusive, except for "White-only, non-Hispanic"; responses do not sum to 100%; "Asian" and "Native Hawaiian or other Pacific Islander" groups are combined due to small sample size. 2. Total number of days in the 12 months prior to index receiving outpatient services excluding crisis mental health services.

APPENDIX TABLE 3

Pre- and Post-Enrollment Characteristics of Healthy Transitions and Comparison Groups

	Healthy Transitions Participants				Comparison Group			
	Pre-enrollment		Post-enrollment		Pre-enrollment		Post-enrollment	
	NUMBER	%	NUMBER	%	NUMBER	%	NUMBER	%
All Sites Combined (TOTAL N)	**245**		**245**		245		245	
Any Mental Health (MH) Non-Crisis Outpatient Services	200	81.6%	237	96.7%	211	86.1%	170	69.4%
Any Inpatient Hospitalization	53	21.6%	41	16.7%	51	20.8%	37	15.1%
Any MH Community Hospital Services	43	17.6%	33	13.5%	42	17.1%	28	11.4%
Any MH Crisis Services	34	13.9%	22	9.0%	44	18.0%	23	9.4%
Any Criminal Legal System Involvement	31	12.7%	26	10.6%	35	14.3%	28	11.4%
Any Employment Income	110	44.9%	129	52.7%	117	47.8%	131	53.5%
	AVERAGE		AVERAGE		AVERAGE		AVERAGE	
Days with MH Non-Crisis Outpatient Services[1]	2.120		3.270		2.188		1.609	
Days with MH Crisis Services[1]	0.064		0.018		0.061		0.038	
Months with Inpatient Hospitalization[1]	0.025		0.018		0.032		0.023	
Months with MH Community Hospital Service[1]	0.021		0.015		0.030		0.021	
Number of Psychiatric ED Visits[1]	0.025		0.019		0.022		0.017	
Number of Non-psychiatric ED Visits[1]	0.036		0.028		0.038		0.028	

SOURCE: Washington State Administrative Data, DSHS-RDA Integrated Client Databases.
NOTE: Baseline is defined as 12 months prior to enrollment, unless otherwise indicated.
1. Per Medicaid member month.

APPENDIX TABLE 4

Impact Evaluation Results

	Healthy Transitions Participants		Comparison Group		Difference-in-Difference (Model adjusted)
	Pre-enrollment	Post-enrollment	Pre-enrollment	Post-enrollment	
	%	%	%	%	
All Sites Combined (TOTAL N)	**245**	**245**	**245**	**245**	
Any MH Non-Crisis Outpatient Services	81.6%	96.7%	86.1%	69.4%	31.84%****
Any Inpatient Hospitalization	21.6%	16.7%	20.8%	15.1%	0.8%
Any Mental Health Community Hospital Services	17.6%	13.5%	17.1%	11.4%	1.6%
Any Mental Health Crisis Services	13.9%	9.0%	18.0%	9.4%	3.7%
Any Criminal Legal System Involvement	12.7%	10.6%	14.3%	11.4%	0.8%
Any Employment Income	44.9%	52.7%	47.8%	53.5%	2.0%
	AVERAGE	AVERAGE	AVERAGE	AVERAGE	
Days with MH Non-Crisis Outpatient Services[1]	2.053	3.262	2.218	1.549	1.8778****
Days with MH Crisis Services[1]	0.061	0.018	0.062	0.037	-0.018
Months with Inpatient Hospitalization[1]	0.028	0.019	0.033	0.023	0.001
Months with MH Community Hospital Service[1]	0.024	0.016	0.032	0.023	0.001
Number of Psychiatric ED Visits[1]	0.030	0.020	0.027	0.016	0.002
Number of Non-psychiatric ED Visits[1]	0.039	0.028	0.042	0.027	0.004

SOURCE: Washington State Administrative Data, DSHS-RDA Integrated Client Databases.
NOTE: Baseline is defined as 12 months prior to enrollment, unless otherwise indicated.
1. Per Medicaid member month.
* p<0.05; ** p<0.01; ***p<0.001; ****p<0.0001

DATA SOURCES AND MEASURES

Data used for this report included interviews collected by the provider sites to meet federal reporting requirements and administrative data from RDA's Integrated Client Databases (ICDB).

National Outcome Measures (NOMs). The HTP providers were required to conduct NOMs interviews for all participants at program intake, six-month follow-up, and discharge. The NOMs interviews were conducted face-to-face or via phone, and included demographics and measures on alcohol and drug use, mental and physical health, and other social outcomes related to substance use such as education, employment, criminal legal system, and social connectedness. These outcomes may also be referred to as Government Performance and Results Act (GPRA) Client Outcome Measures.

Integrated Client Databases (ICDB). Administrative data came from RDA's Integrated Client Database (ICDB), a set of longitudinal client databases containing 20 years of detailed service risks, history, costs, and outcomes (Mancuso & Huber, 2021).

- **Demographic characteristics:** Age, race, gender, and county of residence information for the comparison group came from compiled client records in the ICDB.
- **Behavioral health indicators:** Information about mental health diagnoses, substance use disorders and mental health treatment history was retrieved from Behavioral Health Data System (BHDS) and the Medicaid electronic data system, ProviderOne, including encounter records submitted by the Behavioral Health Organizations.
  - **Mental health treatment need:** Mental health treatment need was defined as having at least one mental health diagnosis, prescription or service recorded in the administrative data.
  - **Substance use disorder treatment need:** Substance use disorder treatment need was defined as having at least one substance use disorder diagnosis, prescription or service recorded in the administrative data, or having a drug- or alcohol-related arrest from Washington State Patrol.
  - **Mental health treatment utilization:** The utilization of mental health treatment services, such as outpatient treatment services, crisis mental health services, and inpatient treatment services delivered in community hospitals, was identified from ProviderOne and BHDS claims and encounter records. Additionally, we analyzed data for treatment received from state-owned psychiatric hospitals (these results are not reported due to small sample size).
- **Health care indicators:** Medicaid eligibility, emergency department visits, and medical inpatient hospitalization were identified from the ProviderOne medical claims and encounter records for Medicaid/Children's Health Insurance Program (CHIP) clients. We also identified study participants who had medical records indicating attempted suicide and self-harm (these results are not reported due to small sample size).
- **Social service use:** Recipients of Temporary Assistance for Needy Families (TANF) and Basic Food were identified from client records in the ICDB. Homelessness and housing instability indicators were based on living arrangement codes recorded during eligibility determination. These data elements were originally integrated from the Automated Client Eligibility System (ACES). Receipt of child welfare services is an ICDB data element originally integrated from the FamLink data system maintained by the Department of Children, Youth, and Families.
- **Criminal legal system involvement:** Criminal legal system involvement was measured as receiving any service from Juvenile Rehabilitation, or having any arrest, charge, conviction records in the Washington State Patrol (WSP) data and the Washington State Institute for Public Policy (WSIPP) Criminal History Database.
- **Income:** Employment data were obtained from employer-reported information in the Washington State Employment Security Department (ESD) Unemployment Insurance wage file.

Recovery Support Service (RSS) Logs. The HTP providers were required to maintain and submit monthly data logs on the recovery support service events, hours, and expenditures invested for each client in each service category (Alcohol/Drug-Free Activities, Basic Needs, Transportation, Educational Services, Pre-employment, Housing, Financial Literacy, Health, Advocacy/Youth Voice).

IMPACT EVALUATION METHODOLOGY

We used a quasi-experimental longitudinal design to examine outcomes over time for HTP participants and a comparison group. To ensure data availability both before and after enrollment, the analyses are restricted to HTP participants who were enrolled in Medicaid and joined the program before May 2022. A total of 245 HTP participants fulfilled these criteria.

Propensity score matching. We formed a comparison group pool comprising TAY that met the following criteria:

- Received Medicaid full benefits or CHIP any month in the 12 months prior to the index month between November 2019 – April 2022, restricted due to data completeness;
- Received Medicaid full benefits or CHIP any month in the 12 months after the index month;
- Were aged 16-25 as of the index month;
- Had indicated mental health treatment needs in the 12 months prior to the index month, and
- Did not receive HTP services at any time.

The index month for the comparison group is defined as any month when an individual was within the HTP age range and had indicated mental health treatment needs in the prior 12 months.

We established a logistic regression model to predict the likelihood of entering the HTP program and to select comparison group members closely matching the characteristics of HTP participants. Matching criteria included baseline variables such as age, sex, race/ethnicity, urbanicity of participants' county of residence, homelessness, mental illness diagnoses, behavioral health service utilization, and receipt of other state services, including child welfare, basic food, TANF, and developmental disability services. The resulting comparison group consists of 245 TAY (see Appendix Table 2).

Analytical approach. We evaluated the impact of HTP services using a "difference-in-difference" approach. A series of generalized estimating equation (GEE) models were computed to compare the change in outcome measures between the HTP and comparison groups before and after enrollment or the index month. GEE models are regression models that have the capacity to address the correlation between paired responses inherent in repeated measures.

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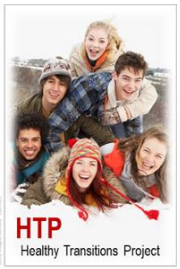

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ACKNOWLEDGEMENT

We want to acknowledge the work of our colleagues throughout the research and data analysis division and our partner programs for all the work they do in serving Washington's vulnerable populations.