Oregon Intensive In-Home Behavioral Health Treatment

2023 ANNUAL REPORT

Prepared by the Data, Evaluation and Technical Assistance (DAETA) Team at
Oregon Health & Science University

Report to the Oregon Health Authority for Contract 179963

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Introduction

Intensive In-Home Behavioral Health Treatment (IIBHT) is a level of care introduced by the Oregon Health Authority (OHA) in 2020 for youth ages 0-20 with intensive behavioral health needs. The program offers a variety of in-home and community-based services, including: case management, psychiatric services, skills training, individual and family therapy, crisis support, and peer support.

The OHSU Data Evaluation and Technical Assistance (DAETA) Team collects and analyzes IIBHT program data. The following report includes a description of the data collected in 2023, results of various statistical analyses, accomplishments and future work, and recommendations to OHA.

Statewide Data Summary

Since its launch in 2021, Oregon's IIBHT program has enrolled 446 youth, with 292 youth being discharged (**Table 1**). As of December 31, 2023 there were 154 youth actively enrolled in the program across the state.

The Q4 2023 IIBHT Quarterly Report (submitted to OHA on February 15, 2023; Appendix A), presents aggregate data for the agencies reporting in REDCap. The report includes quarterly and cumulative annual data. **Key statewide data and trends for 2023 are summarized below.**

Table 1. Number of youth enrolled and discharged by quarter/year

	2021	2022				2022	2023				2023	GRAND
	TOTAL	Q1	Q2	Q3	Q4	TOTAL	Q1	Q2	Q3	Q4	TOTAL	TOTAL
Youth Enrolled	**63**	23	28	60	49	**160**	47	53	59	64	**223**	**446**
Youth Discharged	**26**	18	14	30	37	**99**	45	34	34	54	**167**	**292**

Demographics

Age: The average age of youth enrolled in IIBHT was 13 years old, with most youth being between 9 and 15 years old.

Gender Identity and Sexual Orientation: In 2023, IIBHT served more male (51%) and female (35%) youth than any other single gender category (9% other and 5% unknown), compared to 2021 (43%, 38%, 10%, 9% respectively) and 2022 (50%, 36%, 4%, 10% respectively). The majority of youth who

enrolled in 2023 identified as straight (47%) with 34% identifying as LGBTQ+ and 19% unknown, which was consistent with prior years.

Race and Ethnicity: IIBHT primarily served White (85%) youth, which was consistent with prior years. Other race categories included American Indian/Alaska Native (5%), Asian (3%), Black/African American (5%), Hispanic or Latino (10%), Native Hawaiian or Pacific Islander (1%), Other (4%), and unknown (2%).

Total Household Income and Average Household Size: An estimated 26% of families reported household incomes of less than $25,000/year; however, income information was missing for 34% of families. The average household size ranged from 4.13-4.38 people.

Foster Care and Adoption Status: 34% of the youth in IIBHT were reported as having been in foster care at enrollment or previously, while 11% of youth in IIBHT were reported as having been adopted.

Pathway into Program

Referral Source: While outpatient therapists were the most common referral source (38%), this proportion decreased by 18% over the past 2 years (56% in 2021 and 44% in 2022). The second most common referral source was DHS (11%), which was similar to prior years. Other referral sources were similarly distributed around 6%.

Presenting Referral Issue: Almost half (44%) of youth in IIBHT presented with a condition that significantly affected their functioning; 41% were identified as being at high risk of developing a condition of a severe or persistent nature. In addition, the percentage of youth who were identified as “may require residential treatment” or who were discharging from residential/higher level of care (39%) increased by 18% since 2022.

Clinical Presentation

Diagnoses: Similar to 2022, the most common presenting diagnostic categories for youth in IIBHT included Attention Disorders (52%), Trauma and Stressor-Related Disorders (48%), Depressive Disorders (36%) and Anxiety Disorders (34%).

Trauma History: Most youth (87%) in IIBHT reported having a trauma history, which is consistent with trauma history rates from prior years. Common types of trauma included witnessing domestic violence (39%), emotional abuse (22%), sexual abuse (21%), neglect (19%), and/or physical abuse (17%). The question regarding types of trauma was updated in Q3 2023 to separate out neglect from physical abuse and emotional abuse, so the proportions for types of trauma only reflect Q3 and Q4 responses.

Suicidality/NSSI History: 76% of youth in IIBHT reported a history of suicidal ideation, non-suicidal self- injury (NSSI), and/or have attempted suicide. This has stayed consistent since 2022.

Substance Use History: Consistent with 2022, 27% of youth in IIBHT reported a history and/or current use of alcohol and/or drugs.

Discharge Information

Care at Discharge and Program Length: 50% of youth who discharged from IIBHT transitioned to a lower level of care, while 19% stopped engaging with the program and 10% discharged to a higher level of care. The average program length for youth who transitioned to a lower level of care was 169 days, which was about 1 month longer than youth who discharged for any other reason (131 days). For all youth who discharged in 2023, the average program length was 150 days. Most youth discharged (65%) were connected to the clinically recommended level of care at program discharge.

Barriers to Accessing the Recommended Care: Overall, an estimated 71% of youth discharged had one or more barrier to obtaining the recommended level of care at discharge. The most common barriers included the youth/family declining further services (22%) and/or the youth/family being unable to engage in recommended services (17%). In addition, 16% had barriers that were unlisted.

Major Events During the Program: The most common major events that occurred during IIBHT included the youth having a mental health emergency department (ED) visit (25%) and/or the youth having a major family change, such as a parental divorce or move (17%). In 2023, there was a 10% increase from 2022 in the number of youth presenting to EDs while enrolled in the program. However, similar to 2022, 43% of youth discharged with no major events occur during the program.

Standardized Outcomes Measures

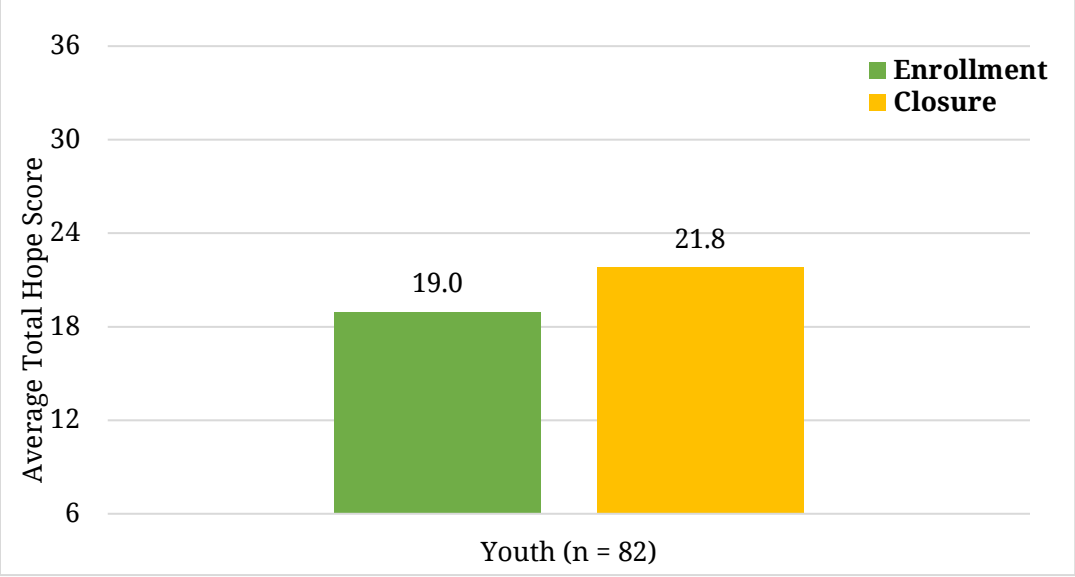
Two standardized measures are filled out at program enrollment and closure: The Hope Scale and The Ohio Scales. This section describes each measure and reports whether there was a statistical improvement in scores from enrollment to discharge. Paired t-tests were used to compare the mean scores at enrollment and discharge, and a significant improvement in score is noted when p-values < 0.05. When statistical significance is noted, it means that there was statistical support for a relationship or change between pre- and post- scores.

The Hope Scale

The Hope Scale is filled out by youth at enrollment and closure. The measure provides two subscores, Pathways and Agency, that range from 3-18, and a Total Hope Score that ranges from 6-36. Pathways represents a youth's perceived ability to set goals and identify concrete steps to achieve them. Agency is a youth's confidence, motivation, and belief that they can follow Pathways to achieve their goals. Together, these two sub-scores provide a Total Hope Score, with **higher scores indicating more hope** (Snyder et al. 1997).

In 2023, youth demonstrated statistically significant improvement in Total Hope Scores from enrollment to closure (Figure 1), p < 0.001.

Figure 1. Hope Scale average pre- and post- total scores



Snyder et al. (1997). The Development and Validation of the Children's Hope Scale. *Journal of Pediatric Psychology, 22*(3), 399-421.

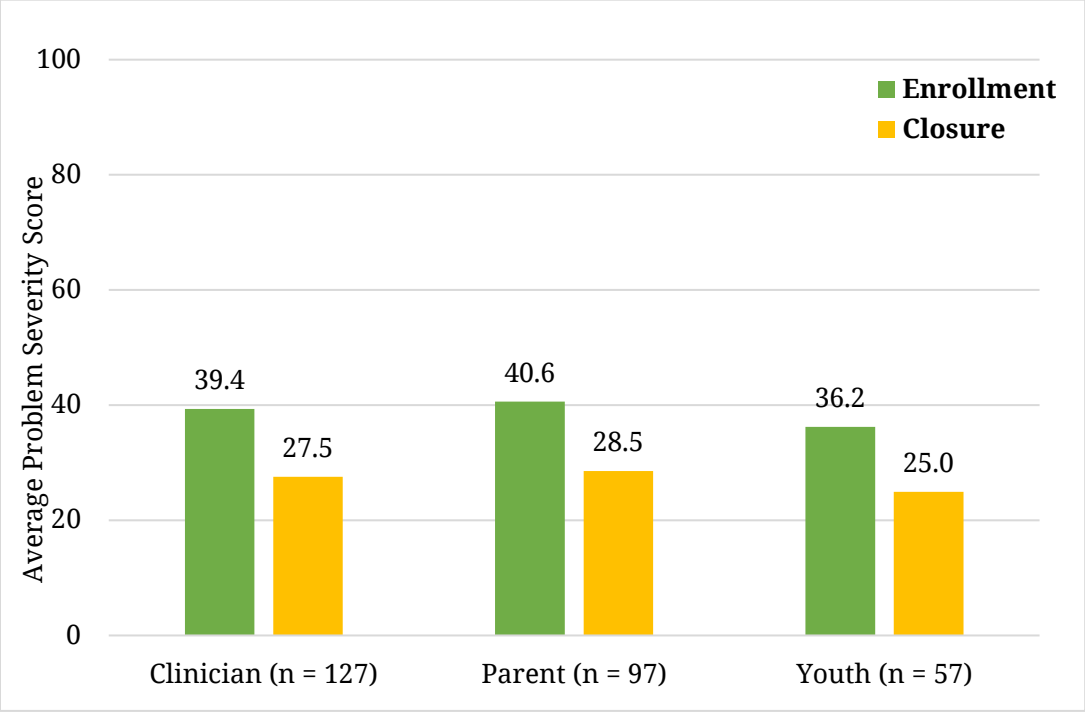
The Ohio Scales

The Ohio Scales are separately filled out by the clinician, parent, and youth and include five different subscales: The Problem Severity Scale, the Functioning Scale, the Hopefulness Scale, and the Satisfaction Scale.

The **Problem Severity Scale** measures the severity of the youth's mental health symptoms. The clinician, parent, and youth complete this scale. Scores on this scale range from 0-100 with **higher scores indicating more severe challenges**.

In 2023, the mean difference in youth symptom severity from intake to closure showed statistically significant improvement across all raters (Figure 2), clinician: p <0.001; parent: p < 0.001; youth: p < 0.001.

Figure 2. Ohio Problem Severity Scale average pre- and post- scores

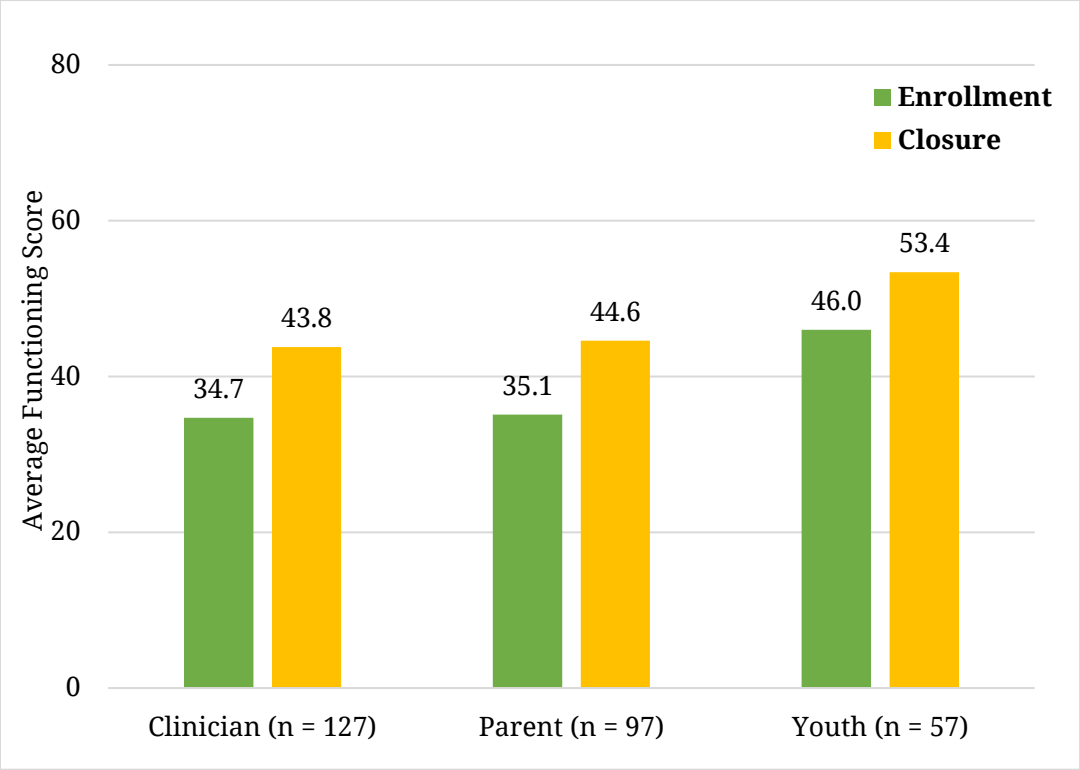


Ogles et al. (2001). The Ohio Scales: Practical Outcome Assessment. Human Science Press, Inc.

The **Functioning Scale** measures the youth's functional strengths and needs in areas of daily life. The clinician, parent, and youth complete this scale. Scores on this scale range from 0-80 with **higher scores indicating better functioning**.

In 2023, the mean difference in youth functioning from intake to closure showed statistically significant improvement across all raters (Figure 3), clinician: p <0.001; parent: p < 0.001; youth: p = 0.001.

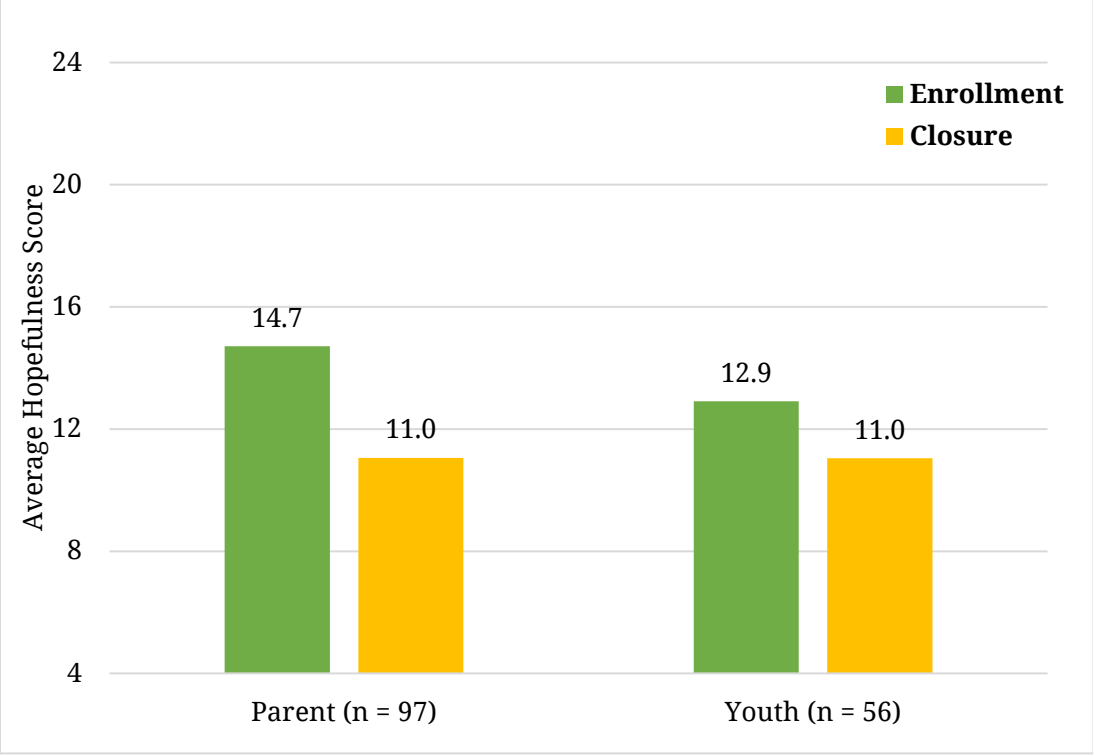
Figure 3. Ohio Functioning Scale average pre- and post- scores



The Ohio **Hopefulness Scale** measures hopefulness and well-being. The parent and youth complete this scale about themselves, and scores reflect the parent's self-reported hopefulness and well-being and the youth's self-reported hopefulness and well-being. Scores on this scale range from 4-24 with **lower scores indicating more hopefulness and well-being**.

In 2023, statistically significant improvement in hopefulness was seen for both parent and youth ratings (Figure 4), parent $p < 0.001$; youth: $p = 0.002$.

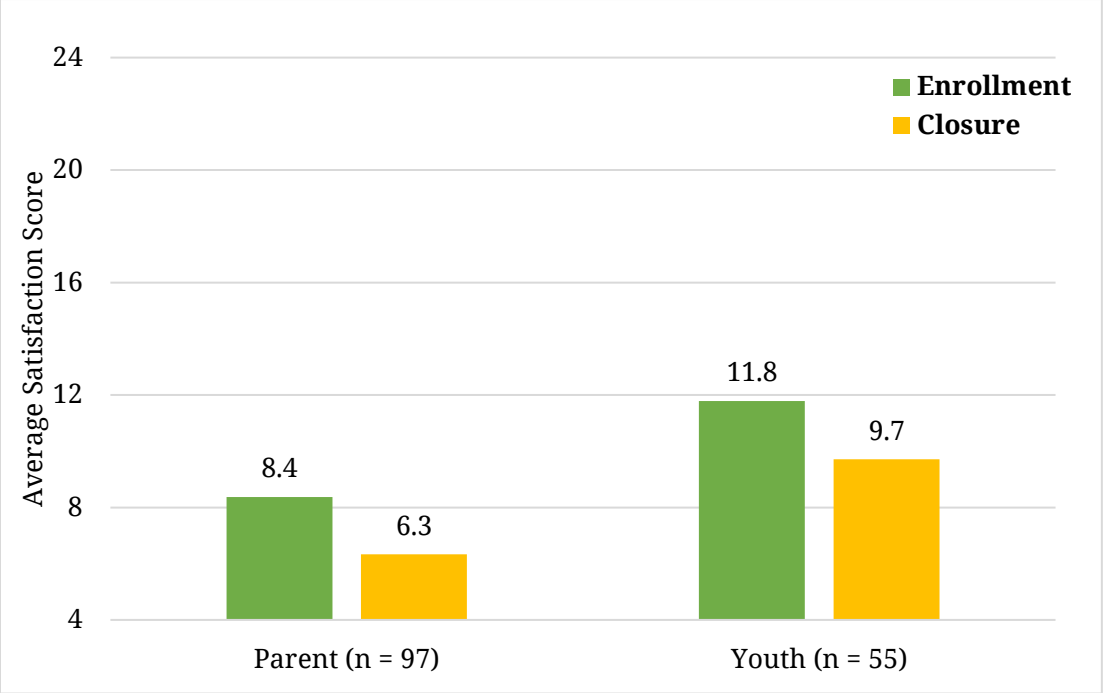
Figure 4. Ohio Hopefulness Scale average pre- and post- scores



The **Satisfaction Scale** measures satisfaction with services. The parent and youth both complete this scale; scores reflect the parent's satisfaction with services and the youth's satisfaction with services. Enrollment scores are likely to reflect experiences with past providers, while closure scores should reflect the family's experience with IIBHT. Scores on this scale range from 4-24 with **lower scores indicating better satisfaction**.

In 2023, statistically significant improvement in satisfaction with services was seen for both parent and youth ratings (Figure 5), parent: $p < 0.001$; youth: $p = 0.003$.

Figure 5. Ohio Satisfaction Scale average pre- and post- scores



Medicaid Analysis (2021-2022)

A statistical analysis of Medicaid claims data from 2021-2022 for youth enrolled in IIBHT is presented in this section. Claims data, which includes all billable services a youth receives through Medicaid, was used to better understand what services were used by youth in IIBHT and to identify whether any youth had behavioral health recidivism to locations including EDs or psychiatric inpatient units (during and up to 1-month after the program). Full methodology and results can be found in Appendix B.

The analysis includes 210 youth enrolled in IIBHT during 2021 and 2022, as 2023 Medicaid data is not yet available. Please note that because 2023 data is unavailable, this is a different sample of youth than what is presented in the rest of this report. **Table 1** describes the sample characteristics of the 2021-2022 sample of youth enrolled in IIBHT with claims data.

KEY TAKEAWAYS:
SAMPLE CHARACTERISTICS

⇒ A majority of youth in IIBHT are referred from outpatient levels of care (63%). On average, only 12% of youth are referred as a step-down from residential treatment or subacute facilities.
⇒ Youth in IIBHT have complex mental health presentations, including high rates of trauma (85%) and suicidality (varies).

Table 1. Demographics and clinical characteristics of IIBHT participants enrolled during 2021-2022 with Medicaid claims data (n = 210)

	n (%)
Gender	
Male	102 (48.6%)
Female	78 (37.1%)
Other	12 (5.7%)
Unknown	18 (8.6%)
Age at Intake	
Mean (SD)	12.5 (2.91)
Median [Min, Max]	13.0 [5.00, 20.0]
Race/Ethnicity	
White	143 (68.1%)
Hispanic	37 (17.6%)
Non-White	30 (14.3%)

	n (%)
Program Referral Source	
Subacute/Residential	25 (11.9%)
IOP	12 (5.7%)
Crisis Center/ED	*
Outpatient System of care	132 (62.9%)
Other	24 (11.4%)
Unknown	13 (6.2%)
Foster Care (Ever)	79 (37.6%)
Prior Non-Suicidal Self-Injury (NSSI)	75 (35.7%)
Current NSSI	21 (10.0%)
Prior Suicidal Ideation	111 (52.9%)
Current Suicidal Ideation	39 (18.6%)
Suicide Attempt (Ever)	57 (27.1%)
Trauma History	179 (85.2%)
Prior Substance Use	36 (17.1%)
Current Substance Use	17 (8.1%)
Referral Issue (Multi-Select)	
Youth is at immediate risk of psychiatric hospitalization or removal from home due to emotional and mental health conditions	29 (13.8%)
Youth may require residential treatment or youth is discharging from residential treatment or higher levels of care	49 (23.3%)
Youth exhibits behavior that indicates high risk of developing conditions of a severe or persistent nature	97 (46.2%)
Youth is experiencing a mental health condition(s) but not requiring hospitalization/removal from home	110 (52.4%)
Mental Health Diagnoses	
ADHD	100 (47.6%)
Anxiety Disorders	73 (34.8%)
Depressive Disorders	75 (35.7%)
Impulse/Conduct Disorders	43 (20.5%)
Autism Spectrum Disorders	27 (12.9%)
Substance/Addictive Disorders	10 (4.8%) **
Trauma/Stressor Disorders	109 (51.9%)
Other Disorder	8 (3.8%) **

* Data suppressed to maintain confidentiality (n < 5)

** May be statistically unreliable due to small numbers (5 ≤ n < 12); interpret with caution

Service Elements

An analysis of service elements accessed one month before program intake and during IIBHT is presented in this section. Services are grouped into two categories: IIBHT-related services and non-IIBHT services. IIBHT-related service elements are available through the program or community, including therapy, psychiatry, peer delivered services, skills training, and 24/7 crisis support. Non-IIBHT behavioral health services, which are services that cannot be provided by IIBHT teams, included partial hospitalization, group therapies, and Wraparound.

Prior to IIBHT intake, 55% of the sample were already connected to therapy and 29% connected to psychiatry. During the program, an additional 20% were connected to therapy and 24% connected to psychiatry. For skills training, 27% of the sample utilized this service in the month prior to IIBHT intake, with an additional 25% connected during IIBHT. Among those connected to peer delivered services during IIBHT (20%), a larger proportion was accessed at rural service locations (17%) compared to urban locations (3%). This trend may reflect the knowledge that peer services are often utilized in rural areas, especially during IIBHT, as participants may be waiting for access to other services that may have waitlist issues due to workforce shortages prominent in more sparsely populated areas of Oregon. For crisis support, 14% received these services prior to IIBHT intake, with an additional 9% needing crisis support during IIBHT. Wraparound (41%) was the most common non-IIBHT related program utilized by this population, with 19% enrolled in the month prior to IIBHT intake, and an additional 22% simultaneously enrolled in Wraparound during IIBHT. All behavioral health service elements by urban or rural zip code designation in place 1-month prior to IIBHT intake and during IIBHT, is presented in **Table 2**.

One of IIBHT's goals is to increase connections to behavioral health services. The mean number of behavioral health services utilized in the month prior to IIBHT was 1.6 service elements (1.4 IIBHT-specific, 0.2 non-IIBHT). The number of service elements significantly increased during IIBHT, with the mean number of service elements increasing to 2.7 (2.1 IIBHT related, 0.6 non-IIBHT related) during program enrollment. The difference in average number of services before and during IIBHT are analyzed using paired t-tests, with results presented in **Table 3**.

KEY TAKEAWAYS:
SERVICE UTILIZATION

- ⇒ Youth are being connected to therapy, psychiatry, skills training, peer-delivered services, and crisis support while in IIBHT.
- ⇒ Programs in rural areas (17%) of the state are using peer-delivered service providers more than urban areas (3%).
- ⇒ Wraparound (41%) is the most common program that youth are simultaneously enrolled in prior/during IIBHT.
- ⇒ On average, youth consistently receive more behavioral health services during IIBHT than they do prior to program intake.

Table 2. 2021-2022 Medicaid claims identified behavioral health services elements utilized by IIBHT participants by urban versus rural zip code designation (n = 210)

	1-month prior to Intake			During IIBHT Program			Combined
IIBHT Related Services	**Urban**	**Rural**	**Total**	**Urban**	**Rural**	**Total**	**Total**
Therapy	65 (31%)	50 (24%)	115 (55%)	19 (9%)	22 (10%)	41 (20%)	156 (74%)
Psychiatry	30 (14%)	31 (15%)	61 (29%)	31 (15%)	19 (9%)	50 (24%)	111 (53%)
Undetermined Therapy or Psychiatry	49 (23%)	60 (29%)	109 (52%)	21 (10%)	19 (9%)	40 (19%)	149 (71%)
Peer Delivered Services	13 (6%)	21 (10%)	34 (16%)	7 (3%) **	36 (17%)	43 (20%)	77 (37%)
Skills Training	36 (17%)	21 (10%)	57 (27%)	21 (10%)	31 (15%)	52 (25%)	109 (52%)
Crisis Support	9 (4%) **	21 (10%)	30 (14%)	11 (5%) **	8 (4%) **	19 (9%)	49 (23%)
Non-IIBHT Related Services	**Urban**	**Rural**	**Total**	**Urban**	**Rural**	**Total**	**Total**
Partial Hospitalization	*	*	*	*	*	*	5 (2%) **
Group Therapies	*	*	*	*	*	*	*
Wraparound	22 (10%)	18 (9%)	40 (19%)	20 (10%)	26 (12%)	46 (22%)	86 (41%)

* Data suppressed to maintain confidentiality (n < 5)

** May be statistically unreliable due to small numbers (5 ≤ n < 12); interpret with caution

Table 3. 2021-2022 average number of behavioral health service elements 1-month prior to IIBHT program intake versus during program: paired t-test results (n = 210)

	Mean # Service Elements (Sd)		***Prior vs During Paired T-test Results***	
Service Element Category	**1-Month Prior**	**During IIBHT**	**Mean Difference in Services**	**P-Value**
IIBHT Related	1.424 (1.1)	2.124 (1.4)	0.700 (95% CI 0.531-0.869)	<0.001***
Non-IIBHT Related	0.224 (0.4)	0.581 (0.6)	0.357 (95% CI 0.274-0.440)	<0.001***
Total	1.648 (1.3)	2.705 (1.7)	0.851 (95% CI 1.057-1.264)	<0.001***

Statistically Significant: * p < .05 ** p < .01 *** p < .001 (Two-Sided Test); Sd = Standard Deviation, CI=Confidence Interval

Behavioral Health Recidivism

Another goal of IIBHT is to keep youth in the community. Behavioral health recidivism was assessed under two separate lenses: recidivism that results in community/home removal (psychiatric inpatient or residential treatment admission) and community-based recidivism (emergency departments (ED), urgent care clinics (UC), or a short term, non-psychiatric inpatient hospitalization) for chief complaints of a behavioral health concern. Those whose recidivism resulted in community removal are immediately discharged from IIBHT as they are deemed no longer safe in the home/community. Recidivism was assessed during IIBHT enrollment and 1 month after program discharge. Additionally, all-cause mortality and death by suicide were assessed using vital records death data, with no reported deaths found as of Dec 20, 2023.

For the entire sample of youth, 24% experienced some form of behavioral health recidivism during IIBHT: 14% had recidivism that resulted in removal from community and 14% with recidivism at community-based settings where the youth can be discharged home and remain in IIBHT. Among those with available follow-up data (n=106), 7% experienced some form of behavioral health recidivism within the first month after IIBHT discharge. During program and 1-month post-program behavioral health recidivism can be seen below in **Table 4**.

KEY TAKEAWAYS

- ⇒ Around a quarter of IIBHT youth experience some sort of recidivism during the program, split equally between recidivism that results in home removal/program discharge and community-based recidivism.
- ⇒ Recidivism in the month after IIBHT discharge is low (7%).
- ⇒ No reported deaths were found as of December 20, 2023.

Table 4. 2021-2022 behavioral health recidivism during IIBHT program enrollment and at 1-month post-discharge for those who completed the program prior to December 1, 2022 (n = 210 & n = 106)

IIBHT 2021-2022 Behavioral Health Recidivism		
Behavioral Health Recidivism	**During IIBHT (n=210)**	**1-Month Post Discharge (n=106)**
Community-Based Recidivism ED/ Urgent Care/ Non-Psychiatric Hospital	29 (14%)	*
Recidivism Resulting in Home Removal Psychiatric Inpatient/Residential	29 (14%)	*
All Recidivism	51 (24%)	7 (7%) **

* Data suppressed to maintain confidentiality (n < 5)

** May be statistically unreliable due to small numbers (5 ≤ n < 12); interpret with caution

The relationship between recidivism and IIBHT service elements utilized during the program is presented in **Table 5**. This analysis does not differentiate if the service was already in place prior to IIBHT intake, or if was in place as a result of IIBHT.

Among the entire sample, only those who utilized crisis support (n=33, 16%) had a statistically significant difference in behavioral health recidivism (45% with crisis supports vs 20% without). This may be attributed to the fact that those who needed to utilize 24/7 crisis support were likely more acute and therefore would be at increased risk to experience behavioral health recidivism compared to those who are not actively in crisis. No other IIBHT related service element was found to be associated with recidivism, either during or 1-month after program discharge which suggests that recidivism may be due primarily to individual and clinical factors, rather than specific service utilization and warrants further study.

KEY TAKEAWAYS: RECIDIVISM AND SERVICE UTILIZATION

⇒ Youth accessed a variety of services during IIBHT, including therapy/psychiatry (74%), peer-delivered services (35%), and skills training (43%).

⇒ Youth who used crisis support (16%) during IIBHT were more likely to have some sort of recidivism during the program which may reflect their higher acuity.

Table 5. 2021-2022 IIBHT service elements utilized during program and association with recidivism during and 1-month post discharge (n=210 & n=106): chi-square test & Fisher's exact test results

During IIBHT (n=210)					
Service Element	**# Services Billed**		**% Recidivism with Service**	**% Recidivism without Service**	**P-Value**
	N	**%**			
During IIBHT					
Therapy/Psychiatry	155	74%	26%	18%	0.219
Psychiatry	93	44%	41%	11%	0.094
Therapy	136	65%	18%	36%	0.647
Undetermined	119	57%	24%	24%	0.974
Peer Services	74	35%	24%	24%	0.992
Skills Training	91	43%	21%	27%	0.314
Crisis Support	33	16%	45%	20%	0.002**
1-month post IIBHT Discharge (n=106)					
Therapy/Psychiatry	93	88%	8%	0%	0.593
Psychiatry	60	57%	8%	4%	0.606
Therapy	87	82%	6%	11%	0.696
Undetermined	74	70%	9%	0%	0.099
Peer Services	48	45%	6%	7%	1.000
Skills Training	59	56%	8%	4%	0.459
Crisis Support	20	19%	10%	6%	0.614

* p < .05 ** p < .01 *** p < .001 (Two-Sided Test); chi-square tests and Fisher's exact tests for cases of sparse data

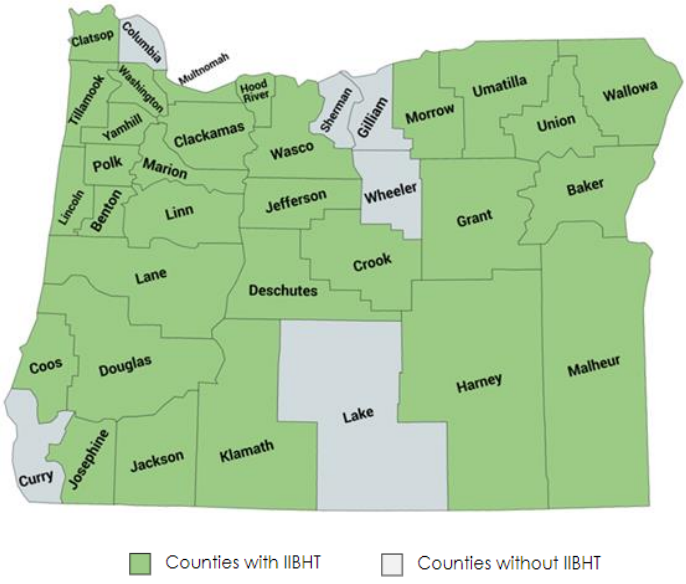
Summary

Overall, youth enrolled in IIBHT services statewide in 2023 have highly complex behavioral health needs. Most (87%) youth have a trauma history; 34% have previously been or are currently in foster care; almost half (44%) are identified as significantly impaired due to mental health challenges; and 76% have a history of suicidality or self-harm. IIBHT was developed to serve this population because systems gaps and barriers were preventing these high acuity youth from receiving the care they need. The data presented in this year's report continues to confirm that IIBHT is providing the right type and intensity of services to the population it was intended to serve.

When IIBHT was initially proposed to the legislature, the projected population need indicated an estimate of 1,500 youth to be enrolled in the program per year (2019-2021 Policy Option Package). The program was slow to launch in the first two years, leaving gaps in some areas of the state where access was limited and other areas where it was not offered at all. At the end of 2022, IIBHT was still not available in 10 counties.

There was promising progress in 2023 in regard to IIBHT availability, with 21 programs associated with 14 Coordinated Care Organizations, covering 30 counties throughout the state. While numbers of youth served still fall below the original estimates, they have increased each year when looking at statewide totals: 63 enrolled in 2021, 160 enrolled in 2022, and 223 enrolled in 2023. As in previous years, the numbers presented in this report may be underestimates of the actual number of youth served, due to some programs reporting that data entry continues to be a challenge due to staff shortages.

Figure 7. Map of counties with IIBHT programs



While there is variability across each program for volume of youth served, wait times, and outcomes, some statewide strengths and areas for improvement are observed. An area in which IIBHT is seeing noteworthy success is that youth and families are getting more services both during and after IIBHT involvement; Medicaid claims data shows that youth are being connected to therapy, psychiatry, skills training, peer-delivered services, and crisis support. More youth are also being connected to recommended services at IIBHT discharge. Standardized measures demonstrate statistically significant improvement in symptom severity, functioning, hopefulness, and satisfaction through the course of the program.

In addition to strengths, this report highlights significant challenges in IIBHT service provision. Several programs throughout the state are enrolling fewer than 5 youth per year. Intake waiting lists range from 0 – 90 days, with the average delay for individual youth across the state being 49 days. Some programs anecdotally report that they strive to offer partial services (family support services, skills training) while youth and families are waiting for full services, although this is not yet captured in our data. Further conversations with programs to understand barriers to timely intake, as well as efforts to better capture the full scale of their work with this population, should be prioritized.

As demonstrated in the 2023 report as well as previous IIBHT reports, youth in IIBHT have high complexity. Program staff report that some youth have acuity levels that are very difficult to manage in the community, but that they often experience barriers accessing inpatient treatment. This contributes to burnout among staff, repeat visits to EDs, and inpatient admissions. OHA and OHSU are working on a project to better measure statewide residential need and capacity; this is an important step in ensuring that youth have access to the appropriate level of care, and may smoothly move from one level to the next.

OHA has invested significant resources in workforce support and development, with trainings, learning collaboratives, and technical assistance. IIBHT staff and programs around the state have also invested significant resources in this program and the youth and families they serve. Additional developments on individual program, county, and statewide levels will ensure that these early investments pay off in improved behavioral healthcare and outcomes for all youth in Oregon.

Accomplishments and Future Work

In 2023, OHSU's DAETA team continued its overall roles of data collection, evaluation, and reporting; technical assistance to community-based programs; and workforce development and support. Specific details of the team's work are included below.

Development and Management of Data Collection (REDCap)

- On an ongoing basis, the DAETA Team managed data collected by community programs; this included reviewing uploaded PDFs and entering data into the REDCap database. Technical assistance was provided on an as-needed basis.
- Five new agencies began submitting data during 2023: Oregon Community Programs, Tillamook Family Counseling Center, The Next Door, Symmetry Care, and Klamath Basin Behavioral Health, for a total of 21 programs associated with 14 Coordinated Care Organizations, covering 30 counties throughout the state, and youth with OpenCard.
- The DAETA team prepared quarterly statewide data reports and CCO-level data reports for programs that served over 5 youth.
- The team was responsive to the OHA contract manager for real-time data requests and adapted reporting to these needs. For example, the team began reporting intake delays by program.
- The team obtained Medicaid data and death data in 2023 to conduct a statistical analysis of key aspects of IIBHT services and outcomes. Additional Medicaid data will be received summer of

2024.

IIBHT Training Curriculum and Delivery Plan

- The DAETA team managed four different training types: REDCap trainings, Peer-delivered Services (PDS) / Skills trainings, Foundations trainings, and Clinical trainings. The team managed scheduling, registration, training materials, attendance and certificate distribution, and evaluations. The following 18 trainings were completed in 2023:
    - REDCap trainings (8 total): 1/9/2023, 2/14/2023, 5/23/2023, 6/8/2023, 6/15/2023, 7/27/2023, 8/14/2023, 11/14/2023
    - PDS/Skills trainings (4 total): 1/26/2023, 4/27/2023, 8/17/2023, 12/14/2023
    - Foundations trainings (3): 4/13/2023, 8/3/2023, 10/19/2023
    - Clinical trainings (3 total): 4/18/2023-4/20/2023, 8/8/2023-8/10/2023, 12/5/2023-12/7/2023

Program Development and Partnerships

- The DAETA team met regularly with the OHA IIBHT manager to review goals and timelines.
- The team participated in the bi-weekly IIBHT Learning Collaborative and presented findings from the 2022 Annual Report on February 17th, 2023. The team built a roster list combining IIBHT, CATS, and MRSS FSS, and facilitated 3 combined (IIBHT and MRSS) FSS Learning Collaboratives, which will continue on a bi-monthly basis
- The team updated enrollment and closure forms to clarify language, identify strategies to reduce administrative burden, and align data points and response options with Stabilization Services. The majority of programs transitioned to using them in Q4.
- The team developed a family survey to obtain family feedback on their experience with IIBHT, with planned launch date in early 2024.

In 2024, the DAETA team aims to complete the following work:

1. Collect and analyze the family feedback survey to better incorporate family feedback into program evaluation and quality improvement efforts.
2. Develop a process to incorporate clinical and peer feedback into evaluation and improvement efforts.
3. Re-evaluate the IIBHT training curriculum, format, and schedule and update them as needed.
4. Obtain and analyze 2023 Medicaid data in conjunction with already received claims.
    a. The analysis in this report does not account for any potential factors related to outcomes and/or service utilization; therefore, future work will include an in-depth analysis to determine if any demographic or clinical factors are associated with behavioral health recidivism and/or behavioral health service utilization.
    b. Other service elements will be classified including: IIBHT provided SUD treatment, simultaneous certified SUD program enrollment, and I/DD treatment. Medicaid claims data for 2023 will be received summer 2024 to more accurately capture service utilization for

those still actively enrolled in the program during 2023. Longer-term recidivism related outcomes (both during IIBHT, and up to 1-year post-program discharge) will be assessed.

c. Lastly, a control group will be constructed from Medicaid claims of those in residential treatment programs to assess the long-term effectiveness of IIBHT after discharge, as IIBHT is posited as an alternative or a step-down to residential treatment programs.

Recommendations

The OHSU DAETA team recommends that OHA take the following actions:

1. Review reports prepared by the DAETA team and provide formal communication and feedback to each program each quarter. This process should include feedback about:
    a. Program strengths and challenges
    b. Data submission adherence and timeliness
    c. Specific data quality issues, such as high "other" response rates and large amounts of missing data

    This is important to maintain accountability from the teams and to demonstrate the utility of data collection. It's also important to engage the teams in understanding how high-quality data is helpful to their own goals for service delivery and workflow; understanding where their data is compared to other areas of the state promotes collaboration and cross-county sharing to help improve MCIS for everyone.

2. Facilitate meetings between the DAETA team, the OHA BIS team, and the OHA ROADS team to begin planning for the REDCap to ROADS transition. This should include developing:
    a. A final timeline for the transition
    b. A communication strategy to notify CMHPs of changing requirements
    c. A plan to transfer 2023-2024 REDCap data to the ROADS system
    d. A plan to transfer ROADS data to the DAETA team for ongoing analysis and report generation

    Early planning will help improve user experience, reduce confusion, and allow for more seamless transition.

3. Initiate a feedback process for programs regarding data and quarterly reports. This should occur before ROADS is launched.

4. Engage in a process with OHSU to identify youth not being referred or served by IIBHT, who would potentially benefit from these services.

5. Continue efforts to track inpatient treatment need and access, and to better link inpatient services with high-risk IIBHT youth.

Appendix A: Q4 2023 Data Report

Section 1: Demographic Information of Youth Enrolled during Q4 2023, n = 63

Age

Label displays average age

2021 Average Age: 13

2022 Average Age: 12

Age: The box plots to the left show that the average age of youth served has remained at 14 years old. In Q4 2023, the youngest youth enrolled was 5 and the oldest youth was 18.
Gender: On average, IIBHT serves more male youth than any other single gender category.
Sexual Orientation: About 40% of the youth served in Q4 2023 identified as straight, 24% identified as LGBTQ+, and 37% of youth are listed as unknown.
Race and Ethnicity: IIBHT primarily serves White and Non-Hispanic/Latino/Spanish youth. Both 2022 and 2023 observed a gradual increase in the number of youth identifying as Hispanic, Latino, or Spanish.

Gender

	2021 Total		2022 Total		2023 Q1		2023 Q2		2023 Q3		2023 Q4		2023 Total		Grand Total	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Male	27	43%	80	50%	28	60%	28	53%	23	40%	33	52%	112	51%	219	49%
Female	24	38%	58	36%	11	23%	13	25%	28	48%	26	41%	78	35%	160	36%
Other	6	10%	7	4%			7	13%	5	9%			20	9%	33	7%
Unknown	6	10%	15	9%			5	9%					11	5%	32	7%

Sexual Orientation

	2021 Total		2022 Total		2023 Q1		2023 Q2		2023 Q3		2023 Q4		2023 Total		Grand Total	
Straight	29	46%	80	50%	23	49%	27	51%	29	50%	25	40%	104	47%	**213**	**48%**
LGBTQ+*	21	33%	48	30%	22	47%	20	38%	18	31%	15	24%	75	34%	**144**	**32%**
Unknown	13	21%	32	20%			6	11%	11	19%	23	37%	42	19%	**87**	**20%**

*Categories suppressed to maintain confidentiality. "LGBTQ+" includes youth who identify with the following Sexual Orientation categories: Asexual, Bisexual, Gay, Lesbian, Pansexual, Queer, Questioning, Same-Gender Loving, Same-Sex Loving, or Other.

Race

** multi-select question **

	2021 Total		2022 Total		2023 Q1		2023 Q2		2023 Q3		2023 Q4		2023 Total		Grand Total	
American Indian/Alaska Native*			10	6%									11	5%	24	5%
Asian*													6	3%	7	2%
Black/African American*			14	9%							6	10%	11	5%	26	6%
Hispanic or Latino*	7	11%	32	20%			5	9%	6	10%	9	14%	23	10%	62	14%
Native Hawaiian, Pacific Islander*															6	1%
White*	52	83%	115	72%	42	89%	48	91%	43	74%	55	87%	188	85%	355	80%
Other			15	9%									9	4%	28	6%
Unknown			10	6%									5	2%	18	4%

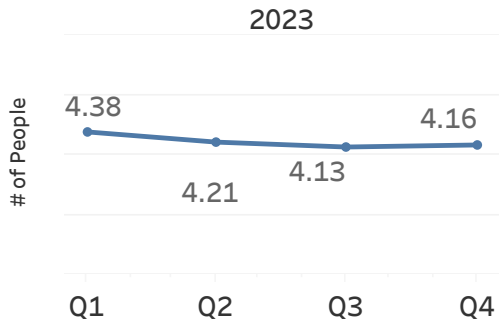
*Categories suppressed to maintain confidentiality. A full list of categories is available at the end of the report.

Section 1: Demographic Information of Youth Enrolled during Q4 2023, n = 63

Estimated Total Household Income

	2021 Total		2022 Total		2023 Q1		2023 Q2		2023 Q3		2023 Q4		2023 Total		Grand Total	
≤$10,000	13	21%	23	15%	6	13%			10	17%			23	11%	59	14%
$10,001 - $25,000	13	21%	27	18%	9	20%	12	23%	7	12%	8	13%	36	16%	76	17%
$25,001 - $40,000	12	19%	16	10%	7	15%	10	19%	8	14%	11	17%	36	16%	64	15%
$40,001 - $60,000	9	14%	15	10%	6	13%			7	12%	13	21%	28	13%	52	12%
≥ $60,001	7	11%	10	6%			7	13%	7	12%			22	10%	39	9%
Unknown	9	14%	63	41%	14	30%	17	33%	19	33%	24	38%	74	34%	146	33%

Average Household Size

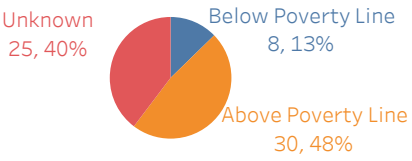


2021 Average Household Size: 4.07

2022 Average Household Size: 3.96

Households Above and Below the Federal Poverty Level

** Based on Household Size and Estimated Annual Household Income**
https://www.healthcare.gov/glossary/federal-poverty-level-fpl/



Household Income: Income information is missing for 38% of families in Q4 2023.
Households and Poverty Level: Only 13% of families in IIBHT are estimated to be below the federal poverty level in Q4 2023, while almost half are estimated to be above the federal poverty level. 40% of families are listed as unknown.
Living Situation: This is a new question that was added in Q3 2023. A majority of youth (86%) live in a private residence setting, while 11% live in a DHS setting.

Living Situation

	2021 Total		2022 Total		2023 Q1		2023 Q2		2023 Q3		2023 Q4		2023 Total		Grand Total	
Transient/Homeless*																
DHS*			13	8%	8	17%	8	15%	5	9%	7	11%	28	13%	41	9%
Residential Facility*																
Jail/Prison*																
Supported Housing*																
Private Residence*			27	17%	14	30%	10	19%	35	60%	54	86%	113	51%	140	32%
Unknown	63	100%	120	75%	25	53%	35	66%	17	29%			78	35%	261	59%

*Categories suppressed to maintain confidentiality. A full list of categories is available at the end of the report.

Section 1: Demographic Information of Youth Enrolled during Q4 2023, n = 63

Has the youth ever been in foster care?

	2021 Total	2022 Total	2023 Q1	2023 Q2	2023 Q3	2023 Q4	2023 Total	Grand Total
Yes; currently					6 10%	10 16%	16 7%	16 4%
Yes; previously						9 14%	13 6%	13 3%
Yes (unknown if currently or previously)*	26 41%	57 37%	26 57%	16 30%	5 9%		47 21%	130 30%
No	33 52%	89 58%	18 39%	37 70%	43 74%	44 70%	142 65%	264 60%
Unknown		8 5%						14 3%

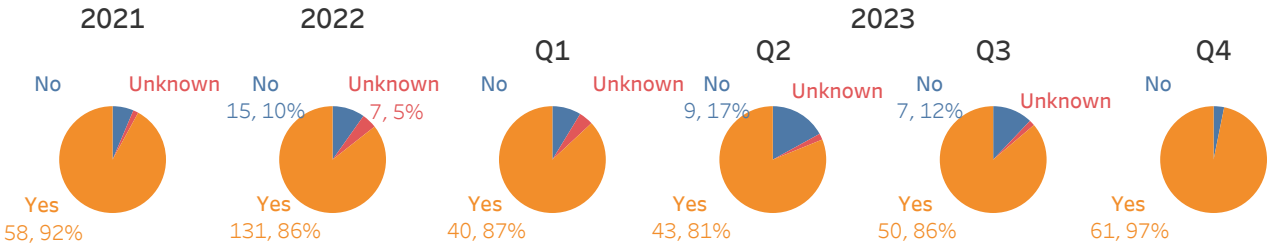
*This is a response that was only present on an older version of the enrollment form.

Has the youth ever been adopted?

	2021 Total	2022 Total	2023 Q1	2023 Q2	2023 Q3	2023 Q4	2023 Total	Grand Total
Yes		16 11%	6 13%		6 10%	9 14%	25 11%	41 9%
No		92 61%	33 72%	48 91%	49 84%	54 86%	184 84%	276 63%
Unknown	63 100%	44 29%	7 15%				11 5%	118 27%

Foster Care: 30% of youth in IIBHT are currently or have previously been in foster care.
Adoption Status: 14% of youth in IIBHT are adopted in Q4 2023. The percentage of youth that have not been adopted has gradually increased over time, but this may be due to the completion rate for this question also increasing over time.
Trauma History: In Q4 2023, nearly all youth have a trauma history. In Q3 2023, a new enrollment form was released and neglect was separated out from both physical abuse and emotional abuse. Old response options such as "Physical abuse or neglect" and "Emotional abuse or neglect" were only marked if the old enrollment form was used.

Does the youth have a trauma history?



Types of Trauma History

** multi-select question **

	2021 Total	2022 Total	2023 Q1	2023 Q2	2023 Q3	2023 Q4	2023 Total	Grand Total
Physical Abuse					15 26%	23 37%	38 17%	39 9%
Phsyical abuse or neglect*	33 52%	62 39%	29 62%	26 49%	8 14%		63 29%	158 36%
Emotional Abuse					16 28%	30 48%	47 21%	47 11%
Emotional abuse or neglect*	36 57%	69 43%	29 62%	30 57%	12 21%		71 32%	176 40%
Sexual abuse	35 56%	35 22%		9 17%	18 31%	19 30%	50 23%	120 27%
Neglect					12 21%	30 48%	42 19%	42 9%
Witness to domestic violence		57 36%	15 32%	19 36%	23 40%	29 46%	86 39%	143 32%
Other physical or sexual assault		14 9%	5 11%	7 13%	7 12%	9 14%	28 13%	42 9%
Other trauma	26 41%	43 27%	12 26%	11 21%	19 33%	19 30%	61 28%	130 29%
Unknown		14 9%					8 4%	23 5%

*These responses were only present on an older version of the enrollment form.

Section 1: Demographic Information of Youth Enrolled during Q4 2023, n = 63

Referral Source

	2021 Total	2022 Total	2023 Q1	2023 Q2	2023 Q3	2023 Q4	2023 Total	Grand Total
Acute inpatient		8 5%		5 9%	6 10%		15 7%	25 6%
BRS								
CATS							5 2%	12 3%
CCO								
Crisis Center								
DHS		11 7%	8 18%	6 11%		5 8%	23 11%	34 8%
Day treatment							10 5%	15 4%
EASA								
ED								6 1%
I/DD								
Inpatient SUD								
Juvenile Justice								5 1%
Mobile Crisis team								
Other	8 13%	19 13%		10 19%	5 9%	6 10%	25 11%	52 12%
Outpatient psych								
Outpatient therapy	34 56%	64 44%	15 34%	17 32%	20 34%	30 48%	82 38%	180 42%
Part. hospitalization								
Psych residential	5 8%	7 5%			7 12%		14 6%	26 6%
School								6 1%
Subacute						5 8%	13 6%	13 3%
Wraparound		16 11%	6 14%				12 6%	31 7%

Referral Source: In Q4 2023, there was an increased percentage of youth referred from Subacute (8%) compared to prior quarters.
Presenting Referral Issue: At intake, 44% of youth presented with a condition(s) that significantly affects their functioning and 37% of youth are at high risk of developing a condition(s) of a severe or persistent nature. Also, 37% of youth may require residential treatment or may be discharging from residential/higher level of care.

Presenting Referral Issue

** multi-select question **

	2021 Total	2022 Total	2023 Q1	2023 Q2	2023 Q3	2023 Q4	2023 Total	Grand Total
Condition(s) that significantly affect the youth's functioning	23 37%	94 59%	22 47%	24 45%	23 40%	28 44%	97 44%	214 48%
High risk of developing condition(s) of a severe or persistent nature	21 33%	83 52%	18 38%	23 43%	27 47%	23 37%	91 41%	195 44%
May require residential treatment or youth is discharging from residential/higher level of care	22 35%	33 21%	18 38%	23 43%	22 38%	23 37%	86 39%	141 32%
Immediate risk of psychiatric hospitalization or removal from the home	14 22%	19 12%	6 13%	9 17%	8 14%	9 14%	32 14%	65 15%
Unknown								

Data is suppressed to maintain confidentiality when n < 5 & data may be statistically unreliable when 5 <= n <12; interpret with caution

Section 1: Demographic Information of Youth Enrolled during Q4 2023, n = 63

Diagnoses

** multi-select question **

	2021 Total	2022 Total	2023 Q1	2023 Q2	2023 Q3	2023 Q4	2023 Total	Grand Total
Attention Disorder	36 57%	71 45%	22 47%	29 55%	23 40%	41 65%	115 52%	222 50%
Anxiety Disorder	23 37%	54 34%	15 32%	20 38%	25 43%	16 25%	76 34%	153 35%
Autism Spectrum Disorder	9 14%	20 13%		8 15%	7 12%	9 14%	28 13%	57 13%
Bipolar Disorder					5 9%		8 4%	16 4%
Depressive Disorder	26 41%	51 32%	19 40%	18 34%	20 34%	22 35%	79 36%	156 35%
Disruptive or Conduct Disorder	15 24%	32 20%	6 13%	9 17%	11 19%	10 16%	36 16%	83 19%
Dissociative Disorder								
Feeding and Eating Disorder		5 3%					10 5%	19 4%
Gender Dysphoria								
Med-Induced Movement Disorder								
Neurodevelopmental Disorder		13 8%		8 15%	7 12%		19 9%	35 8%
Neurocognitive Disorder								6 1%
Obsessive Compulsive Disorder					6 10%		9 4%	11 2%
Personality Disorder								
Schizophrenia Spectrum and Other Psychotic Disorder								
Somatic Symptom Disorder								
Substance Related Disorder		7 4%			5 9%		7 3%	17 4%
Trauma- and Stressor-Related Disorder	37 59%	75 47%	21 45%	26 49%	23 40%	35 56%	105 48%	217 49%
Unknown								

Diagnoses: Consistent with previous years/quarters, the most common presenting diagnostic groups include Attention Disorders, Trauma- and Stressor-Related Disorders, Depressive Disorders, and Anxiety Disorders. However, Attention Disorders and Trauma- and Stressor-Related Disorders were more common in Q4 2023 than previous years/quarters.
Suicidality History: 75% of youth in Q4 2023 had a history of suicidal ideation, Non-Suicidal Self-Injury (NSSI), or suicide attempt
Substance Use History: 22% of youth in Q4 2023 had a history and/or current use of alcohol and/or drugs. Both current and prior problematic substance use rates are the highest reported rates to date.

Suicidality

** multi-select question **

	2021 Total	2022 Total	2023 Q1	2023 Q2	2023 Q3	2023 Q4	2023 Total	Grand Total
History of suicidal ideation	29 46%	91 57%	21 45%	25 47%	36 62%	39 62%	121 55%	241 54%
History of NSSI	19 30%	61 38%	17 36%	23 43%	23 40%	36 57%	99 45%	179 40%
Current suicidal ideation	16 25%	24 15%	12 26%	15 28%	10 17%	10 16%	47 21%	87 20%
Current NSSI	11 17%	11 7%	8 17%	8 15%	12 21%	13 21%	41 19%	63 14%
Youth has attempted suicide	24 38%	35 22%	12 26%	14 26%	23 40%	19 30%	68 31%	127 29%
No history	22 35%	36 23%	14 30%	12 23%	10 17%	16 25%	52 24%	110 25%
Unknown		8 5%						11 2%

Substance Use History

** multi-select question **

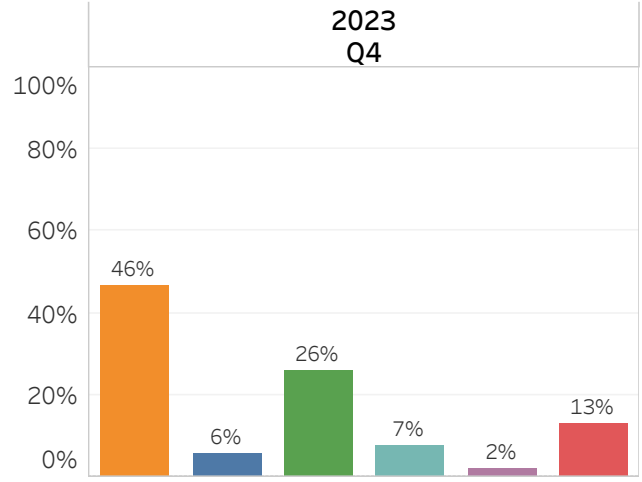
	2021 Total	2022 Total	2023 Q1	2023 Q2	2023 Q3	2023 Q4	2023 Total	Grand Total
History of problematic drug or alcohol use	14 22%	24 15%	9 19%	12 23%	15 26%	11 17%	47 21%	85 19%
Current problematic drug or alcohol use	7 11%	11 7%			11 19%	6 10%	23 10%	41 9%
No history	44 70%	114 72%	35 74%	40 75%	37 64%	49 78%	161 73%	319 72%
Unknown		8 5%						12 3%

Data is suppressed to maintain confidentiality when n < 5 & data may be statistically unreliable when 5 <= n <12; interpret with caution

Section 2: Discharge Information for Youth Discharged during Q4 2023, n = 54

Reason for Discharge

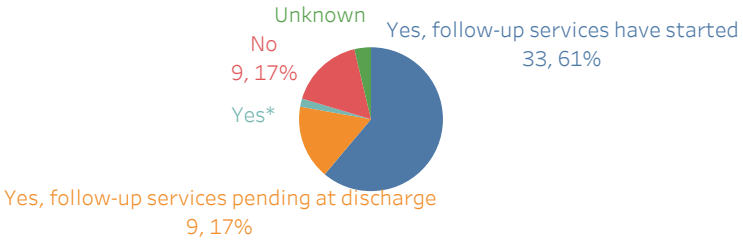
- Youth was ready to transition to a lower LOC
- Youth needed a higher LOC
- Youth/family stopped engaging in services
- Youth/family moved out of service area
- Youth/family stable and not in need of services
- Other



	2021 Total	2022 Total	2023 Q1	2023 Q2	2023 Q3	2023 Q4
Youth was ready to transition to a lower LOC	54%	47%	44%	47%	65%	46%
Youth needed a higher LOC	19%	7%	13%	9%	12%	6%
Youth/family stopped engaging in services	23%	19%	20%	12%	15%	26%
Youth/family moved out of service area				3%	3%	7%
Youth/family stable and not in need of services					3%	2%
Other	4%	16%	13%	12%	3%	13%
Unknown		10%	9%	18%		
Average Program Length:	169 days	106 days	129 days	107 days	189 days	127 days
	100 days	136 days	134 days	163 days	144 days	158 days

Reason for Discharge: Almost half of youth discharged from IIBHT transitioned to a lower level of care, while only 6% of youth transitioned to a higher level of care. In addition, 26% of youth discharged from IIBHT were discharged because the youth/family stopped engaging in services.
Care at Discharge: Almost 80% of youth that discharged were connected to the clinically recommended care, with services already started (61%) or pending (17%).
Barriers: Of the youth that discharged, 30% had barriers that were not listed and 17% of responses were unknown. The most common known barriers were the youth/family declined futher services (22%) and the youth/family unable to engage in recommended services (15%).

Did the youth get connected to the clinically recommended care at discharge?



*The "Yes" response includes youth who had an older version of the closure form completed where the care they obtained at discharge was an exact match to the recommended care at discharge.

What barriers prevented obtaining the recommended care at discharge?

** multi-select question **

	2021 Total	2022 Total	2023 Q1	2023 Q2	2023 Q3	2023 Q4	2023 Total	Grand Total
Limited access to appropriate provider(s)		11 11%					14 8%	29 10%
Insurance/coverage barriers								6 2%
Other financial barriers								
Diagnosis/behaviors prevented acceptance to recommended services		9 9%				5 9%	10 6%	21 7%
Youth/family unable to engage in recommended services		17 17%	10 22%	6 18%	5 15%	8 15%	29 17%	48 16%
Youth/family declined further services	5 19%	27 28%	12 27%	10 29%		12 22%	37 22%	69 24%
Family did not specify							6 4%	6 2%
Not listed		10 10%	5 11%		5 15%	16 30%	27 16%	37 13%
Other	7 27%	19 19%	7 16%	10 29%			21 13%	47 16%
No barriers	10 38%	37 38%	13 29%	8 24%	11 32%	5 9%	37 22%	84 29%
Unknown						9 17%	11 7%	11 4%

Data is suppressed to maintain confidentiality when n < 5 & data may be statistically unreliable when 5 <= n <12; interpret with caution

Section 2: Discharge Information for Youth Discharged during Q4 2023, n = 54

Major Events: 52% of the youth in Q4 had a major event(s) during the program, the most common one being that the youth had a mental health ED visit during the program (22%). There were 23 total ED visits during the program.

Major Events During the Program

** multi-select question **

	2021 Total	2022 Total	2023 Q1	2023 Q2	2023 Q3	2023 Q4	2023 Total	Grand Total
Youth attempted suicide					6 18%		13 8%	17 6%
Youth had problematic substance use		11 11%	6 13%			6 11%	17 10%	31 11%
Youth ran away from home		11 11%	8 18%				14 8%	26 9%
Youth had new interactions with JJ		6 6%			5 15%	5 9%	13 8%	20 7%
Youth had a major family change		10 10%	7 16%		7 21%	11 20%	28 17%	38 13%
Youth had a mental health ED visit*	9 35%	15 15%	11 24%	7 21%	12 35%	12 22%	42 25%	66 23%
Youth had a mental health admission			5 11%				11 7%	15 5%
Other event		10 10%	5 11%			10 19%	19 11%	33 11%
None	8 31%	41 42%	22 49%	13 38%	11 32%	26 48%	72 43%	121 42%

*Outcome of ED Visit

	Total	Total	Q1	Q2	Q3	Q4	Total	Grand Total
Total # of ED visits during the program	17	61	24	21	19	23	87	165
Discharged with IIBHT		10	14		17	15	49	59
Discharged without IIBHT								
Medical Hospital Stay		5					5	10
Admitted to acute psychiatric inpatient		5					8	13
Admitted to other inpatient		7	8				9	17

Section 3. Standardized Measures for Youth Discharged during Q4 2023

A youth's standardized pre- and post- measure scores are reported when they **close** care with IIBHT. Scores for the Hope Scale and SUD Scale are only presented if **all data** is complete for that youth, including both the pre- and post- ratings. Scores for each version of the Ohio Scale are presented for a youth **if all data is complete for the rater**, including both the pre- and post- ratings. This results in a different n for each rater.

The completion rate for the Hope Scale is the lowest to date at 39% and the completion rate for the SUD Scale once again reduced to 33%. The completion rate for the Ohio Clinician remained high at 81%, while the completion rate for the Ohio Parent is a bit lower at 59%. The Ohio Youth has the lowest completion rate of all three versions of the Ohio at 28%.

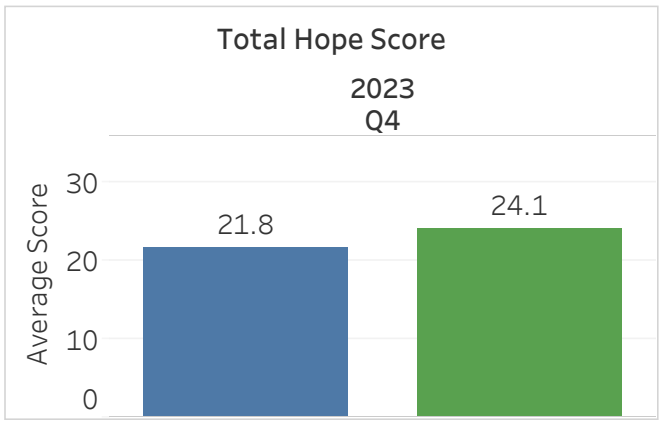
	2021 Total	2022 Total	2023 Q1	2023 Q2	2023 Q3	2023 Q4	2023 Total	Grand Total
# of Complete Hope Scales	16 62%	54 55%	18 40%	18 53%	19 56%	21 39%	76 46%	146 50%
# of Complete DSM-5 SUD Scales	10 38%	41 41%	12 27%	14 41%	12 35%	18 33%	56 34%	107 37%
# of Complete Clinician Ohios	17 65%	68 69%	31 69%	25 74%	31 91%	44 81%	131 78%	216 74%
# of Complete Parent Ohios	14 54%	58 59%	27 60%	19 56%	22 65%	32 59%	100 60%	172 59%
# of Complete Youth Ohios	12 46%	46 46%	13 29%	9 26%	13 38%	15 28%	50 30%	108 37%

Data is suppressed to maintain confidentiality when n < 5 & data may be statistically unreliable when 5 <= n <12; interpret with caution

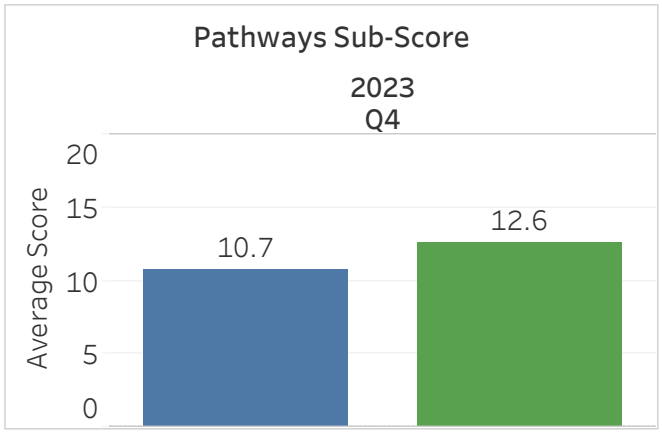
Section 3. Standardized Measures for Youth Discharged during Q4 2023

The Hope Scale, n = 21

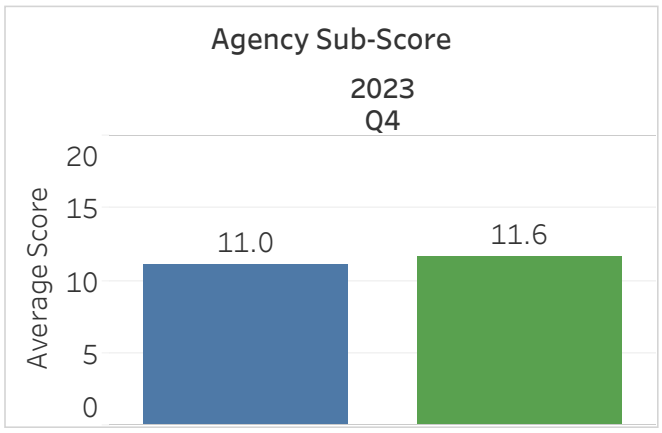
Intake Discharge



	2021 Total	2022 Total	2023 Q1	2023 Q2	2023 Q3	2023 Q4
Intake	20.3	19.3	17.5	19.0	18.5	21.8
Discharge	22.9	22.5	20.7	21.4	21.1	24.1



	2021 Total	2022 Total	2023 Q1	2023 Q2	2023 Q3	2023 Q4
Intake	10.1	9.7	8.3	9.6	9.4	10.7
Discharge	11.9	11.0	10.4	10.9	10.4	12.6



	2021 Total	2022 Total	2023 Q1	2023 Q2	2023 Q3	2023 Q4
Intake	10.1	9.6	9.2	9.4	9.1	11.0
Discharge	11.0	11.5	10.3	10.6	10.7	11.6

The Hope Scale is filled out by youth at **intake** and **discharge**. The measure provides two subscores, Pathways and Agency, that range from 3-18 and a Total Hope Score that ranges from 6-36. Pathways represents a youth's perceived ability to make goals and create concrete steps to achieve them. Agency is a youth's confidence, motivation, and belief that they can follow Pathways to achieve their goals. Together, these two sub-scores provide a Total Hope Score, with higher scores indicating more hope. We observed a slight increase in both subscores and total score (2.3 point increase) from **intake** to **discharge** in Q4 2023. (Snyder et al. 1997)

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Section 3. Standardized Measures for Youth Discharged during Q4 2023

DSM-5 Self-Rated Level 1 Cross-Cutting Symptom Measure, n = 18

The substance use screen is filled out by youth at **intake** and **discharge**. The measure assesses substance use over the previous two weeks. In Q4 2023, there were no youth that endorsed substance use at both enrollment and closure.

	2021 Total	2022 Total	2023 Q1	2023 Q2	2023 Q3	2023 Q4	2023 Total	Grand Total
# of positive screens (intake)		6 15%					6 11%	14 13%
# of negative screens (intake)	8 80%	35 85%	11 92%	12 86%	9 75%	18 100%	50 89%	93 87%
# of positive screens (discharge)							7 13%	12 11%
# of negative screens (discharge)	8 80%	38 93%	11 92%	11 79%	9 75%	18 100%	49 88%	95 89%

	2021 Total	2022 Total	2023 Q1	2023 Q2	2023 Q3	2023 Q4	2023 Total	Grand Total
Had an alcoholic beverage (intake)								5 5%
Had an alcoholic beverage (discharge)								
Used drugs (intake)							9%	10 9%
Used drugs (discharge)							11%	8 9%
Used medication without a prescription (intake)								
Used medication without a prescription (discharge)								
Used tobacco (intake)								7 7%
Used tobacco (discharge)								7%

Data is suppressed to maintain confidentiality when n < 5 & data may be statistically unreliable when 5 <= n <12; interpret with caution

Section 3. Standardized Measures for Youth Discharged during Q4 2023

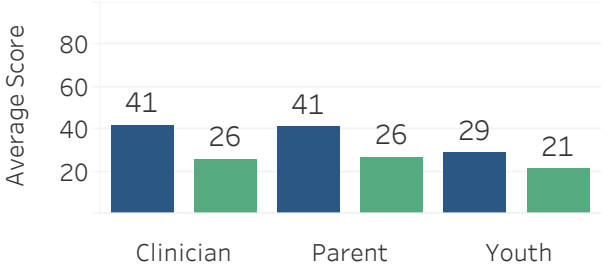
The Ohio Scales

Clinician Ohios Complete n= 44, Parent Ohios Complete n= 32, Youth Ohios Complete n= 15

The **Ohio Scales** are filled out by the clinician, parent or caregiver, and youth at intake and discharge. Three of the scales are presented on this report: Problem Severity Scale, Functioning Scale, and Satisfaction Scale. (C) Benjamin M. Ogles & Southern Consortium for Children 2000

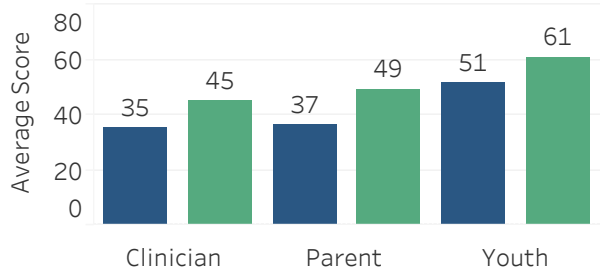
Average Score at Intake Average Score at Discharge

Ohio: Problem Severity Scale



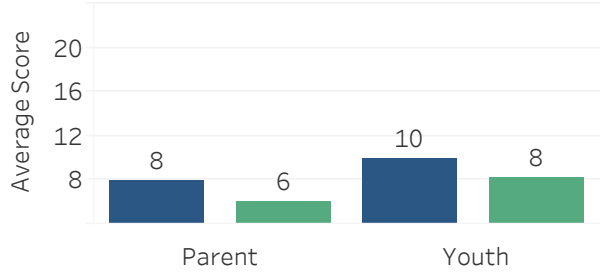
	2021	2022	2023			
	Total	Total	Q1	Q2	Q3	Q4
Average Clinician Intake	46	39	37	37	40	41
Average Clinician Discharge	25	25	32	26	25	26
Average Parent Intake	49	40	39	44	42	41
Average Parent Discharge	28	23	30	30	30	26
Average Youth Intake	36	35	39	46	34	29
Average Youth Discharge	28	27	29	21	25	21

Ohio: Functioning Scale



	2021	2022	2023			
	Total	Total	Q1	Q2	Q3	Q4
Average Clinician Intake	30	33	36	33	38	35
Average Clinician Discharge	51	45	42	41	45	45
Average Parent Intake	29	34	33	33	38	37
Average Parent Discharge	50	48	42	43	44	49
Average Youth Intake	45	45	48	40	47	51
Average Youth Discharge	53	51	50	60	49	61

Ohio: Satisfaction Scale



	2021	2022	2023			
	Total	Total	Q1	Q2	Q3	Q4
Average Parent Intake	10	8	9	9	9	8
Average Parent Discharge	7	6	7	6	5	6
Average Youth Intake	11	11	11	13	13	10
Average Youth Discharge	8	9	10	9	10	8

The Problem Severity Scale measures the severity of common symptoms that are reported by youth who are receiving behavioral health treatment. Scores on this scale range from 0-100 with **higher scores indicating more severe challenges**. The Functioning Scale measures functional strengths and needs in areas of daily life. Scores on this scale range from 0-80 with **higher scores indicating better functioning**. The Satisfaction Scale measures satisfaction with services. **Intake** scores are likely to reflect experiences with past providers, while **discharge** scores should reflect the family's experience with IIBHT. Scores on this scale range from 4-24 with **lower scores indicating better satisfaction**. In Q4 2023, across all raters, we observed a reduction in symptom severity and an improvement in functioning. Additionally, both parents and youth felt more satisfied with services at the end of IIBHT.

Average Intake Delay (in Days)

Clinical Organization	2021 Total	2022 Total	2023 Q1	2023 Q2	2023 Q3	2023 Q4	2023 Total	Program Average
Adapt						44 n = 6	34 n = 13	34 n = 13
Best Care							17 n = 7	11 n = 15
Catholic Community Services								
Center for Human Development								17 n = 7
Clatsop Behavioral Health								
Community Counseling Solutions							14 n = 6	9 n = 12
Coos Health and Wellness		8 n = 6					6 n = 9	7 n = 18
Lifeways		11 n = 10						10 n = 12
Lincoln County Health and Human Services								
Options for Southern Oregon	10 n = 9	38 n = 24				63 n = 11	44 n = 22	36 n = 55
Oregon Community Programs							51 n = 5	51 n = 5
The Child Center							0 n = 5	0 n = 5
The Next Door								
Tillamook Family Counseling Center								16 n = 4
Trillium Youth and Family							0 n = 5	0 n = 5
Wallowa Valley Center for Wellness								13
Yamhill County Health and Human Services							24 n = 8	20 n = 12
Youth Villages		106 n = 38	95 n = 21	75 n = 16	95 n = 11	63 n = 19	81 n = 67	91 n = 107
Statewide Average*	19 n = 26	56 n = 92	58 n = 39	45 n = 34	41 n = 33	49 n = 53	49 n = 159	49 n = 277

*Statewide Average row reflects the average delay for all individual youth enrolled in IIBHT, which is 49 days in 2023. This data is skewed by programs with higher enrollment volume. Please contact the DAETA Team for more information.

Data is suppressed to maintain confidentiality when n < 5 & data may be statistically unreliable when 5 <= n <12; interpret with caution

Appendix B: Medicaid Analysis

Sample Characteristics

Methods: N=210 IIBHT participants with Medicaid claims data from 2021-2022 were included for analysis in this study. N=106 (50%) discharged from the program prior to December 1, 2022. T-tests for continuous variables, chi-square tests for categorical variables, and in cases of sparse data Fisher's exact tests were used to determine if both demographic and clinical characteristics were similar among those who discharged IIBHT prior to Dec 1,2022 compared to those who were still actively enrolled in the program at that time.

Results: The sample is predominantly male (49%), with 37% female and remaining gender diverse or unknown. Intake age ranges from 5 – 20 years old, with mean and median age 12.5 and 13 years old, respectively. 68% of IIBHT participants identify as non-Hispanic White, 18% Hispanic, and 14% non-White. 38% of the sample were currently or have ever been in foster care.

The majority of participants (63%) were referred into IIBHT via the outpatient system of care (including DHS, EASA, I/DD, Juvenile Justice, outpatient psychiatry or therapy, school, Wraparound, or ORPAC). At time of IIBHT referral, 14% were considered an immediate risk of psychiatric hospitalization or removal from their home. While only 10% entered the program with reports of non-suicidal self-injury (NSSI), 36% were reported to have a prior history of NSSI. Similarly, 19% entered the program with suicidal ideation (SI), with 53% having a prior history of SI. 27% were reported to have ever had a suicide attempt, with those who discharged the program before December 1, 2022 with substantially higher rates of suicide attempt (34%) compared to those who did not discharge prior to December 1, 2022 (20%). 85% of the sample have a trauma history, with a corresponding 52% having a Trauma or Stressor Related Disorder. Attention Deficit & Hyperactive Disorders (ADHD) was the next most common mental health diagnosis reported (48%). Although less than 5% of the sample had a diagnosis of Substance Related & Addiction Disorders, 8% entered the program with current substance use and 17% with a history of prior substance use.

Among those who discharged the program before December 1, 2022, the mean program length was 128 days and ranged from 20 to 405 days enrolled. With the exception of suicide attempt, all other demographic and clinical characteristics were statistically similar among those who discharged IIBHT prior to December 1,2022 (p-values all > 0.05) compared to those still actively enrolled in the program at that time. All baseline demographics and clinical characteristics, including related history, are reported in **Table 1**.

Table 1: Demographics and clinical characteristics of IIBHT participants with Medicaid claims data enrolled during 2021-2022 by program discharge status prior to December 1, 2022.

	Not Discharged (N=104)	Discharged (N=106)	Overall (N=210)	P-value
Gender				
Male	47 (45.2%)	55 (51.9%)	102 (48.6%)	0.25
Female	41 (39.4%)	37 (34.9%)	78 (37.1%)	
Other	*	8 (7.5%) **	12 (5.7%)	
Unknown	12 (11.5%)	6 (5.7%) **	18 (8.6%)	
Age at Intake				
Mean (SD)	12.4 (2.92)	12.6 (2.91)	12.5 (2.91)	0.49
Median [Min, Max]	13.0 [5.00, 19.0]	13.0 [5.00, 20.0]	13.0 [5.00, 20.0]	
Race/Ethnicity				
White	69 (66.3%)	74 (69.8%)	143 (68.1%)	0.85
Hispanic	19 (18.3%)	18 (17.0%)	37 (17.6%)	
Non-White	16 (15.4%)	14 (13.2%)	30 (14.3%)	
Program Referral Source				
Subacute/Residential	13 (12.5%)	12 (11.3%)	25 (11.9%)	0.25
IOP	*	9 (8.5%) **	12 (5.7%)	
Crisis Center/ED	*	*	*	
Outpatient System of care	68 (65.4%)	64 (60.4%)	132 (62.9%)	
Other	10 (9.6%) **	14 (13.2%)	24 (11.4%)	
Unknown	9 (8.7%) **	*	13 (6.2%)	
Foster Care (Ever)	36 (34.6%)	43 (40.6%)	79 (37.6%)	0.46
Prior NSSI	36 (34.6%)	39 (36.8%)	75 (35.7%)	0.85
Current NSSI	11 (10.6%) **	10 (9.4%) **	21 (10.0%)	0.96
Prior Suicidal Ideation	56 (53.8%)	55 (51.9%)	111 (52.9%)	0.88
Current Suicidal Ideation	20 (19.2%)	19 (17.9%)	39 (18.6%)	0.95
Suicide Attempt (Ever)	21 (20.2%)	36 (34.0%)	57 (27.1%)	0.04*
Trauma History	84 (80.8%)	95 (89.6%)	179 (85.2%)	0.11
Prior Substance Use	15 (14.4%)	21 (19.8%)	36 (17.1%)	0.39
Current Substance Use	5 (4.8%) **	12 (11.3%)	17 (8.1%)	0.14
Referral Issue[+]				
1	10 (9.6%) **	19 (17.9%)	29 (13.8%)	0.12
2	26 (25.0%)	23 (21.7%)	49 (23.3%)	0.69
3	50 (48.1%)	47 (44.3%)	97 (46.2%)	0.69
4	57 (54.8%)	53 (50.0%)	110 (52.4%)	0.58
Mental Health Diagnoses				
ADHD	50 (48.1%)	50 (47.2%)	100 (47.6%)	1.00
Anxiety Disorders	41 (39.4%)	32 (30.2%)	73 (34.8%)	0.21
Depressive Disorders	36 (34.6%)	39 (36.8%)	75 (35.7%)	0.85
Impulse/Conduct Disorders	21 (20.2%)	22 (20.8%)	43 (20.5%)	1.00
Autism Spectrum Disorders	11 (10.6%) **	16 (15.1%)	27 (12.9%)	0.44
Substance/Addictive Disorders	5 (4.8%) **	5 (4.7%) **	10 (4.8%) **	1.00

Trauma/Stressor Disorders	50 (48.1%)	59 (55.7%)	109 (51.9%)	0.34
Other Disorder	*	6 (5.7%) **	8 (3.8%) **	0.28
Program Length (Days)				
Mean (SD)		128 (69.8)		
Median [Min, Max]		118 [20.0, 405]		

* Data suppressed to maintain confidentiality (n < 5)

** May be statistically unreliable due to small numbers (5 ≤ n < 12); interpret with caution

[+]Referral Issue (Multi-Select):

1- Youth is at immediate risk of psychiatric hospitalization or removal from home due to emotional and mental health conditions

2-Youth may require residential treatment or youth is discharging from residential treatment or higher levels of care

3-Youth exhibits behavior that indicates high risk of developing conditions of a severe or persistent nature

4-Youth is experiencing a mental health condition(s) but not requiring hospitalization/removal from home

IIBHT and non-IIBHT Related Behavioral Health Service Elements

Methods: Using Medicaid claims data, a combination of behavioral health Current Procedural Terminology (CPT) primary procedure codes (Oregon Health Authority: Behavioral Health Fee Schedule Excel Spreadsheet), place of service codes (Centers for Medicaid & Medicaid Services), and provider specialty codes (Centers for Medicaid & Medicaid Services) were used to classify both IIBHT related services and non-IIBHT related behavioral health services both during the program and up to 1 month prior to IIBHT intake. **IIBHT specific service elements** assessed include: therapy (individual or family), psychiatry, peer delivered services (including youth and family peers), skills training, and 24/7 crisis support. Due to the complexities of claims data, some services that were accessed at outpatient clinics could not differentiate between psychiatry and therapy, as many psychiatrists also provide psychotherapy. Therefore, an additional category of undetermined psychiatry or therapy was created. **Non-IIBHT behavioral health services** include partial hospitalization, group therapies, and Wraparound. Please reach out to authors for spreadsheet(s) of all specific codes and/or r programming code used for identifying behavioral health service elements, Rural versus urban services designation were determined using service zip codes (Spreadsheet of Oregon Zip Codes, Towns, Cities and Service Areas and their ORH Urban/Rural/Frontier Designation). It should be noted that not all services that were accessed in the month prior to IIBHT may not have been continued once enrolled into the program; in addition, some IIBHT related service elements accessed in the month prior to IIBHT intake may have been put in place after being referred into IIBHT, but before official program intake. Recall that some youth are still actively enrolled in the program during 2023, and therefore their service utilization is only reflected of what they engaged with during 2022.

Results: Overall, the most common IIBHT related service elements identified in Medicaid claims during and 1-month prior to program intake was: therapy (74%), psychiatry (53%), skills training (52%), and peer delivered services (37%). Prior to IIBHT intake, 55% of the sample were already connected to therapy, and 29% connected to psychiatry. During the program, an additional 20% were connected to therapy and 24%

connected to psychiatry. 27% of the sample utilized some form of skills training in the month prior to IIBHT intake, with an additional 25% connected to skills training during IIBHT. Among those connected to peer delivered services during IIBHT (20%), a larger proportion was accessed at rural service locations (17%) compared to urban locations (3%). This is consistent with the knowledge that peer services are often utilized in rural areas, especially during IIBHT, as participants may be waiting for access to other services that may have waitlist issues due to workforce shortages prominent in more sparsely populated areas of Oregon. 14% received a crisis support session in the month prior to IIBHT intake, with an additional 9% connected to crisis support during IIBHT. Wraparound was a common non-IIBHT related program utilized by this population, with 19% enrolled in the month prior to IIBHT intake, and an additional 22% simultaneously enrolled in Wraparound during IIBHT. Additionally, programs with long wait times until official program intake report connecting youth with peer services and/or skills training, suggesting a portion of those services utilized in the month prior to intake may be a direct result of their IIBHT referral. All behavioral health service elements (counts and percentages) by urban or rural zip code designation in place 1-month prior to IIBHT intake and during IIBHT can be seen below in **Table 2**.

Table 2: 2021-2022 Medicaid claims identified behavioral health services elements utilized by IIBHT participants by urban versus rural zip code designation (n=210)

	1-month prior to Intake			During IIBHT Program			Combined
IIBHT Related Services	**Urban**	**Rural**	**Total**	**Urban**	**Rural**	**Total**	**Total**
Therapy	65 (31%)	50 (24%)	115 (55%)	19 (9%)	22 (10%)	41 (20%)	156 (74%)
Psychiatry	30 (14%)	31 (15%)	61 (29%)	31 (15%)	19 (9%)	50 (24%)	111 (53%)
Undetermined Therapy or Psychiatry	49 (23%)	60 (29%)	109 (52%)	21 (10%)	19 (9%)	40 (19%)	149 (71%)
Peer Delivered Services	13 (6%)	21 (10%)	34 (16%)	7 (3%) **	36 (17%)	43 (20%)	77 (37%)
Skills Training	36 (17%)	21 (10%)	57 (27%)	21 (10%)	31 (15%)	52 (25%)	109 (52%)
Crisis Support	9 (4%) **	21 (10%)	30 (14%)	11 (5%) **	8 (4%) **	19 (9%)	49 (23%)
Non-IIBHT Related Services	**Urban**	**Rural**	**Total**	**Urban**	**Rural**	**Total**	**Total**
Partial Hospitalization	*	*	*	*	*	*	5 (2%) **
Group Therapies	*	*	*	*	*	*	*
Wraparound	22 (10%)	18 (9%)	40 (19%)	20 (10%)	26 (12%)	46 (22%)	86 (41%)

* Data suppressed to maintain confidentiality (n < 5)

** May be statistically unreliable due to small numbers (5 ≤ n < 12); interpret with caution

Behavioral Health Services During IIBHT Compared to 1-month Prior to Enrollment

Methods: For the entire sample (n=210), paired t-tests were used to compare the mean number of service

elements identified in Medicaid claims data 1-month prior to program intake compared to mean number of service elements during IIBHT program enrollment. IIBHT specific service elements were classified as follows: therapy or psychiatry (combines categories of psychiatry, therapy, and undetermined therapy/psychiatry), skills training, peer delivered services (includes peer/family workers), and 24/7 crisis support. Non-IIBHT specific services were classified as partial hospitalization, group therapies, and Wraparound. For this analysis, total number of IIBHT related service elements can range from 0-4, total number of non-IIBHT related service elements can range from 0-3, and total service elements combined can range from 0-7. The mean change in number of service elements during IIBHT minus the number service elements in place prior to IIBHT with corresponding 95% confidence interval (CI) for number of services elements utilized as a result of IIBHT program intake can be seen in **Table 3**. A p-value below 0.05 suggests the mean change in services is different than 0 (no change).

Results: The average number of behavioral health service utilization increased during IIBHT compared to the month prior to program intake. For all behavioral health related services elements identified in Medicaid claims data, the mean number of services utilized prior to IIBHT intake was 1.648 service elements (1.424 IIBHT related, 0.224 non-IIBHT related). The number of service elements significantly increased during IIBHT, with mean number of service elements increasing to 2.705 (2.124 IIBHT related, 0.581 non-IIBHT related) during program enrollment. The estimated mean increase in IIBHT related service elements during IIBHT was 0.700 (95% CI 0.531-0.869, p<.001); mean increase in non-IIBHT related services was 0.357 (95% CI 0.274-0.440, p<.001); mean increase in total behavioral health related services 0.851 (95% CI 1.057-1.264). It should be noted that n=30 (14%) of the sample had no behavioral health service elements identified in 2021-2022 Medicaid claims data, which may be skewing results.

Table 3: 2021-2022 average number of behavioral health service elements 1-month prior to IIBHT program intake versus during program: paired t-test results (n=210)

	Mean # Service Elements (Sd)		***Prior vs During Paired T-test Results***	
Service Element Category	**1-Month Prior**	**During IIBHT**	**Mean Difference in Services**	**P-Value**
IIBHT Related	1.424 (1.1)	2.124 (1.4)	0.700 (95% CI 0.531-0.869)	<0.001***
Non-IIBHT Related	0.224 (0.4)	0.581 (0.6)	0.357 (95% CI 0.274-0.440)	<0.001***
Total	1.648 (1.3)	2.705 (1.7)	0.851 (95% CI 1.057-1.264)	<0.001***

* p < .05 ** p < .01 *** p < .001 (Two-Sided Test); Sd = Standard Deviation, CI=Confidence Interval

Behavioral Health Recidivism Outcomes

Methods: As one of IIBHT primary program goals is to keep its participants in the community as an alternative to acute psychiatric care or residential treatment, behavioral health recidivism was assessed under two separate lenses: **psychiatric inpatient recidivism** that results in home/community removal (psychiatric inpatient admission or residential treatment) versus **community based recidivism** at emergency departments (ED), urgent care clinics (UC), or a short term, non-psychiatric inpatient hospitals for chief complaints of a behavioral health concern. Community based recidivism does not result in discharge from IIBHT program as those youth are able to be sent home, whereas psychiatric inpatient

recidivism calls for immediate program discharge. Behavioral health recidivism using 2021-2022 Medicaid claims data was classified using a combination of place of service codes and ICD-10 codes with primary diagnosis related to behavioral health concerns. During program recidivism constitutes any identified behavioral health recidivism claim while youth is actively enrolled in the program from 2021-2022; 1-month post program recidivism was determined for the n=106 who discharged from IIBHT prior to Dec 1, 2022 are defined similarly. Outcomes for all-cause mortality and death by suicide were assessed using vital records for final death data (2021-2022) and preliminary (2023) death-matched data, with **no reported deaths** found as of Dec 20, 2023.

Results: For the entire sample (n=210), 24% experienced some form of behavioral health recidivism during the IIBHT program. 14% had psychiatric inpatient recidivism that resulted in home/community removal, and 14% with recidivism at emergency department, urgent care, or non-psychiatric inpatient hospitalization for chief complaints of behavioral health concerns. Those whose recidivism resulted in community removal (psychiatric inpatient or residential) are immediately discharged from IIBHT as they are deemed no longer safe in the home. Among those who discharged IIBHT prior to Dec 1, 2022 (n=106), 7% experienced some form of behavioral health recidivism within the first month after IIBHT discharge. Behavioral health recidivism during IIBHT and 1-month post program discharge can be seen below in **Table 4**. It should be noted, that those actively enrolled in IIBHT during 2023 may have experienced during-program recidivism that could not be captured in this analysis.

Table 4: 2021-2022 behavioral health recidivism during IIBHT program enrollment and at 1-month post-discharge for those who completed the program prior to December 1, 2022 (n = 210 & n = 106)

IIBHT 2021-2022 Behavioral Health Recidivism		
Behavioral Health Recidivism	**During IIBHT (n=210)**	**1-Month Post Discharge (n=106)**
Community-Based Recidivism ED/ Urgent Care/ Non-Psychiatric Hospital	29 (14%)	*
Recidivism Resulting in Home Removal Psychiatric Inpatient/Residential	29 (14%)	*
All Recidivism	51 (24%)	7 (7%) **

Behavioral Health Recidivism & Service Elements Association

Methods: The association with outcomes of behavioral health recidivism (both during and at 1-month post discharge) and specific IIBHT related service elements utilized during IIBHT program are assessed using chi-square tests and fishers' exact tests in cases of sparse data. This analysis does not differentiate if the service was already in place prior to IIBHT intake, or if was in place as a result of IIBHT. Recall that therapy/psychiatry is a composite category to account for the Medicaid claims that could not differentiate psychotherapy provided by a licensed therapist or a psychiatrist. A p-value below 0.05 suggests the behavioral health service element may be associated with behavioral health recidivism when not accounting for potential confounders.

Results: The percentage of those with any behavioral health recidivism by service element, along with

the number of services elements utilized during IIBHT are reported below in **Table 5**. Among the entire sample, 74% of the sample accessed some form of therapy or psychiatry during IIBHT, of which 26% experienced some form of behavioral health recidivism compared to 18% who were not identified to have utilized therapy or psychiatric services during IIBHT. However, this difference was not significant (p-value 0.219>0.05) suggesting that there is not a true difference in the proportion with recidivism by that composite service element. However, it may be of interest that among those who were classified for the service of psychiatry alone, 41% had during program recidivism compared to 11% without (p-value 0.094) which may suggest those who received psychiatry are more acute and warrants further study.

Interestingly, only those who utilized crisis support had a significant difference in recidivism (45% with crisis supports vs 20% without), however this is likely due to the fact that those who needed to utilize 24/7 crisis support are likely more acute and therefore would be at increased risk to experience behavioral health recidivism compared to those who are not actively in crisis. No other IIBHT related service element was found to be associated with recidivism, either during or 1-month after program discharge which suggests that recidivism may be due primarily to individual and clinical factors, rather than specific service utilization.

Table 5: 2021-2022 IIBHT service elements utilized during program and association with recidivism during and 1-month post discharge (n=210 & n=106): chi-square test & Fisher's exact test results

During IIBHT (n=210)					
Service Element	**# Services Billed**		**% Recidivism with Service**	**% Recidivism without Service**	**P-Value**
	N	**%**			
During IIBHT					
Therapy/Psychiatry	155	74%	26%	18%	0.219
Psychiatry	93	44%	41%	11%	0.094
Therapy	136	65%	18%	36%	0.647
Undetermined	119	57%	24%	24%	0.974
Peer Services	74	35%	24%	24%	0.992
Skills Training	91	43%	21%	27%	0.314
Crisis Support	33	16%	45%	20%	0.002**
1-month post IIBHT Discharge (n=106)					
Therapy/Psychiatry	93	88%	8%	0%	0.593
Psychiatry	60	57%	8%	4%	0.606
Therapy	87	82%	6%	11%	0.696
Undetermined	74	70%	9%	0%	0.099
Peer Services	48	45%	6%	7%	1.000
Skills Training	59	56%	8%	4%	0.459
Crisis Support	20	19%	10%	6%	0.614

* p < .05 ** p < .01 *** p < .001 (Two-Sided Test); note: fisher's exact test was used for all 1-month post IIBHT recidivism outcomes due to sparse data