EXECUTIVE SUMMARY

Gaps Analysis of Research/Evidence-Based Treatment for Children's Public Mental Health in Washington State

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In 2012, House Bill 2536 required the child serving agencies of the Department of Social and Health Services to document baseline data regarding the use and availability of evidence-based and research-based practices (R/EBPs) in Washington State[1]. In response, the Division of Behavioral Health and Recovery (DBHR), which oversees publicly-funded children's mental health services, conducted a survey of children's mental health agencies to obtain a statewide count of these programs to establish a baseline for subsequent reporting years. This report extends the 2012 survey findings and reports on the treatment needs of youth in the public mental health system, the distribution and capacity of R/EBPs around the state to meet these needs, and the gap between need and capacity using a Geographic Information Systems (GIS) approach.

SPECIFIC AIMS

1. What is the current landscape of mental health treatment need for children and youth in the public system? How does this vary by geographic, racial/ethnic and gender diversity?

2. How are research and evidence-based programs for children and youth mental health dispersed throughout the state?

3. What are the areas of the state in which a youth who is receiving publicly-funded mental health services cannot access a R/EBP service within 30 minutes (treatment deserts)?[2]

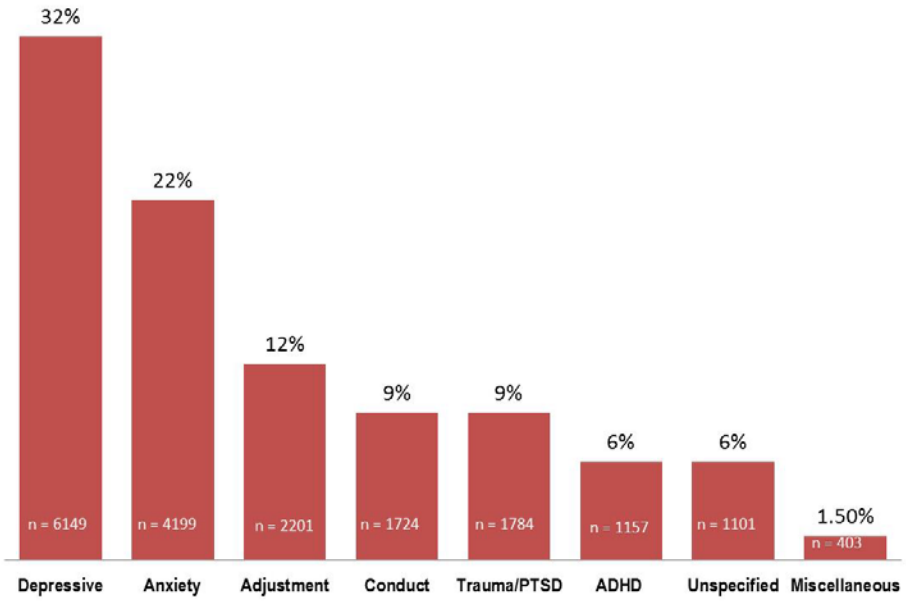
[1] http://lawfilesext.leg.wa.gov/biennium/2011-12/Pdf/Bills/House%20Passed%20Legislature/2536-S2.PL.pdf

[2] The full report can be accessed through the Evidence Based Practice Institute and the Division of Behavioral Health and Recovery websites.

PREVALENCE OF DIAGNOSES

Youth with multiple encounters with the public mental health system were assigned their most frequent diagnosis as a primary treatment need. Using this method, the most treatment needs for youth in the state are depressive disorders followed by anxiety disorders. Together, these comprise 54% of all youth diagnoses in Washington State in FY2013 and do not vary significantly by race or gender.

Treatment Need in Numbers of Youth, FY2013



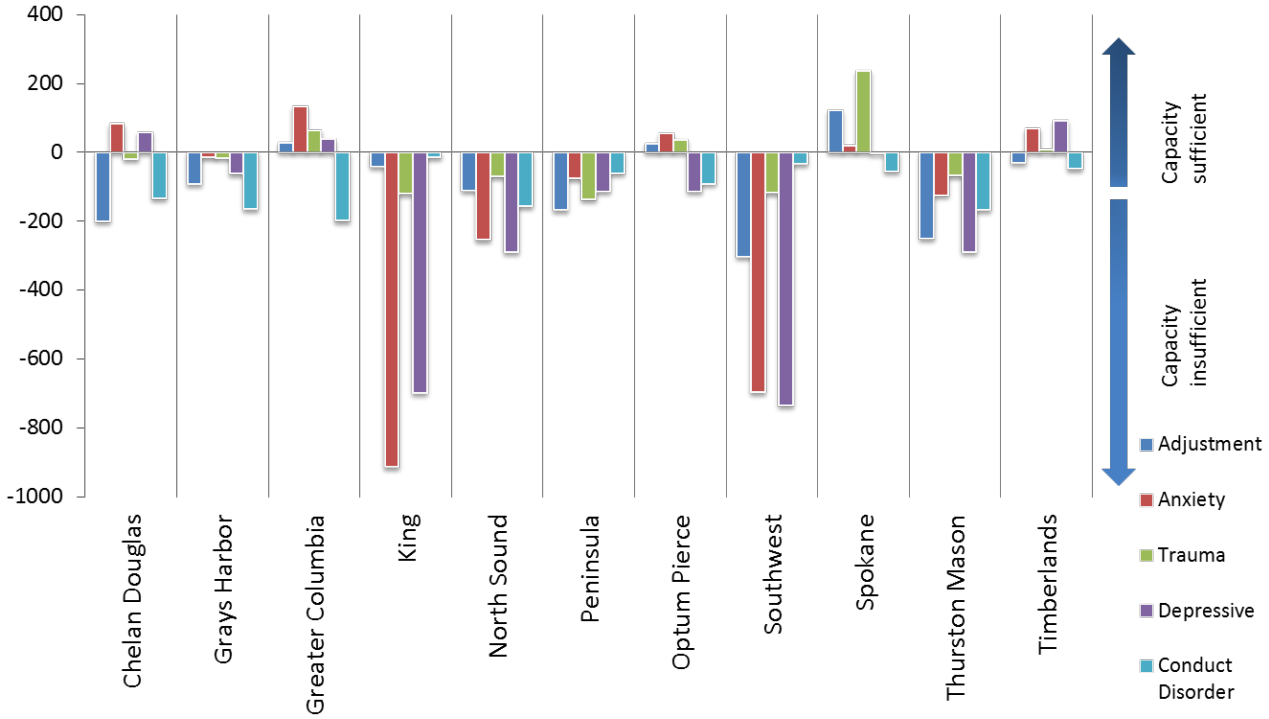
TREATMENT DESERTS

Treatment deserts were identified by counting the number of therapists trained in a research/evidence-based practice across the state (as self-reported by regional support networks and contracted agencies) and estimating the number of youth that could be treated within each diagnostic category annually. Geographic Information Systems (GIS) was then used to identify specific areas across the state where the local need could not be met with the existing number of therapists trained in a research/evidence-based practice.

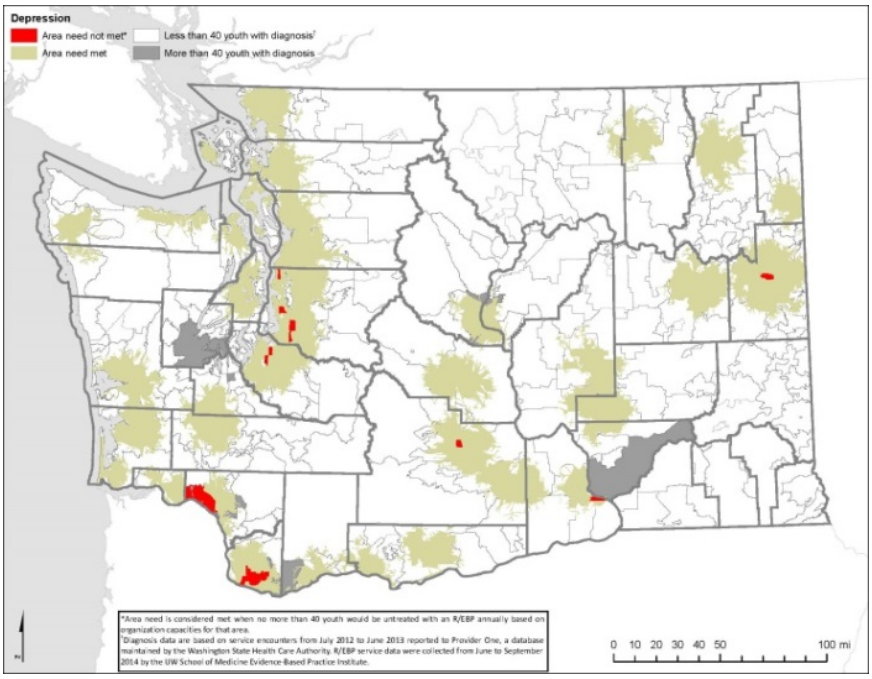
Treatment Deserts by Diagnostic Area

Depression	Anxiety	Adjustment	Conduct Disorder
Southwest Clark county	Southwest Clark county	Southeast Chelan county	Central Grays Harbor county
Franklin county	South King county	Southwest Mason county	Southern Chelan/Douglas counties
Northern Pierce county	Franklin county	East Clallam county	Franklin county
Western King county	Southeast King county	Franklin county	
East-Central Benton county	Eastern Pierce county	Western Asotin county	
Central Yakima County			
Spokane			

Capacity to Treat Local Need in Numbers of Youth Annually by RSN FY2013



RECOMMENDATIONS



1. Target funding investments to support training in identified hot spots for specific mental health needs.

2. The estimation of diagnostic need will be improved by collecting functional information on youth (e.g. Child and Adolescent Needs and Strengths, CANS)

3. Quality assurance and fidelity monitoring infrastructure is needed to verify the implementation of R/EBP practices.

University of Washington School of Medicine

Evidence-Based Practice Institute

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Gaps Analysis of Research/Evidence-Based Treatment for Children's Public Mental Health in Washington State

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Gaps Analysis of Research/Evidence-Based Treatment for Children's Public Mental Health Outpatient Services in Washington State

EXECUTIVE SUMMARY

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Research and evidence-based practices are an increasingly visible part of the mental health services landscape. Cost-benefit estimates demonstrate the value of these programs in reducing costly inpatient and incarceration resources while improving the well-being of clients[1]. In 2012, House Bill 2536 required the child serving agencies of the Department of Social and Health Services (DSHS) to document baseline data regarding the use and availability of evidence-based and research-based practices (R/EBPs) in Washington State[2]. The agencies were ordered to increase the use of these programs in the 2015-2017 and 2017-2019 biennia. In response, the Division of Behavioral Health and Recovery (DBHR), which oversees publicly funded children's mental health services, conducted a survey of children's mental health agencies to obtain a statewide count of these programs to establish a baseline for subsequent reporting years. This report yielded important information about the distribution of R/EBPs being implemented with fidelity. However, the report did not provide an estimate of treatment need or agency capacity for these programs. Both need and capacity are essential aspects for guiding treatment implementation efforts to meet the requirements of HB 2536. This report extends the 2012 survey findings and reports on the treatment needs of youth in the public mental health system, the distribution and capacity of R/EBPs around the state to meet these needs, and the gap between need and capacity using a Geographic Information Systems (GIS) approach.

[1] *Updated Inventory of Evidence-Based, Research-Based, and Promising Practices for Prevention and Intervention Services for Children and Juveniles in the Child Welfare, Juvenile Justice, and Mental Health Systems* (July 2014). Evidence-Based Practice Institute & Washington State Institute for Public Policy. Document No. E2SHB2536-4. Retrieved from http://www.wsipp.wa.gov/ReportFile/1565/Wsipp_Updated-Inventory-of-Evidence-Based-Research-Based-and-Promising-Practices-for-Prevention-and-Intervention-Services-for-Children-and-Juveniles-in-Child-Welfare-Juvenile-Justice-and-Mental-Health-Systems_Report.pdf on 11/12/2014.
[2] http://lawfilesext.leg.wa.gov/biennium/2011-12/Pdf/Bills/House%20Passed%20Legislature/2536-S2.PL.pdf

The specific aims of the Gaps Analysis were to address the following questions:

1. What is the current landscape of mental health treatment need for children and youth in the public system? How does this vary by geographic, racial/ethnic and gender diversity?

2. How are research and evidence-based programs for children and youth mental health dispersed throughout the state?

3. What are the areas of the state in which a youth who is receiving publicly-funded mental health services cannot access a R/EBP within 30 minutes (treatment deserts)?

Prevalence of Diagnoses

The most common diagnoses among youth (birth thru 20) in the public system are, in order of prevalence:

- Depressive disorders (32%)
- Anxiety disorders (22%)
- Adjustment disorders (12%)
- Conduct disorders (9%)
- Trauma/Post Traumatic Stress Disorder (9%)
- Attention Deficit Hyperactivity Disorder (6%)
- Unspecified disorders (6%)
- Bipolar disorders, Psychotic disorders, Pervasive Developmental disorders, Personality disorders < 2%.

In 9 of the 11 Regional Support Networks, the most common diagnosis was for a depressive disorder. Grays Harbor was the only RSN with a diagnostic type more prevalent than depressive, anxiety or adjustment disorders with 33% of youth diagnosed with conduct disorders. Trauma was most prevalent in Peninsula (18%) followed by King (13%).

Different patterns of diagnostic prevalence are observed among age groups (0-5 years, 6-21 years, 13-17 years, 18-20 years). Adjustment disorder and conduct disorder diagnoses were more prevalent in younger ages and decreased as youth aged. Trauma, bipolar disorders and depressive disorders increased in prevalence as youth aged. 6-12 year olds had the highest proportion of anxiety disorders (29%) compared to other age groups.

No substantial differences in the distribution of diagnoses across racial/ethnic groups were observed. The “big three” categories of depressive, anxiety and adjustment disorders were the most commonly diagnosed illnesses for all groups. Smaller variations among less common diagnoses were observed. African American youth had the highest incidence of diagnosed trauma (14% vs. 9% sample average). Conduct disorders were more common with Hispanic (10%) and White non-Hispanic youth (9%) than Asian (5%) and Pacific Islander youth (5%).

The “big three” were also the most commonly diagnosed illnesses for both male and female youth. Females were also more likely to be diagnosed with trauma (12% vs. 7%) and males were more likely to be diagnosed with conduct disorders (12% vs. 6%).

Distribution of R/EBPs

As self-reported by the RSNs, Southwest had the most diverse portfolio of R/EBP types - addressing 10 of the 13 reported diagnostic categories. King[3] RSN followed with 8 R/EBP types covered. The rest of the RSNS covered 5-7 of the program types with the exception of Thurston/Mason with 1 program type (conduct disorders only)[4].

Unmet Treatment Need

The biggest area of treatment need for research/evidence practices statewide is for depressive disorders (for an estimated 2,125 youth annually), followed by anxiety disorders (1,729 youth) and psychosocial treatment for ADHD (1,153 youth). However, this varies by region as indicated by the treatment deserts maps.

Treatment Deserts

Treatment desert maps were created for each diagnostic category to highlight areas of unmet need, which are indicated by both dark grayscale areas (no treatment available and high need) as well as colored areas (treatment available but does not meet need). For example, the need for depression services is most concentrated in pockets of high population density along the I-5 corridor, Clark county, areas surrounding Prosser and Pasco, as well as Spokane. In most areas with significant treatment deficits, mental health agencies are available and could increase capacity to meet this need through training. However, a significant portion of the state was identified as not within a reasonable driving distance to any mental health agency (with or without R/EBPs). For these areas, increasing capacity in existing agencies will not meet need. Additional strategies to reach these families through telemedicine, home-based services, and expanding services geographically are potentially promising options.

[3] Data submitted post collection deadline suggests that King RSN also covers R/EBP treatment for ADHD in addition to the reported 8 other types of treatment. This is not reflected in the report tables and maps because of incomplete information about the number of therapists trained and locations. Other estimates for anxiety, depression and trauma treatment are unchanged.

[4] Information submitted by Thurston/Mason after the initial data collection period indicate an increase the number of therapists trained in CBT+ which covers depressive and anxiety disorders as well.

GAPS ANALYSIS METHODS

Sample

CLIENT SAMPLE. The clinical sample for the analysis comes from service encounters reported in the Health Care Authority's State and Medicaid billing database (Provider One) which includes both Medicaid and non-Medicaid services and youth. The data received from DBHR included all intakes reported from July 2012 through June 2013, n = 23,641 with n = 18,955 unduplicated youth. Of these youth, 3,226 had more than one intake that occurred within the same time period (perfectly duplicated entries were removed, e.g., same agency, date and diagnosis). 475 youth had a second intake that occurred at least four months from the initial intake. For simplicity, the unduplicated youth, n = 18,955 make up the sample in the current analysis. This assumes that each youth receiving an adequate course of treatment as prescribed by an R/EBP would only need one such course of treatment throughout the year and would stay on a therapist's caseload for approximately three months. In reality, mental health services usage is characterized by a variety of use patterns (Burley, 2009). For our purposes of estimation, however, it was more straightforward to assume that an *ideal* caseload would involve one course of treatment per year. The method of assigning diagnoses to duplicate intakes and intakes with no clinical encounters is described in more detail below.

Table 1: Sample Youth Characteristics Compared to 2010 Census

	Gaps Sample		2010 Census
	n = 18,955	%	%
Gender			
Male	9975	53	49.8
Female	8980	47	50.2
Race/Ethnicity			
African Am	1586	8	4.8
Asian	286	2	9
Native	497	3	3
Pac Islander	168	1	1
White - NH	10036	53	72.5
White - Hispanic	1886	10	11.2
Other	2882	15	6
Multi	1549	8	
Unknown	65	0.3	
Age			
0-5	2144	11	
6-12	8252	44	
13-17	6914	37	
18-20	1645	9	
Region			
Chelan/Douglas	731	4	2
Grays Harbor	509	3	0.1
Greater Columbia	2190	12	12
King	4289	23	26
North Sound	2068	11	17
Peninsula	1060	6	4
Pierce	1948	10	12
Southwest	2994	16	8
Spokane	1657	9	11
Thurston/Mason	1113	6	4
Timberlands	396	2	1

Note: 2011 US Census percents were not available for the age categories presented. Sample represents unduplicated youth from FY2013 data available in Provider One.

The analysis sample includes slightly more males (53%) than females (47%). White/NonHispanic youth are the most represented group (53%), followed by "other" race/ethnicity (15%), Hispanic

(10%), African American (8%), Multi-Ethnic (8%), Native American (3%), Asian (2%), Pacific Islander (1%) and unknown (.3%). Compared to the distribution of race/ethnicity in the state, African Americans and "other" races are slightly overrepresented in the Provider One encounter data. The largest age group in the sample contains youth 6-12 years of age (44%), followed by 13-17 year olds (37%). Birth to five years (11%) and youth 18-20 (9%) are less prevalent. The largest group of youth is receiving services in the King RSN area (23%), followed by Southwest (16%) and Greater Columbia (12%). Counties with a higher proportion of youth receiving intakes than what would be expected from the 2010 Census (>2% difference) include Grays Harbor and Southwest. Counties with a lower proportion (< 2% difference) than expected from the 2010 Census include King and North Sound. These differences may be due to a variety of factors including funding source and referral and population-level need. From the R/EBP service reports collected through this study, both King and North Sound have a larger portfolio of funding sources for maintaining evidence-based practices. Consequently, it is possible that proportionally more youth being treated in these areas are not reported in the Provider One system.

AGENCY SAMPLE. All Community Mental Health Agencies (CMHA) with RSN contracts for children's mental health were asked to complete a services matrix (described more below) by the children's mental health coordinator at the appropriate RSN. We received completed surveys from 111 agencies. The distribution of these agencies within RSN is illustrated in Table 2. The total number of agencies with RSN contracts was obtained through DBHR and used to calculate the rate of response. Greater Columbia and Pierce County had the lowest rates of response (63% and 67%). King followed with a response rate of 77 % and North Sound at 92%. The rest of the RNS's (n = 7) had a 100% response rate. Agencies providing no response are included in the service maps as having no R/EBPs. While it is likely that agencies not responding to the survey had a low use of research/evidence-based practices, the results of the analysis may underrepresent the R/EBP's available in the community due to no or delayed response for some RSNs. For the majority of RSNs (8/12), the analysis will be an accurate representation of available R/EBP programs as reported by the agencies.

Table 2: Agency Response Rate by Regional Support Network

RSN	n	%	rate	%
Chelan/Douglas	3	2.7	3/3	100
Grays Harbor	4	3.6	4/4	100
Greater Columbia	10	9.0	10/16	63
King	30	27.0	30/39	77
North Sound	12	10.8	12/13	92
Peninsula	4	3.6	4/4	100
Pierce	6	5.4	6/9	67
Southwest	12	10.8	12/12	100
Spokane	23	20.7	23/23	100
Thurston/Mason	3	2.7	3/3	100
Timberlands	4	3.6	4/4	100
Total	111	100.0		

PROCEDURES

IDENTIFYING R/EBP PROGRAMS. Information about R/EBP services was solicited from Community Mental Health Agencies through Regional Support Networks in June 2014 following the formation of a Gaps Advisory committee. The committee members approved the format of the services matrix developed to collect information about the R/EBPs available in each agency (Appendix 1). The matrix included information on the specific service location (including satellite locations for large agencies), the name of the program, funding sources for the program, and the number of clinicians trained to implement the program currently working at the agency. In King RSN, additional information on multilingual capacity for R/EBPs was also collected. The matrix was designed to complement and extend the data collected on R/EBP services by DBHR in 2012 while also minimizing length. Because no standard metric for fidelity and competence exists for R/EBP programs in Washington State, we did not ask agencies to report on these domains. The intent was to gather information on where these practices exist in any form. The matrix was open-ended and agencies wrote in the names of programs and practices. They were directed to name programs listed on the Washington State Inventory in addition to any other programs known or suspected to have evidence for treating children's mental health needs. All R/EBPs reported by the agencies were included in the analysis regardless of funding source. Because most programs were supported through multiple funding sources (e.g., private, county and state) we do not disaggregate programs by funding. Consequently, ***R/EBPs reported in this report are not exclusively funded through RSN contracts but are accessible to youth in the public mental health system.*** Programs were then coded according to the diagnoses for which they had demonstrated successful outcomes in treatment studies (more information provided in Appendix 3). Only programs with rigorous evidence for improving outcomes were included in the gaps analysis.

YOUTH DIAGNOSIS. We assigned a single diagnosis to each youth even when multiple diagnoses existed in the record over the study timeframe. To conduct the gaps analysis we assumed that, in general, youth with multiple diagnoses would be treated for these diagnoses in the same number of sessions as those with one diagnosis. We would vastly overestimate the number of youth needing treatment if each diagnosis was treated as a separate "unit" (as explained above). Consequently, we assigned each youth their most common diagnosis on record for all encounters in FY2013. For youth with the same number of diagnoses, we took the first diagnosis listed in the record. Specific diagnoses were rolled up into diagnostic families (more information in Appendix 2).

AGENCY CASELOAD CAPACITY. Agency caseload capacity was estimated for each diagnostic category by summing together the number of therapists in that agency trained in an R/EBP. Because we did not collect the names or other identifiers of therapists, we created guidelines for when to sum therapists across programs when more than one diagnostic-specific program existed within the agency (Appendix 3).

After assigning the number of therapists to each agency for each diagnostic category and class of treatment, we estimated patient caseload capacity for each diagnostic category with the following formula:

Estimated annual R/EBP capacity for diagnostic category = $T*X_a(.50)(X_b)(.80)$

Where T = the number of therapists trained to treat that diagnostic category. Where X_a = the estimated per therapist caseload in general practice per year. For most diagnostic categories we assume an annual caseload of 60 clients. This figure was determined after speaking to experts in each EBP area, several mental health agencies and literature searches for specific program requirements. The 0.50 reduction accounts for an average caseload that is half adult and half youth. While different agencies will have different ratios of adult to youth clientele, we assume that over all state agencies about half of caseloads are available for treating youth. Where X_b = a reduction to account for the diversity of types of diagnoses seen on a typical caseload. Based on conversations with mental health agencies, we assume the majority of therapists are expected to treat all Axis I disorders, consequently, available caseload should be apportioned to expect a diversity of needs. Consequently, we allot a percentage of each caseload to specific diagnostic categories based on the state distribution of these diagnoses using data from the study sample database (see Table 4).

Table 3: Multiplier Values to Adjust Capacity for Diagnostic Prevalence

Category	Multiplier
Adjustment	0.11
Anxiety	0.214
Trauma	0.09
Bipolar	0.015
Depressive	0.316
Psychotic	0.03
Pervasive Dev	0.004
ADHD	0.058
Conduct	0.089
Personality	0.0002
Eating	0.0002

The multipliers do not sum to 1 (100%) because of the remaining unspecified diagnoses and infrequent diagnoses that therapists are also managing on their caseloads. The 0.80 reduction reflects the estimated 80% of cases that are being reported in Provider One versus other clients not receiving state/federal dollars who are also being treated by the same therapists. This figure was determined after discussing the distribution of funding sources within therapist caseloads with multiple agencies.

Example. Agency X has two programs rated as highly indicated (A) for depression. Five therapists are reported as trained in Program A and four therapists in Program B. Consequently,

$T = (5+4)= 9$, $X_a = 60$, $X_b = .316$.

Number of youth with depression the agency can serve with an R/EBP a year=
$9*60(.50)(.316)(.80) = 68.25$

RESULTS

DISTRIBUTION OF YOUTH DIAGNOSES

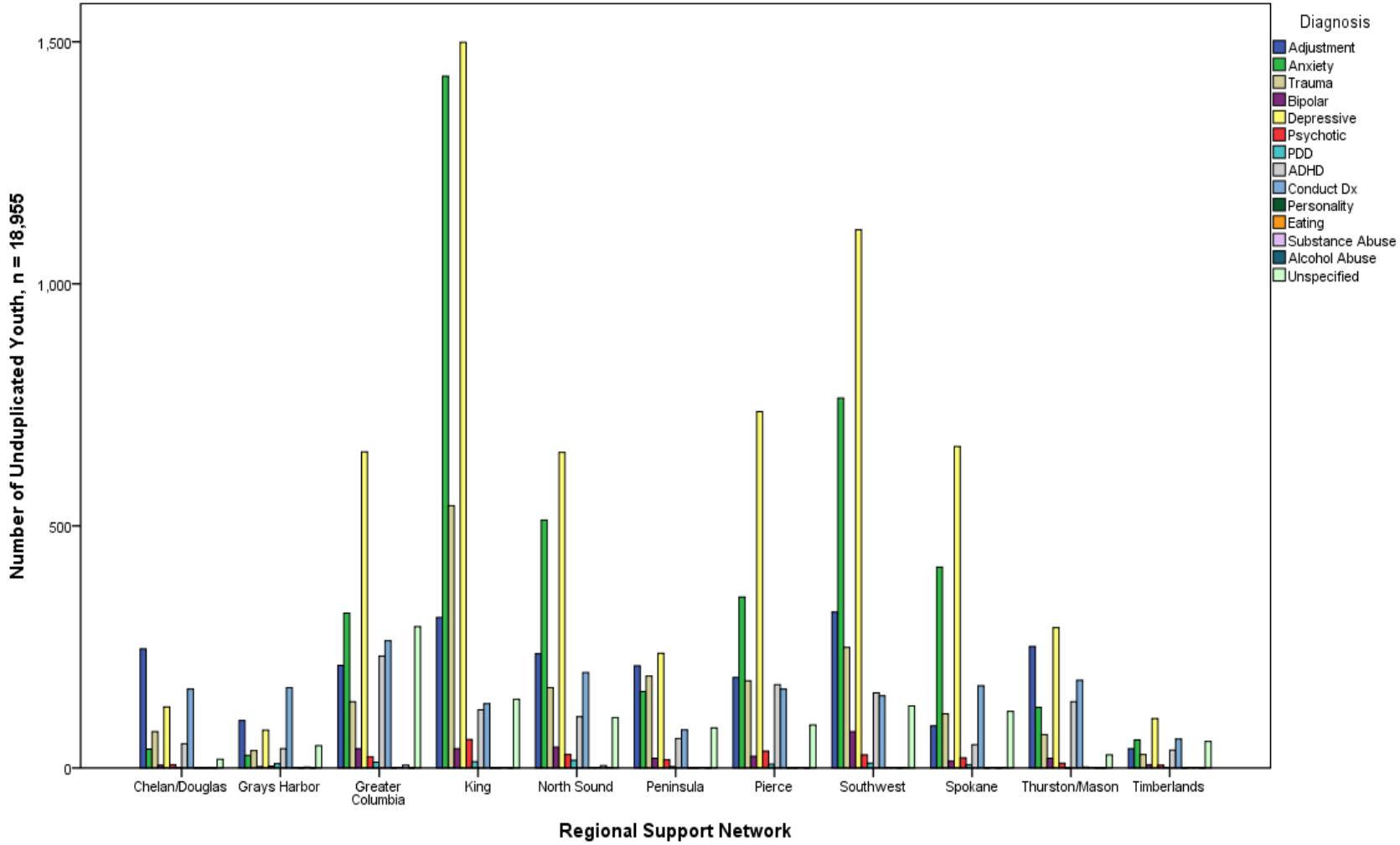
DISTRIBUTION OF DIAGNOSTIC CATEGORIES ACROSS REGIONAL SUPPORT NETWORK AREAS

The distribution of diagnoses varies across RSN in proportion of need per RSN and in absolute quantity per region. When youth are assigned their most common diagnosis, the highest diagnostic areas of need are for depressive disorders (32% of all diagnoses) and anxiety disorders (22%). In 9 of the 11 RSNs, depressive disorders are the most common diagnosis (Greater Columbia, King, North Sound, Peninsula, Pierce/Optum, Spokane, Southwest, Timberlands, Thurston/Mason). Chelan/Douglas's highest diagnostic type is adjustment disorder followed by conduct disorder. Grays Harbor's most common diagnostic type is conduct disorder followed by adjustment disorder. If adjustment disorder is considered a subtype of depression/anxiety, Grays Harbor is the only county with a diagnostic type (conduct disorder) more prevalent than depressive or anxiety disorders. Trauma/PTSD is proportionally most prevalent in Peninsula (18%), followed by King (13%). In other counties, Trauma/PTSD makes up 10% or less of all diagnoses. Conduct disorder varies considerably across regions from a proportionate high in Grays Harbor (33%) and Chelan/Douglas (22%), mid-range prevalence in Timberlands (16%), Thurston/Mason (15%), and Greater Columbia (12%) and 10% or below in the remaining regions (Table 5 and Figure 1).

Table 4: Counts of Diagnostic Categories for Provider One Youth Ages 0-20 by Regional Support Network, FY2013

Diagnostic Categories		Regional Support Networks											
		Chelan/ Douglas	Grays Harbor	Greater Columbia	King	North Sound	Peninsula	Optum Health	Spokane	Southwest	Timberlands	Thurson/ Mason	Total
Adjustment	n	246	98	212	311	236	211	187	87	322	40	251	2201
	%	33.7%	19.3%	9.7%	7.3%	11.4%	19.9%	9.6%	5.3%	10.8%	10.1%	22.6%	11.6%
Anxiety	n	39	26	320	1429	512	158	353	415	764	58	125	4199
	%	5.3%	5.1%	14.6%	33.3%	24.8%	14.9%	18.1%	25.0%	25.5%	14.6%	11.2%	22.2%
Trauma	n	75	36	137	542	166	190	180	112	249	28	69	1784
	%	10.3%	7.1%	6.3%	12.6%	8.0%	17.9%	9.2%	6.8%	8.3%	7.1%	6.2%	9.4%
Bipolar	n	6	3	40	40	43	20	24	14	75	7	20	292
	%	.8%	.6%	1.8%	.9%	2.1%	1.9%	1.2%	.8%	2.5%	1.8%	1.8%	1.5%
Depressive	n	126	78	653	1499	652	237	736	664	1112	102	290	6149
	%	17.2%	15.3%	29.8%	34.9%	31.5%	22.4%	37.8%	40.1%	37.1%	25.8%	26.0%	32.4%
Psychotic	n	7	4	23	59	28	17	35	21	27	6	10	237
	%	1.0%	.8%	1.1%	1.4%	1.4%	1.6%	1.8%	1.3%	.9%	1.5%	.9%	1.3%
PDD	n	1	9	12	13	16	3	8	7	10	1	0	80
	%	.1%	1.8%	.5%	.3%	.8%	.3%	.4%	.4%	.3%	.3%	0.0%	.4%
ADHD	n	50	40	231	120	106	61	172	48	155	37	137	1157
	%	6.8%	7.9%	10.5%	2.8%	5.1%	5.8%	8.8%	2.9%	5.2%	9.3%	12.3%	6.1%
Conduct Dx	n	163	166	263	133	197	79	163	170	149	60	181	1724
	%	22.3%	32.6%	12.0%	3.1%	9.5%	7.5%	8.4%	10.3%	5.0%	15.2%	16.3%	9.1%
Personality	n	0	1	0	0	1	0	0	0	1	0	2	5
	%	0.0%	.2%	0.0%	0.0%	.0%	0.0%	0.0%	0.0%	.0%	0.0%	.2%	.0%
Eating	n	0	0	1	0	1	0	0	1	1	1	1	6
	%	0.0%	0.0%	.0%	0.0%	.0%	0.0%	0.0%	.1%	.0%	.3%	.1%	.0%
Substance Abuse	n	0	2	6	1	5	1	1	0	0	1	0	17
	%	0.0%	.4%	.3%	.0%	.2%	.1%	.1%	0.0%	0.0%	.3%	0.0%	.1%
Alcohol Abuse	n	0	0	0	0	1	0	0	1	1	0	0	3
	%	0.0%	0.0%	0.0%	0.0%	.0%	0.0%	0.0%	.1%	.0%	0.0%	0.0%	.0%
Unspecified	n	18	46	292	142	104	83	89	117	128	55	27	1101
	%	2.5%	9.0%	13.3%	3.3%	5.0%	7.8%	4.6%	7.1%	4.3%	13.9%	2.4%	5.8%
Total	n	731	509	2190	4289	2068	1060	1948	1657	2994	396	1113	18955
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Figure 1: Number of Youth (Ages 0-20) Within Diagnostic Categories by Regional Support Network, FY2013



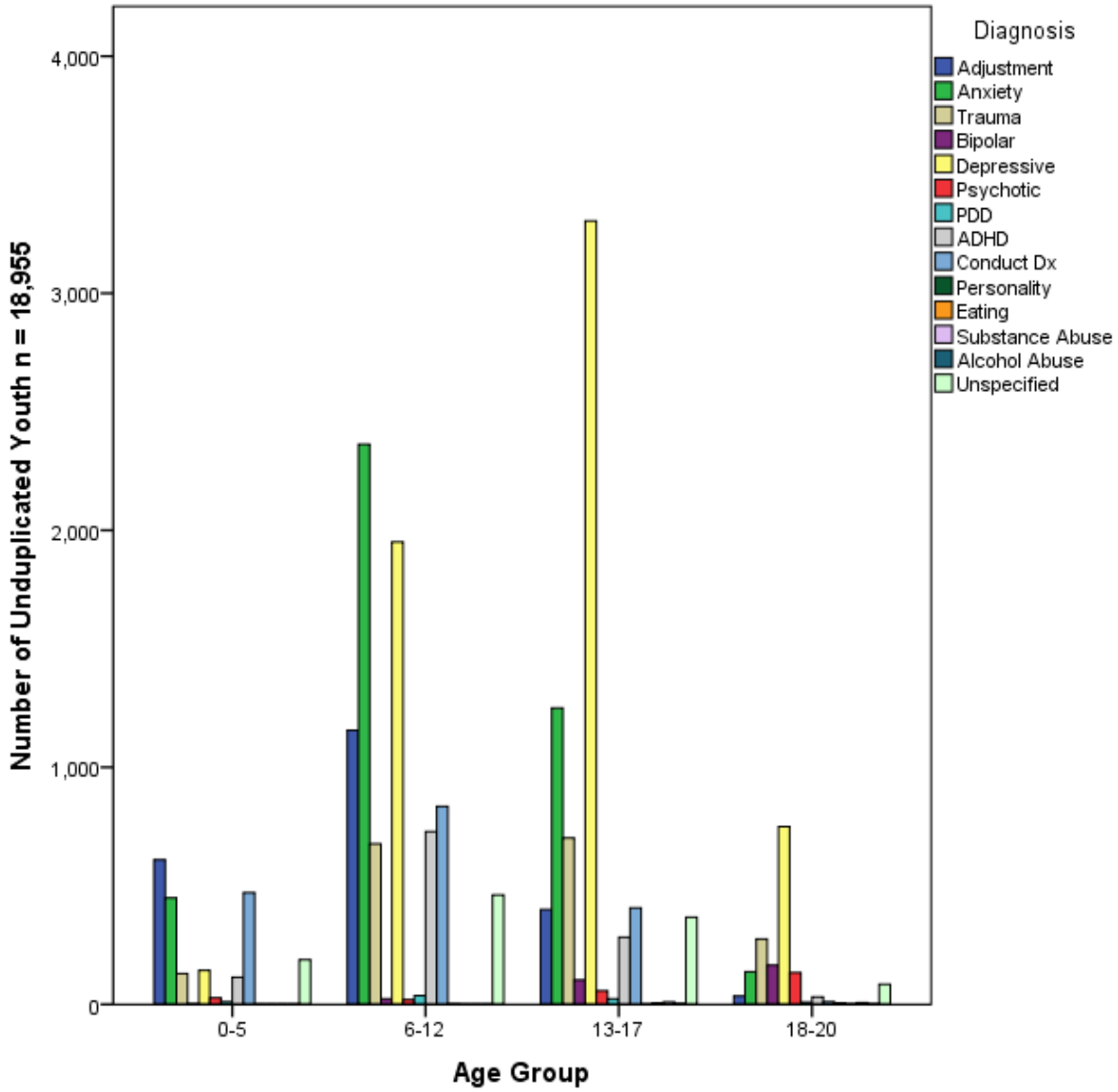
DISTRIBUTION OF DIAGNOSTIC CATEGORIES ACROSS AGE GROUPS

Diagnostic prevalence varies considerably among age groups (0-5 years, 6-12 years, 13-17 years, 18-20 years). The most common diagnosis for children 0-5 is adjustment disorder (29%), followed by conduct disorder (22%) and anxiety disorder (21%). The most common diagnosis for children 6-12 is anxiety disorder (29%) followed by depressive disorder (24%) and adjustment disorder (14%). Nearly half of all diagnoses for youth 13-17 are for depressive disorder (48%), followed by anxiety (18%) and trauma (10%). Young adults ages 18-20 are also most often seen for depressive disorder (46%) followed by trauma (17%). Overall, adjustment disorder and conduct disorder decrease in prevalence as youth age while trauma, bipolar disorder and depressive disorder increase as youth age.

Table 5: Diagnostic Categories Provider One Youth Ages 0-20 FY2013

Diagnostic Category		Age Group 0-5	6-12	13-17	18-20	Total
Adjustment	n	610	1156	400	35	2201
	%	28.5%	14.0%	5.8%	2.1%	11.6%
Anxiety	n	449	2363	1250	137	4199
	%	20.9%	28.6%	18.1%	8.3%	22.2%
Trauma	n	130	677	702	275	1784
	%	6.1%	8.2%	10.2%	16.7%	9.4%
Bipolar	n	1	23	103	165	292
	%	.0%	.3%	1.5%	10.0%	1.5%
Depressive	n	143	1951	3305	750	6149
	%	6.7%	23.6%	47.8%	45.6%	32.4%
Psychotic	n	27	19	57	134	237
	%	1.3%	.2%	.8%	8.1%	1.3%
PDD	n	11	37	23	9	80
	%	.5%	.4%	.3%	.5%	.4%
ADHD	n	114	729	283	31	1157
	%	5.3%	8.8%	4.1%	1.9%	6.1%
Conduct Dx	n	471	835	407	11	1724
	%	22.0%	10.1%	5.9%	.7%	9.1%
Personality	n	0	1	0	4	5
	%	0.0%	.0%	0.0%	.2%	.0%
Eating	n	0	0	5	1	6
	%	0.0%	0.0%	.1%	.1%	.0%
Substance Abuse	n	0	0	10	7	17
	%	0.0%	0.0%	.1%	.4%	.1%
Alcohol Abuse	n	0	0	2	1	3
	%	0.0%	0.0%	.0%	.1%	.0%
Unspecified	n	188	461	367	85	1101
	%	8.8%	5.6%	5.3%	5.2%	5.8%
Total	n	2144	8252	6914	1645	18955
	%	100.0%	100.0%	100.0%	100.0%	100.0%

Figure 2: Diagnostic Categories by Age Group



DISTRIBUTION OF DIAGNOSTIC CATEGORIES ACROSS RACE/ETHNICITY

The prevalence of diagnostic categories is fairly stable across race/ethnicity. Depressive and anxiety disorders are the most commonly diagnosed categories for all groups. Some smaller variations among categories are noted. For example, the highest prevalence for trauma is among African American youth (14%) compared to the total sample prevalence of 9% (Pacific Islanders have the lowest prevalence at 5%). Conduct disorders are least likely to be diagnosed for Asian and Pacific Islander youth (5%) and most common among Hispanic and Other (10%).

Table 6: Diagnostic Categories for Provider One Youth Ages 0-20 by Race/Ethnicity, FY2013

	Race/Ethnicity								
Diagnostic Category	Hispanic	WhiteNH	African American	Asian	Pacific Isl	AI/AN	Other	Multi	Total
Adjustment	248 13.1%	1164 11.6%	125 7.9%	23 8.0%	16 9.5%	58 11.7%	378 13.1%	176 11.4%	2188 11.6%
Anxiety	398 21.1%	2215 22.1%	344 21.7%	76 26.6%	46 27.4%	113 22.7%	626 21.7%	367 23.7%	4185 22.2%
Trauma	200 10.6%	850 8.5%	215 13.6%	28 9.8%	9 5.4%	54 10.9%	259 9.0%	163 10.5%	1778 9.4%
Bipolar	23 1.2%	193 1.9%	22 1.4%	5 1.7%	3 1.8%	9 1.8%	17 .6%	20 1.3%	292 1.5%
Depressive	563 29.9%	3213 32.0%	567 35.8%	110 38.5%	67 39.9%	170 34.2%	940 32.6%	509 32.9%	6139 32.5%
Psychotic	21 1.1%	122 1.2%	31 2.0%	7 2.4%	5 3.0%	6 1.2%	27 .9%	18 1.2%	237 1.3%
PDD	6 .3%	54 .5%	6 .4%	1 .3%	0 0.0%	4 .8%	5 .2%	3 .2%	79 .4%
ADHD	112 5.9%	673 6.7%	97 6.1%	5 1.7%	7 4.2%	25 5.0%	139 4.8%	98 6.3%	1156 6.1%
Conduct Dx	190 10.1%	930 9.3%	120 7.6%	15 5.2%	9 5.4%	30 6.0%	290 10.1%	130 8.4%	1714 9.1%
Personality	0 0.0%	3 .0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 .0%	1 .1%	5 .0%
Eating	0 0.0%	4 .0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 .0%	1 .1%	6 .0%
Substance Abuse	0 0.0%	11 .1%	2 .1%	0 0.0%	0 0.0%	1 .2%	3 .1%	0 0.0%	17 .1%
Alcohol Abuse	1 .1%	1 .0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 .1%	3 .0%
Unspecified	124 6.6%	603 6.0%	57 3.6%	16 5.6%	6 3.6%	27 5.4%	196 6.8%	62 4.0%	1091 5.8%
Total	1886 100.0%	10036 100.0%	1586 100.0%	286 100.0%	168 100.0%	497 100.0%	2882 100.0%	1549 100.0%	18890 100.0%

Table 7: Diagnostic Categories for Provider One Youth Ages 0-20 by Gender, FY2013

		Gender		
		Female	Male	Total
Adjustment	n	1040	1161	2201
	%	11.6%	11.6%	11.6%
Anxiety	n	2066	2133	4199
	%	23.0%	21.4%	22.2%
Trauma	n	1087	697	1784
	%	12.1%	7.0%	9.4%
Bipolar	n	168	124	292
	%	1.9%	1.2%	1.5%
Depressive	n	3304	2845	6149
	%	36.8%	28.5%	32.4%
Psychotic	n	73	164	237
	%	.8%	1.6%	1.3%
PDD	n	8	72	80
	%	.1%	.7%	.4%
ADHD	n	232	925	1157
	%	2.6%	9.3%	6.1%
Conduct	n	492	1232	1724
	%	5.5%	12.4%	9.1%
Personality	n	1	4	5
	%	.0%	.0%	.0%
Eating	n	5	1	6
	%	.1%	.0%	.0%
Substance Abuse	n	5	12	17
	%	.1%	.1%	.1%
Alcohol Abuse	n	1	2	3
	%	.0%	.0%	.0%
Unspecified	n	498	603	1101
	%	5.5%	6.0%	5.8%
Total	n	8980	9975	18955
	%	100.0%	100.0%	100.0%

DISTRIBUTION OF DIAGNOSTIC CATEGORIES ACROSS GENDER

For both male and female youth, depressive disorder is the most commonly diagnosed category followed by anxiety and adjustment disorders. Variations in diagnostic prevalence are noted in smaller categories. Females are more likely to be diagnosed with trauma (12% vs. 7%) and males are more likely to be diagnosed with conduct disorder (12% vs. 6%).

DISTRIBUTION OF RESEARCH/EVIDENCE-BASED PRACTICES (R/EBP)

NUMBER OF THERAPISTS BY R/EBP RATING

The number of therapists per agency was summed within RSN to provide a total count of therapists trained in R/EBPs within each diagnostic category. The therapist counts are separated by program rating level, A = well supported, B = moderately supported, C = well supported but not on inventory. Across the RSN areas, the highest number of therapists are trained in Level A trauma interventions (n = 686), followed by Level A conduct disorder interventions (n = 550), Level B adjustment disorder interventions (n = 443), Level A depressive disorder interventions (n = 483), and Level A anxiety disorder interventions (n = 422; Table 9). R/EBP interventions at any level were not reported for eating, psychotic or bipolar disorders. Because the number of trained therapists may be duplicated across diagnostic categories, it is not appropriate to sum the therapists within RSN to provide a total number of therapists trained in R/EBPs across all categories.

THERAPIST CAPACITY BY DIAGNOSTIC CATEGORY AND REGIONAL SUPPORT NETWORK

To estimate R/EBP therapist capacity, the number of therapists trained in any level of R/EBP (A,B,C) within diagnostic category was summed for each RSN. The formula used in the procedures section was then applied to estimate the number of youth that could be served for each RSN. The total number of youth within diagnostic category for each RSN was then subtracted from this therapist capacity estimate (estimated number of youth served per agency) to derive a difference score that represents the capacity (in numbers of youth) that exceed current need (positive integers) or are insufficient to meet need (negative integers). These numbers can be interpreted as excess capacity or insufficient capacity. Values close to zero indicate a match between capacity and need. As noted in the procedures section, the therapist capacity estimates are based on program funded from multiple sources and should not be interpreted as reflecting the funding capacity of RSNs to sustain R/EBPs within existing funds and contracts. The table can be used to identify areas of particular need for each region.

- Chelan/Douglas is slightly exceeding need for depressive and anxiety disorders (60-80 cases a year) while not meeting need for adjustment disorder (-201 cases), conduct disorder (-135 cases) and ADHD (-50 cases a year).
- Grays Harbor is not meeting need for more than 50 cases a year for conduct (-166), adjustment (-93), and depressive (-62) disorders.
- Greater Columbia is exceeding need for anxiety and trauma (134 and 64 cases) while not meeting need for ADHD (-231 cases) or conduct disorder (-200).
- King[5] is not meeting need for anxiety (-915 cases), depressive (-700 cases), trauma (-121 cases), and ADHD (-120 cases) disorders.

[5] These numbers may underestimate treatment capacity as a result of revised data submitted by the King County RSN post-data collection in which it was reported that 12 and 16 therapists were available to treat Trauma and ADHD, respectively. These numbers

- North Sound is not exceeding need in any diagnostic categories and is not meeting need with more than 50 cases a year for depressive (-291 cases), anxiety (-255 cases), adjustment (-112 cases), ADHD (-106 cases), conduct (-158 cases) and trauma disorders (-71 cases).
- Peninsula is not meeting need for trauma (-138 cases), depressive (-114 cases), adjustment (-169 cases) and anxiety disorders (-77 cases).
- Pierce is meeting need in most categories but is insufficient for depressive (-114 cases), and ADHD (-172 cases) and conduct disorder (-92 cases).
- Southwest is not meeting capacity for depressive (-736 cases), anxiety (-698 cases), adjustment (-304 cases), ADHD (-151 cases) and trauma disorders (-119 cases).
- Spokane is exceeding capacity for trauma (236 cases) and adjustment disorders (122 cases).
- Thurston/Mason is not meeting capacity for adjustment (-251 cases), depressive (-290 cases), conduct (-168 cases), ADHD (-137 cases) and anxiety (-125 cases).
- Timberlands is exceeding capacity for depressive (90 cases) and anxiety (68 cases) disorders.

are not incorporated into the tables and maps due to incomplete information about part-time/fulltime status of therapists and the due date for the report.

Table 8: Number of Therapists Trained in R/EBP by Diagnostic Category and RSN, FY2013.

		Regional Support Network											
		Chelan/ Douglas	Grays Harbor	Greater Columbia	King	North Sound	Peninsula	Pierce	Southwest	Spokane	Thurston/ Mason	Timberlands	Total
Adjustment	A	0	0	0	0	0	0	0	0	0	0	0	0
	B	**17**	**2**	**90**	**102**	**47**	**16**	**80**	**7**	**79**	0	**3**	443
	C	0	0	0	0	0	0	0	0	0	0	0	0
Depressive	A	**24**	0	**90**	**104**	**47**	**16**	**81**	**45**	**51**	0	**25**	483
	B	0	**2**	0	0	0	0	0	**4**	**35**	0	0	41
	C	0	0	0	0	0	0	0	0	0	0	0	0
Anxiety	A	**24**	0	**90**	**101**	**51**	**16**	**81**	**9**	**25**	0	**25**	422
	B	0	**2**	0	**1**	0	0	0	**4**	**61**	0	0	68
	C	0	0	0	0	0	0	0	0	0	0	0	0
Trauma	A	**25**	**7**	**93**	**195**	**44**	**24**	**100**	**56**	**126**	0	**16**	686
	B	0	**2**	0	0	0	0	0	4	**35**	0	0	41
	C	0	0	0	0	0	0	0	0	0	0	0	0
Conduct	A	**13**	0	**26**	**51**	**18**	**8**	**33**	**48**	**53**	0	**5**	255
	B	0	0	**3**	**3**	0	0	0	**5**	0	**6**	0	17
	C	0	0	0	0	0	0	0	0	0	0	0	0
Substance Abuse	A	0	0	**3**	**3**	0	0	0	**12**	0	**6**	0	24
	B	0	0	0	0	0	0	0	0	0	0	0	0
	C	0	0	**1**	0	0	0	0	**12**	0	0	0	13
PDD	A	0	0	0	0	0	0	0	**3**	0	0	0	3
	B	0	0	0	0	0	0	0	0	0	0	0	0
	C	0	0	0	0	0	0	0	0	0	0	0	0
ADHD	A	0	0	0	0	0	0	0	**3**	0	0	0	3
	B	0	0	0	0	0	0	0	0	0	0	0	0
	C	0	0	0	0	0	0	0	0	0	0	0	0
Personality	A	0	**2**	0	**43**	**5**	**4**	0	**70**	**5**	0	**2**	131
	B	0	0	0	0	0	0	0	0	0	0	0	0
	C	0	0	0	0	0	0	0	0	0	0	0	0
Alcohol Abuse	A	0	0	**3**	**3**	0	0	0	**6**	**2**	**6**	0	20
	B	0	0	0	0	0	0	0	0	0	0	0	0
	C	0	0	0	0	0	0	0	0	0	0	0	0
Eating	any	0	0	0	0	0	0	0	0	0	0	0	0
Psychotic	any	0	0	0	0	0	0	0	0	0	0	0	0
Bipolar	any	0	0	0	0	0	0	0	0	0	0	0	0
Diagnoses Addressed		5	5	7	8	6	6	5	10	7	3	6	10

Table 9: Excess and Insufficient Capacity to Meet Need with an R/EBP, in Numbers of Youth

	Regional Support Network											
	Chelan/ Douglas	Grays Harbor	Greater Columbia	King	North Sound	Peninsula	Pierce	Southwest	Spokane	Thurston/ Mason	Timberlands	Total
Depressive	58	-63	38	-700	-291	-114	-114	-736	-4	-290	90	-2125
Anxiety	82	-16	134	-915	-255	-77	55	-698	18	-125	68	-1729
Trauma	-21	-17	64	-121	-71	-138	36	-119	236	-69	7	-214
Conduct	-135	-166	-200	-16	-158	-62	-92	-35	-56	-168	-49	-1136
Adjustment	-201	-93	26	-42	-112	-169	24	-304	122	-251	-32	-1031
PDD	-1	-9	-12	-13	-16	-3	-8	-10	-7	0	-1	-80
ADHD	-50	-40	-231	-120	-106	-61	-172	-151	-48	-137	-37	-1153
Substance Abuse	0	-2	-6	-1	-5	-1	-1	1	0	0	-1	-16
Alcohol Abuse	0	0	1	1	-1	0	0	2	0	3	0	7
Personality	0	-1	0	0	-1	0	0	-1	0	-2	0	-4
Bipolar	-6	-3	-40	-40	-43	-20	-24	-75	-14	-20	-7	-292
Psychotic	-7	-4	-23	-59	-28	-17	-35	-27	-21	-10	-6	-237
Eating	0	0	-1	0	-1	0	0	-1	-1	-1	-1	-6

Note. Values are the difference between estimated numbers of youth that can be served at an agency (therapist capacity) and numbers of youth in need. Values of zero indicate the need is met. Positive integers indicate an excess of therapist capacity. Negative integers indicate the estimated number of youth exceeding therapist capacity.

IDENTIFYING TREATMENT DESERTS

Using ArcGIS, a geocoding program, we drew 20 miles service areas around each mental health agency contracted through the RSNs (10 miles within King County to adjust for traffic congestion) using existing roads. Using a procedure described in the technical appendices, youth were apportioned evenly across zip coded areas and overlaid on top of agency service areas to develop the capacity estimates shown on the maps. The grayscale areas indicate the raw number of youth within a zip code with the indicated treatment need. These are shown to illustrate treatment need in areas with no R/EBP services. Dark gray indicates at least 40 youth a year have the indicated treatment need in that zip code area. The green areas of the map indicate areas where treatment agencies are providing an R/EBP that matches the treatment need. To identify "treatment deserts" for immediate intervention, we color service areas that are not meeting local need in red. Not meeting need is defined as more than 40 youth a year who cannot be treated with an R/EBP for that need given the existing service capacity. The service area is considered to meet need if no more than 40 youth a year cannot be treated with an R/EBP for that need (up to 39 untreated youth a year). ***Accordingly, both dark gray and red areas are "treatment desert" areas for immediate intervention for the indicated diagnostic area.***

Depression Service Deserts

The areas of greatest unmet need for depression R/EBP services, based on the incident of depression diagnoses in those areas, are in southwest Clark County, followed by Franklin County. Other areas of need are in northern Pierce county and western King county[6] along the north-south axis as well as spots in east-central Benton county, central Yakima county and Spokane.

Anxiety Service Deserts

The areas of greatest unmet need for anxiety R/EBP services are in southwest Clark County, south King County, Franklin County, and southeast King County[7] into far eastern Pierce County.

Adjustment Service Deserts

The area of greatest unmet need for adjustment disorder R/EBP services is in southeastern Chelan and southwestern Douglas counties, southwest Mason county, and east Clallam county.

Conduct Disorder Service Deserts

The areas of greatest unmet need for conduct disorder R/EBPs are in central Grays Harbor County, and southern Chelan/Douglas Counties.

Attention Deficit Hyperactivity Disorder Service Deserts (Psychosocial Interventions)

The areas of greatest unmet need for ADHD psychosocial interventions, are in southwest Thurston/Mason County.

Trauma Service Deserts

[6] Revised data on the availability of R/EBP's was submitted from multiple sites within King County post collection deadline. However, the revisions do not appear to impact the north and south corridors of King county.

No areas in the state had unmet need exceeding 40 a youth a year. Need under 40 youth a year is distributed throughout the densely populated areas of the state, with a large cluster in south King county[8].

Personality Disorder Service Deserts

No areas in the state had unmet need exceeding 5 youth a year.

[8] This number may overestimate unmet need within King county due to revised data submitted from sites received post collection deadline.