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Performance Improvement Project Implementation & Submission Tool

PLANNING TEMPLATE

INTRODUCTION & INSTRUCTION

This tool provides a structure for development and submission of Performance Improvement Projects (PIPs). It is based on EQR Protocol 3: Validating Performance Improvement Projects (PIPs), as a mandatory protocol delivered by the Centers for Medicare & Medicaid Services (CMS) in September of 2012.

The use of this format for PIP submission will assure that the MHP addresses all of the required elements of a PIP. If the MHP uses another format, they must ensure that all of the required elements of the PIP are addressed and included in their submission. **PLEASE fully complete each section and answer ALL questions.**

- The PIP should target improvement in either a clinical or non-clinical service delivered by the MHP.
- The PIP process is not used to evaluate the effectiveness of a specific program operated by the MHP. If a specific program is experiencing identified problems, changes and interventions can be studied using the PIP process. This can be done to create improvements in the program and should be included in the narrative.
- The narrative should explain how addressing the study issue will also address a broad spectrum of consumer care and services over time. If the PIP addresses a high-impact or high risk condition, it may involve a smaller portion of the MHP consumer population, so the importance of addressing this type of issue must be detailed in the study narrative.
- Each year a PIP is evaluated is separate and specific. Although topic selection and explanation may cover more than one PIP year, every section should be reviewed and updated, as needed, to ensure continued relevance and to address on-going and new interventions or changes to the study.
- If sampling methods are used, the documentation presented must include the appropriateness and validity of the sampling method, the type of sampling method used and why, and what statistical subset of the consumer population was used.
- General information about the use of sampling methods and the types of sampling methods to use to obtain valid and reliable information can be found in Appendix II of the EQR Protocols.[1]

[1] EQR Protocol: Appendix II: Sampling Approaches, Sept. 2012, DHHS, Centers for Medicare & Medicaid Services (CMS), OMB Approval No. 0938-0786

IDENTIFICATION OF PLAN/PROJECT

MHP Name:	**Mendocino County**		
Project Title:	**Diagnosis & Treatment of Co-occurring Disorders**	Check One:	Clinical **X** Non-Clinical
Project Leader:	**Clifford Landis**	Title: QA/QI Clinician II	Role: **PIP Lead**
Start Date (MM/DD/YY):	**July 1, 2018**		
Completion Date (MM/DD/YY):	**June 30, 2019**	Projected Study Period (# of months): **24**	

Brief Description of PIP:
(Please include the GOAL of the PIP and what the PIP is attempting to accomplish.)

Mendocino County Behavioral Health and Recovery Services (MCBHRS), Mental Health Services, determined it has been under-diagnosing substance use disorders in the mental health population it serves, leading to fewer referrals and less treatment than research estimates of co-morbid incidence rates would indicate. The year before this PIP began, 2015-16, the rate of co-occurring diagnosis was 12%, well below the National Alliance on Mental Illness (NAMI) estimate of 37% to 53%. BHRS standards specify that all individuals who meet diagnostic criteria for both a mental health and a substance use disorder are given a co-occurring diagnosis (COD) and receive coordinated treatment services.
This PIP intends to increase both the rates of COD diagnosis, and the number of those diagnosed who receive COD treatment synchronous with their mental health treatment. We will track the rates of diagnosis, also the number of treatment sessions by clinical staff that address co-occurring symptoms.

STEP 1: SELECT & DESCRIBE THE STUDY TOPIC

1. The PIP Study Topic selection narrative should include a description of stakeholders involved in developing and implementing the PIP. MHPs are encouraged to seek input from consumers and all stakeholders who are users of, or are concerned with specific areas of service.

   - Assemble a multi-functional team (e.g. clinical staff, consumers, contract providers as appropriate).
   - Describe the stakeholders who are involved in developing and implementation of this PIP. Be sure to include CFM group representation.
   - Describe the stakeholders' role(s) in the PIP and how they were selected to participate.

The multi-functional team includes Mendocino County Behavioral Health and Recovery Services (MCBHRS), Redwood Quality Management Company (RQMC), and adult community-based organizations. These stakeholders were selected because they provide services to adults 18 years and older.

The Adult provider stakeholders are listed below:

Name	Role	Organization/Title
Jenine Miller	Behavioral Health Director	Mendocino County BHRS
Cliff Landis	QA/QI Clinician	Mendocino County BHRS
Rendy Smith	CATC Certified Addiction Counselor	Mendocino County BHRS
Tim Schraeder	RQMC Director	Redwood Quality Management Company
Dan Anderson	RCS Clinical Director	Redwood Community Services (RCS)
Susan Wynd Novotny	Manzanita Director	Manzanita Services, Inc.
Mark Zimmer	Clinical Director	Manzanita Services, Inc.
Libby Guthrie	Clinical Director	Mendocino County Aids and Viral Hepatitis Network

In addition, the multi-functional team includes the MCBHRS Quality Improvement Committee (QIC). The QIC was selected because it is representative of clients, staff, and community stakeholders invested in ensuring quality service provision. MCBHRS' QIC membership is comprised of behavioral health practitioners and providers, as well as Medi-Cal beneficiaries, parents, spouses, relatives, legal representatives, or other persons similarly involved with beneficiaries who have accessed specialty mental health services through the Mendocino County Mental Health Plan (MHP). Committee members actively participate in the planning, design, and execution of quality improvement (QI) activities including PIPs.

The members of MCBHRS' Quality Improvement Committee (QIC) are listed below:

Name	Role	Organization/Title
Colleen McDonald	BHRS Compliance Manager	Mendocino County BHRS
Caitlin Colby	Program Specialist	Mendocino County BHRS
Juanita Dreiling	BHRS Fiscal Sr. Dept. Analyst	Mendocino County BHRS
Melinda Driggers	BHRS Cultural Competency Coordinator	Mendocino County BHRS
Lois LaDelle-Daly	RQMC Compliance Officer	Redwood Quality Management Company
Robin Meloche	Patient Rights Advocate	Mendocino County BHRS
Susan Wynd Novotny	Adult Provider Executive Director	Manzanita Services
Nicole Sorace	Adult Provider Analyst	Manzanita Services
Chris Johnson	Healthy Start Volunteer	Healthy Start
Kristina Harju	Adult Provider Manager	Hospitality Center
Colleen Gorman	MHSA Program Administrator	Mendocino County BHRS

Christian Johnson	**Department Application Specialist**	**Mendocino County BHRS**

2. Define the problem.
   - The problem to be addressed should be clearly stated with narrative explanation including what brought the problem to the attention of the MHP.
     - What is the problem?
     - How did it come to your attention?
     - What data have you reviewed that suggests the issue is indeed a problem for the MHP? Describe any relevant benchmarks.
     - What literature and/or research have been reviewed that explain the issue's relevance to the MHP's consumers?

MCBHRS identified that our rate of diagnosing co-occurring disorders was not consistent with expected rates of co-occurring disorders (COD). This identification occurred through observing the needs and outcomes of clients, as well as attention to research and dialogue in the behavioral health system of care. Organizational providers serving specialty mental health (SMH) adult clients observed that clinicians, supervisors, and managers had been engaged in discussion of ways to best serve consumers with mental health and chronic substance use complications. Staff recognized addressing substance use is integral to positive outcomes overall, while voicing questions about best treatment practices, staff training and clinical preparedness, and regulatory standards for providing diagnosis and treatment of substance use in the mental health system. In May and June of 2017, the PIP team conducted a survey and a focus group, with clinical staff at all adult service agencies, aiming to find out more about specific questions, challenges, and training needs related to COD.

Our PIP team reviewed data from the Electronic Health Record (EHR) and verified that based on research literature Mendocino County was under-diagnosing co-occurring disorders in our adult population of mental health consumers. This finding did not satisfy our expectation that all individuals assessed for specialty mental health services receive a co-occurring diagnosis and subsequent treatment, if they meet criteria.

Per Substance Abuse and Mental Health Services Administration (SAMHSA) in 2014, 2.3 million people in the United States met the criteria for co-occurring with a serious mental health and substance use diagnosis. The National Alliance on Mental Illness (NAMI) estimates that 37 percent of individuals with a mental health diagnosis also struggle with alcoholism and 53 percent struggle with drug addiction.

NAMI estimates that 10.2 million people in the United States have co-occurring mental health and substance use conditions. Co-occurring disorders for this study refers to substance use disorders that are independent of a mental health diagnosis but that occur in an individual with a mental health diagnosis. An individual with co-occurring has at least one mental health diagnosis and one substance use diagnosis.

Compared to NAMI rates of COD (between 37-53%), Mendocino County rates have been quite low. Our rate of diagnosing the mental health adult population of 18 and older with a co-occurring disorder is:

- **FY 15/16 - 12.31%**
- **FY 16/17 - 16%**

MCBHRS' overall percentage of individuals diagnosed as co-occurring indicates that BHRS has been under-diagnosing substance use disorders in the mental health population being served, which we believe leads to fewer referrals and less treatment than actual co-morbid incidence rates would indicate.

Additional research also supports the hypothesis that MCBHRS is under-diagnosing. The National Comorbidity Survey (NCS) (Kessler et.al. 1996) found that 51% of those diagnosed with a mental disorder at any time in their life span, also had a co-occurring substance use disorder. The Epidemiological Catchment Area Study (Regier et al., 1990) found an alcohol use disorder in 46% of those diagnosed with bipolar disorder and 34% of those with schizophrenia.

Individuals with a mental health diagnosis and a substance use condition are at higher risk of not receiving adequate treatment. SAMHSA reports that an estimated 50% of individuals living with a co-occurring diagnosis do not receive any treatment. Those living with co-occurring diagnoses that do receive treatment, often only receive treatment for one of their diagnoses. Research has shown that clients with co-occurring psychiatric disorders have substandard treatment outcomes compared to those who have only a substance use disorder (McClellan et al., 1983). Treatment retention, symptom reduction, and functional improvement are reduced in this population.

This PIP will work to address barriers to treatment in the SMI population, and provide improved access to treatment for specific COD symptoms and barriers, within a single provider agency. MCBHRS expectation is that all individuals who meet the criteria for both a mental health and substance use diagnosis are diagnosed as co-occurring and receive accessible treatment services.

- The study topic narrative will address:
  - What is the overarching goal of the PIP?
  - How will the PIP be used to improve processes and outcomes of care provided by the MHP?
  - How any proposed interventions are grounded in proven methods and critical to the study topic.
- The study topic narrative will clearly demonstrate:
  - How the identified study topic is relevant to the consumer population
  - How addressing the problem will impact a significant portion of MHP consumer population
  - How the interventions have the potential to impact the mental health, functional status, or satisfaction of consumers served.

This PIP intends to evaluate current diagnostic rates of occurrence and clinical training regarding co-occurring disorders, aiming to establish a mental health system that can more precisely diagnose COD in the target population and provide accessible treatment services. Co-occurring disorders are often difficult to diagnose and treat due to the complexity of

symptoms presented by the individual. The overarching goal of the PIP is to increase awareness and professional knowledge of co-occurring disorders, and to forge proficiency within the Mental Health system to identify and treat individuals with co-occurring disorders. Early detection and uncomplicated access to treatment will enhance treatment outcomes and quality of life for individuals who access services.

STEP 2: DEFINE & INCLUDE THE STUDY QUESTION

The study question must be stated in a clear, concise and answerable format. It should identify the focus of the PIP. The study question establishes a framework for the goals, measurement, and evaluation of the study. (If more space is needed, press "Enter"). Avoid using acronyms in the study question. In its report, CalEQRO may insert a necessary acronym at its discretion while stating the PIP study question.

As Mendocino County trains authorized staff to reliably assess, refer, and treat clients with co-occurring disorders:

1) Will diagnosis rates for co-occurring disorders approach epidemiological standards (40% is goal), and
2) Will treatment outcomes and quality of life indicators for these clients improve, as evidenced by:
a) Improved Adult Needs and Strengths Assessment (ANSA) scores, and
b) Increased Participation in services, evidenced by 1) months enrolled in services; 2) hours of service per month, as documented in EXYM, the Electronic Health Record (EHR).

STEP 3: IDENTIFY STUDY POPULATION

Clearly identify the consumer population included in the study. Include an explanation of how the study will address the entire consumer population, or a specific sample of that population. If the study pertains to an identified sector of the MHP consumer population, how inclusion of all members will occur is required. The documentation must include data on the MHP's enrolled consumers, as well as the number of consumers relevant to the study topic.

This Step may include:

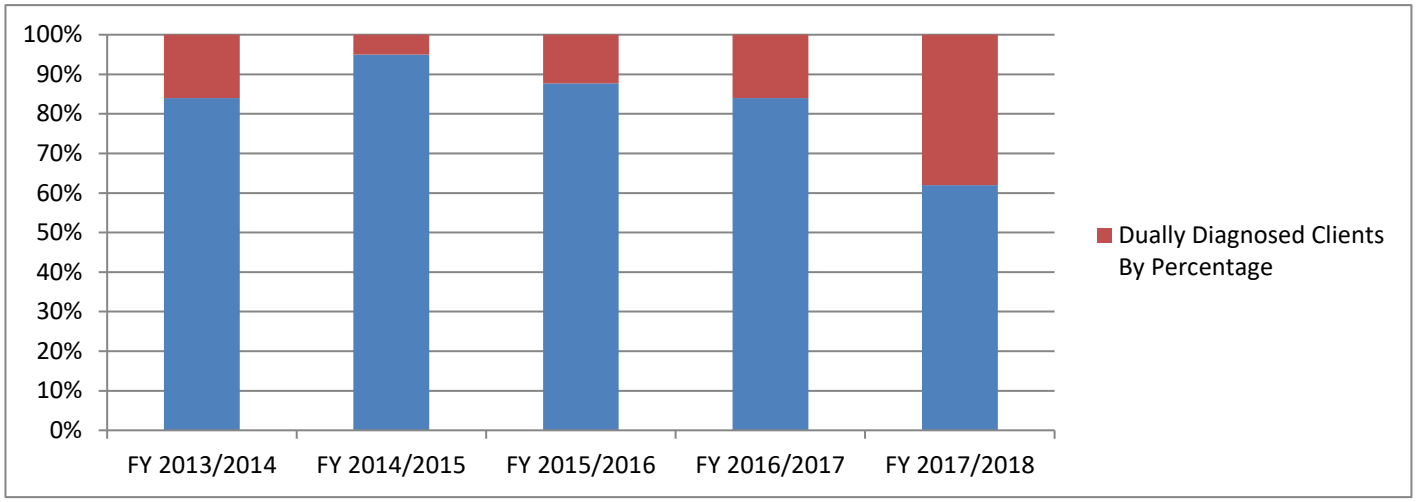
- Demographic information;
- Utilization and outcome data or information available; and
- Other study sources (such as pharmacy data) that may be utilized to identify all consumers who are to be included in the study.
- Study Population:

The PIP will include most individuals 18 and over that access and receive Specialty Mental Health Services from Adult Providers in Mendocino County from January 1, 2018 – June 30, 2019. Excluded from this PIP database are individuals who receive medication services only, and/or crisis services only. Additionally, individuals that began services before January 1, 2018 will not be included in the data base for this PIP, as they were enrolled before the PIP interventions (UCLA Training and SUD-focused treatment sessions) were introduced. Individuals enrolled with Adult Providers that are assessed as having a co-occurring diagnosis will be included in the overall co-occurring diagnosis percentage and will be offered treatment services.

Mendocino County reviewed 4 fiscal years' rate of COD to establish a baseline, finding an average baseline rate of 12.25 (see table). In addition, an audit of 35 charts from 2013-2016 was conducted by the BHRS compliance manager, and 31% (11) were found to have an SUD diagnosis, and 34% (12) described clear evidence of SUD symptoms. An audit was conducted, by a licensed clinician, of 51 of the 627 charts from 2016-17. This audit found 12% (6) of the charts had an SUD diagnosis, and also found that 35% (18) of the charts without an SUD diagnosis described symptoms clearly indicating an SUD diagnosis. This suggested a true rate of SUD diagnosis closer to 47% for 2016-17.

During the fiscal year July 1, 2017 – June 30, 2018; The Mental Health Plan and contracted Adult Providers served 684 individuals 18 years and over that accessed and received Specialty Mental Health Services in the Mendocino County Mental Health Plan. Of the 684 individuals, 257 (38%) were diagnosed with both a mental health and substance abuse diagnosis. This fiscal year included 7 months post UCLA training in co-occurring disorders for clinical staff.

Fiscal Year	Total Clients Served Ages 18 and Over	Number dually diagnosed	Percentage of Clients Dually Diagnosed
2013 – 2014 (July 1, 2013 – June 30, 2014)	785	129	16 %
2014 – 2015 (July 1, 2014 – June 30, 2015)	984	49	5 %
2015 – 2016 (July 1, 2015 – June 30, 2016)	796	98	12 %
2016 – 2017 (July 1, 2016 – June 30, 2017)	627	101	16 %
2017 – 2018 (July 1, 2017 – June 30, 2018) Includes 7 months post UCLA training	684	257	38 %
Results of Charts Audited	**Number of Charts Audited**	**Number with SUD Diagnosis**	**Number that Described SUD Symptoms**
2013 – 2016 (July 1, 2013 – June 30, 2016)	35	11	12
2016 – 2017 (July 1, 2016 – June 30, 2017)	51	6	18



STEP 4: SELECT & EXPLAIN THE STUDY INDICATORS

"A study indicator is a measurable characteristic, quality, trait, or attribute of a particular individual, object, or situation to be studied."[2] Each PIP must include one or more measurable indicators to track performance and improvement over a specific period of time.

Indicators should be:

- Objective;
- Clearly defined;
- Based on current clinical knowledge or health service research; and
- A valid indicator of consumer outcomes.

The indicators will be evaluated based on:

- Why they were selected;
- How they measure performance;
- How they measure change in mental health status, functional status, beneficiary satisfaction; and/or

[2] EQR Protocol 3, Validation of Performance Improvement Project, Sept. 2012, DHHS, Centers for Medicare & Medicaid Services (CMS), OMB Approval No. 0938-0786

- Have outcomes improved that are strongly associated with a process of care;
- Do they use data available through administrative, medical records, or another readily accessible source; and
- Relevance to the study question.

All individuals 18 and over that access and receive Specialty Mental Health Services from Adult Providers in Mendocino County from January 1, 2018 – June 30, 2019 will be evaluated to determine if there are existing mental health and substance use diagnoses. Each individual continuing with services will be evaluated annually thereafter. The total number of individuals accessing and receiving services will be the denominator and the total number of individuals diagnosed co-occurring will be the numerator. Individuals that began services before January 1, 2018 will not be included in the data base for this PIP. They were enrolled before the PIP interventions (UCLA Training and SUD-focused treatment sessions) were introduced. All individuals receiving SUD treatment sessions in this PIP must have 2 ANSAs post January 1, 2018 to be included in the data base.

The total number of adult clients who receive a co-occurring diagnosis will be tracked (Indicator #1), with the goal to achieve a 40% rate of diagnosis, which we believe more accurately reflects national comorbidity rates. Other performance indicators include the percentage of co-occurring clients who participated in at least five (5) SUD-Focused Sessions (Indicator #2, tracked in EXYM progress notes). The SUD treatment sessions are provided by clinical staff who attended the UCLA training. The UCLA training reinforced existing skills in the use of Motivational Interviewing and Cognitive Behavioral treatment practices. The SUD treatment sessions focus on using these modalities to work with SUD issues in the context of ongoing mental health treatment. The percentage of clients engaging in these (5) (or more) sessions who show improved ANSA scores (Indicator #3; must have 2 ANSAs). As another measure of engagement in treatment, the number of service hours per year (Indicator #4) and average months in service (Indicator #5) for all co-occurring clients will be contrasted to the service hours and months in service of co-occurring clients receiving five (5) or more SUD-Focused sessions.

The measures can be based on current clinical practice guidelines or health services research. The MHP must document the basis for adopting the specific indicator.

In reporting on the chosen indicators include:
- A description of the indicator;
- The numerator and denominator;
- The baseline for each performance indicator; and
- The performance goal.

Specify the performance indicators in a table.

Example:

#	Describe Performance Indicator	Numerator	Denominator	Baseline for Performance Indicator (number)	Goal (number)
1	**Rate of co-occurring diagnosis from 1/1/18 - 6/30/19** **26%**	**Total number of individuals w/ co-occurring diagnosis 1/1/18 - 6/30/19** **337**	**Total number of individuals w/ MH diagnosis 1/1/18 - 6/30/19** **1277**	**Average percentage of individuals w/ co-occurring diagnosis from 2013 to 2018** **17%**	**511 – 40%;**
2	**The percentage of individuals diagnosed with co-occurring disorder who participated in 5+ SUD treatment sessions** **16%**	**Total number of co-occurring individuals attending 5+ SUD treatment sessions 1/1/18 -6/30/19** **54**	**Total number of individuals diagnosed as co-occurring 1/1/18 -6/30/19** **337**	**2017-18 5+ SUD sessions** **12/257 – 5%**	**15%**
3	**The percentage of co-occurring individuals attending 5+ SUD sessions w/ an improved ANSA score 1/1/18 – 6/30/19** **72%**	**Total number of co-occurring individuals attending 5+ SUD treatment sessions with improved ANSA score 1/1/18 – 6/30/19**	**Total number of co-occurring individuals attending 5+ SUD treatment sessions 1/1/18 – 6/30/19** **54**	**2017-18 3+ SUD sessions w/ improved ANSA** **20/42 48%**	**65%**

		39			
4	**Contrast total service sessions per month for co-occurring individuals participating in 5+ SUD treatment sessions vs. those receiving 2 or fewer sessions** **(90% increase)**	**Average service sessions per month for co-occurring individuals attending 5+ SUD treatment sessions 1/1/18 – 6/30/19** **11.4**	**Average service sessions per month for co-occurring individuals attending 2 or fewer SUD treatment sessions 1/11/8 – 6/30/19** **6.0**	**2017-18** **38 % increase in 2018-19 (w/ 3+ sessions)**	**8**
5	**Contrast months in service for co-occurring individuals participating in 5+ SUD treatment sessions vs. those receiving 2 or fewer sessions 1/1/18 – 6/30/19** **34% increase**	**Average months in service for co-occurring individuals attending 5+ SUD treatment sessions 1/1/18 – 6/30/19** **11.5**	**Average months in service for co-occurring individuals attending 2 or fewer SUD treatment sessions 1/1/18 – 6/30/19** **8.6**	**38% decrease in 2018-19**	

STEP 5: SAMPLING METHODS (IF APPLICABLE)

The MHP must provide the study description and methodology.

- Identify the following:
  - Calculate the required sample size?
  - Consider and specify the true or estimated frequency of the event?
  - Identify the confidence level to be used?
  - Identify an acceptable margin of error?

Describe the valid sampling techniques used?

_____N of enrollees in sampling frame
_____N of sample
_____N of participants (i.e. – return rate)

The sample size will be the sum of all individuals 18 and over that access and receive Specialty Mental Health Services from Adult Providers in Mendocino County from January 1, 2018 and June 30, 2019. Individuals who began services prior to January 1, 2018 are not included in the data base for this PIP. 1,277 individuals began accessing and receiving Specialty Mental Health Services from Adult Providers during the time frame, with 337 diagnosed as co-occurring. MCBHRS used the selective method for sampling.

STEP 6: DEVELOP STUDY DESIGN & DATA COLLECTION PROCEDURES

A study design must be developed that will show the impact of all planned interventions. Include the information describing the following:

- Describe the data to be collected.
- Describe the methods of data collection and sources of the data. How do these factors produce valid and reliable data representing the entire consumer population to which the study indicators apply?
- Describe the instruments for data collection, and how they provided for consistent and accurate data collection over time.
- Describe the prospective data analysis plan. Include contingencies for untoward results.
- Identify the staff that will be collecting data, and their qualifications. Include contractual, temporary, or consultative personnel.

The data collected for this PIP includes all individuals 18 and over that access and receive Specialty Mental Health Services from Adult Providers in Mendocino County from January 1, 2018 – June 30, 2019. Only individuals admitted to services after January 1, 2018 were included. This clarifies the performance indicators for diagnosis and treatment, since virtually all clinicians in the mental health system attended the UCLA training on diagnosis and treatment of co-occurring disorders in November of 2017. All data used in this PIP was gathered from assessments, treatment plans, and mental health services completed after this training intervention. Each of the individuals participating in SUD-focused treatment sessions had two ANSA assessment tools completed post January 1, 2018.

All individuals seeking access to Specialty Mental Health Services are assessed to determine medical necessity for these services. A biopsychosocial assessment is conducted for all individuals, and these documents are completed within the electronic health record. The biopsychosocial assessment includes a diagnostic section that must be completed to finalize the assessment. For those individuals with co-occurring diagnosis, a mental health and substance use diagnosis will be listed.

Individual consumers who are diagnosed with a co-occurring disorder will be offered mental health treatment that includes SUD-focused sessions. These sessions will be tracked in the EHR. The electronic health record stores each individual's diagnosis and generates other data reports which, in this PIP, will include total number of clients, those diagnosed co-occurring, ANSA scores, number of total service hours, months in service per client, the number of clients receiving SUD-Focused sessions, and the number of SUD sessions they receive. Each of these data points will be analyzed and presented with the relevant performance indicator.

Staff that will be collecting the data is comprised of Dan Anderson LMFT, from RQMC, who will collect EXYM data, presenting co-occurring diagnosis rates, ANSA scores, and number of SUD-Focused sessions attended. Christian Johnson, of BHRS fiscal department collected data from the EHR on co-occurring disorder (COD) rates for the years 2013-2016.

STEP 7: DEVELOP & DESCRIBE STUDY INTERVENTIONS

The MHP must develop reasonable interventions that address causes/barriers identified through data analysis and QI processes. Summarize interventions in a table that:

- Describes each intervention;
- Identifies the specific barriers/causes each intervention is designed to address;
- Identifies the corresponding indicator that measures the performance of the intervention; and
- Maintains the integrity/measurability of each intervention.
- Describe how the interventions will impact the indicators and help to answer the study question.

Example:

Number of Intervention	List each Specific Intervention	Barriers/Causes Intervention Designed to Target	Corresponding Indicator	Date Applied
1	UCLA ISAP Training on diagnosing and treating co-occurring disorders.	Improve base knowledge and skills of clinicians doing assessments and treatment of co-occurring disorders. This intervention is designed to increase accuracy of co-occurring diagnosis, and provide foundation for effective treatment of complex COD individuals.	1	November 28 & 29, 2017
2	RQMC clinicians begin to provide SUD-Focused treatment sessions for co-occurring clients.	The SUD-Focused sessions provide clients targeted access to treatment	2,3,4,5	January 1, 2018

	(A checkbox in EXYM is introduced to track SUD-Focused sessions. A document with highlights of the UCLA training is given to all clinicians as a prompt for providing qualified SUD-Focused sessions (Appendix A).)	for specific COD symptoms and barriers, within a single agency.		
3	RQMC clinicians and staff make appropriate referrals to Mendocino County SUDT program	Improve coordinated treatment and access to intensive services for those beneficiaries willing to engage in more structured services	1	May 1, 2019

STEP 8: DATA ANALYSIS & INTERPRETATION OF STUDY RESULTS

Data analysis begins with examining the performance of each intervention, based on the defined indicators. (For detailed guidance, follow the criteria outlined in Protocol 3, Activity 1, Step 8.)

- Describe the data analysis process. Did it occur as planned?
- Did results trigger modifications to the project or its interventions?
- Did analysis trigger any follow-up activities?
- Review results in adherence to the statistical analysis techniques defined in the data analysis plan.
- Does the analysis identify factors that influence the comparability of initial and repeat measurements?

The analysis of the study data must include an interpretation of the extent to which the PIP is successful and any follow-up activities planned.

Present objective data analysis results for each performance indicator. A table can be included (see example), and attach all supporting data, tables, charts, or graphs as appropriate.

The two Primary interventions underpinning this PIP were: 1)The UCLA training, Nov. 28 & 29 2017, and 2) SUD-focused sessions, performed by mental health clinicians and rehabilitation specialists, beginning Jan. 1, 2018. A third intervention was introduced to increase coordination of care for individuals with co-occurring diagnoses. This intervention comprised referral of individuals who express interest in participating in more intensive services, to the Mendocino County SUDT program.

MCBHRS began pre-development of this PIP in 2016-17, including conceptual design, discussion, and data gathering on co-occurring disorders. Dialogue concerning the PIP and its purpose occurred involving clinicians, supervisors, and managers, regarding greater awareness and development of skills to address needs of the co-occurring population. This dialogue and awareness of the problem, along with a COD focus group with clinicians, likely impacted the small upward trend in diagnosis rates in 2016-17 (from 12% to 16%). This occurred prior to the UCLA training (Intervention #1), and the dialogue continued post-training. This dialogue was not specifically an intervention in this PIP, but we surmise awareness of the problem had an effect on the performance indicator of increased co-occurring diagnosis.

During the first year of this PIP, the team measured 11 and one half months of co-occurring rates for the period of July 1, 2017 – June 15, 2018; The Mental Health Plan and contracted providers served 684 individuals 18 years and over that accessed and received Specialty Mental Health Services in the Mendocino County Mental Health Plan. Of the 684 individuals, 257 (38%) were diagnosed with a mental health and substance abuse diagnosis.

Diagnosis rates for COD climbed from 12% to 38% during the first year of this PIP. This was a positive trend toward meeting the goal of 40%, a rate closer to research-based epidemiological need in the SMI population. In the first year of the PIP, which included the UCLA ISAP training in November 2017 (and 7 months of post-training COD focused services), the rate of COD more than doubled, from 16% to 38%. The training and concomitant agency dialogues, seems to have increased clinician's recognition of and competence to diagnose COD.

This is the second year investigating rates of diagnosis for co-occurring disorders in Mendocino County. The data for this PIP was structured to be collected beginning January 1, 2018, after all clinical staff had the benefit of the UCLA training. This simplifies the variables for the performance indicators. Only assessments and services performed post-training are considered, including the two ANSA required to show improvement via this instrument. Data was gathered at the end of this time period, June 30, 2019, as it took time for sufficient number of clients to receive two ANSA (and 5+ SUD sessions), allowing meaningful results.

The assessment rate of co-occurring diagnoses for this 18 month period is 26%, a significant drop from the 2017-18 diagnosis rate, while still a significant increase over the average co-occurring diagnosis rate from 2013-17 (12.25%). Influencing factors for this drop in diagnostic rates are not known for certain. Several possible influencing factors might include: 1) significant turnover and shortage of clinical staff at two of the adult mental health agencies. New employees had not received the UCLA training intervention. 2) There was an influx of clients, 1,277, for the 18 month timeframe of the 2018-19 PIP, while the 2017-18 (12 month) period, included only 684 individuals. 3) It is not known whether this influx of new clients had lower presentation of substance use symptoms. 4) There might have been a return to the mean by diagnosing clinicians. With their primary focus defaulting to mental health symptoms which they are trained and licensed to treat. This explanation would point to potential advantages of increasing ongoing yearly training in diagnosis and treatment of co-occurring disorders for clinical staff. Additional helpful steps to monitor assessment rates of COD, might include increased focus by managerial and supervisory staff at clinical agencies to provide refresher training, encourage and remind clinical staff of the ongoing importance and efficacy of treating co-occurring disorders simultaneously and making referrals to SUDT for more intensive needs clients.

The second intervention in this PIP involves Clinical staff at the Adult Providers prioritizing SUD-Focused treatment sessions for co-occurring clients. 337 individuals were diagnosed with COD between January 1, 2018 and June 30, 2019. 54 of these 337 COD individuals (16%) went on to engage in at least 5 SUD-Focused sessions, the number of sessions considered to represent both client engagement and clinically significant intervention for this PIP. The CEO of Redwood Community Services, Dan Anderson, MFT, audited progress notes activity from 10 clients (2 from Hospitality, 3 from Manzanita, 1 from MCHAVN, 4 from RCS) who had 5 or more SUDT Focused Interventions. The activities included Individual Therapy, Case Management and Rehabilitation. The providers included Licensed and Waivered Therapists and Mental Health Rehabilitation Specialists. All the activities had been checked in the EHR as having an SUDT focused intervention. The review of each progress note verified that all of them had a documented intervention that substantially addressed the identified Substance Use disorder.

To determine the impact these SUD interventions might have on co-occurring client's symptoms and impairments, the PIP contrasted the ANSA scores of those receiving or not receiving the 5+ SUD sessions (Indicator #3), as well as comparing the hours of service per month (Indicator #4) and number of months clients engaged in services (Indicator #5) as engagement and participation indicators.

In this PIP, 54 individuals participated in 5+ SUD focused treatment sessions. Of these, 39 (72%) showed improvement in the 2nd of their 2 ANSA assessment tool documents, with 28% showing lack of improvement. This indicator (#3) shows marked improvement from the 48% who showed improvement in the first year of the PIP, 2017-18. (Last year measured outcomes based on 3+ SUD sessions due to the short time-frame, allowing for only 6 months of SUD sessions). This year, among those COD individuals receiving 2 or fewer SUD sessions, only 47% showed improvement in the 2nd of their ANSA. Among all adult mental health clients with 2 ANSA 56% (399 of 713) showed improvement in their second ANSA. These results would seem to indicate a correlation between an increase in SUD sessions and improvement across domains assessed by the ANSA tool.

Indicator # 4 compares the average number of service sessions per month for COD clients receiving 5+ SUD sessions with those COD clients receiving two or fewer SUD sessions, and is designed to detect whether participation in SUD sessions is correlated with increased client engagement in treatment. Those individuals with 5+ SUD sessions averaged 11.4 sessions per month, while those with 2 or fewer SUD sessions average 6.0 sessions per month. This is a 90% increase in sessions per month for those receiving 5+ SUD sessions, a significant increase in client engagement in services, and another marker of a correlation between the increased SUD sessions and engagement in treatment.

Indicator # 5 compares the average number of months in service for COD clients receiving 5+ SUD sessions and those receiving two or fewer of these sessions. Those individuals receiving 5+ SUD sessions were in services for an average of 11.5 months, while those receiving 2 or fewer SUD sessions were in services an average of 8.6 months, a 34% increase for those receiving the 5+ session. This again appears to reveal a correlation between clients participating in the 5+ SUD sessions and retention of these clients in services.

A third intervention, introduced in May 2018, involved tracking referrals from clinical staff in the mental health system to Mendocino County SUDT program, and formalizing the referral process. This intervention took some time to fully implement due to changes in the Release of Information (ROI) form between mental health agencies and SUDT. During 2018-19, the referral procedure was standardized and information about the referrals to SUDT was exchanged. A conversation about the

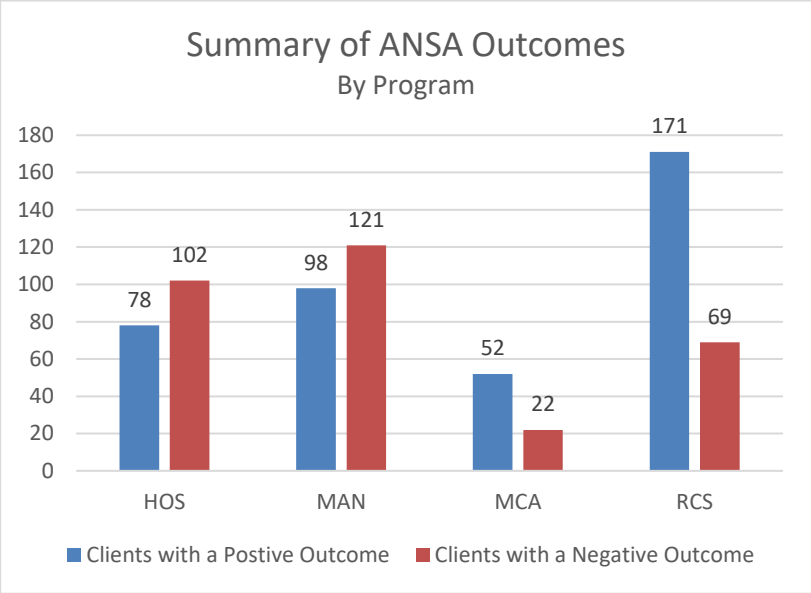
challenges of SUDT treating clients with serious mental illness (SMI) occurred. The expectation of communication and coordination between mental health agencies and SUDT was established. SUDT started a co-occurring diagnosis group which allows for a more normative experience for those with active mental health symptoms in an SUDT group. In the period of May 17, 2018 to May 23, 2019, there were 71 referrals from mental health providers to the SUDT program. Precise baseline statistics by Mental Health referral agency were not kept prior to this period, however SUDT staff report the increase in referrals from these agencies seemed significant. The fact that expectations and referral procedures are in place, with opportunity for exchange of information, is an increase in coordinated care for COD clients.

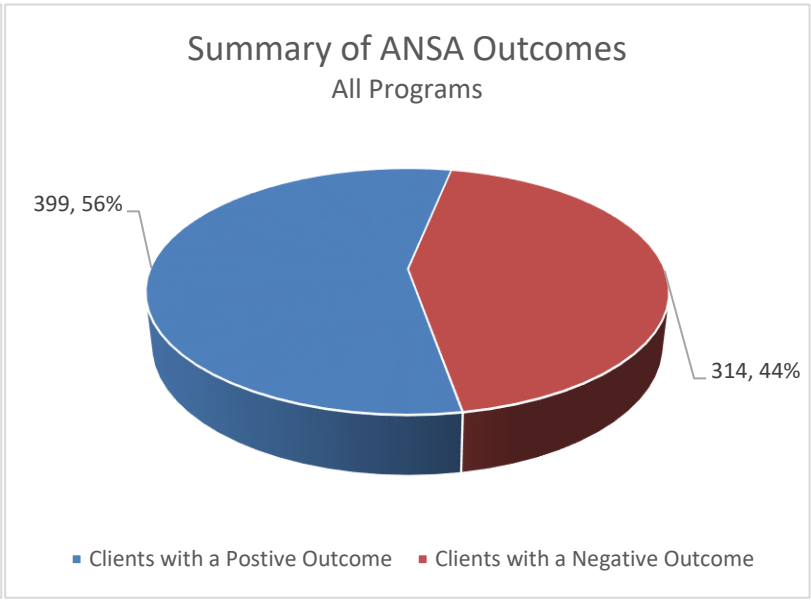
The PIP team created an anonymous consumer survey, given to co-occurring clients to complete at the end of the PIP. The survey was a check-in with co-occurring consumers concerning their mental health and SUD treatment, also asking whether they would like to have a referral to the SUDT program. Of 67 clients completing the survey, 53 (79%) considered themselves to have a COD diagnosis. Of the 67 clients completing the survey, 61 (90%) of them stated they did not want a referral to SUDT, and 47 (70%) of them stated they felt they did not need more SUD support from their service provider. The fact that only 10% of those surveyed wanted an SUDT referral is a strong response. It might indicate a level of satisfaction with current treatment. It might indicate these clients do not want the time commitment/scheduling required of the SUDT program. The fact that 70% said they do not need more SUD support from their service provider seems to indicate some level of satisfaction with the co-occurring treatment they are receiving.

Summary of ANSA Score Outcomes

January 1, 2018 – June 30, 2019

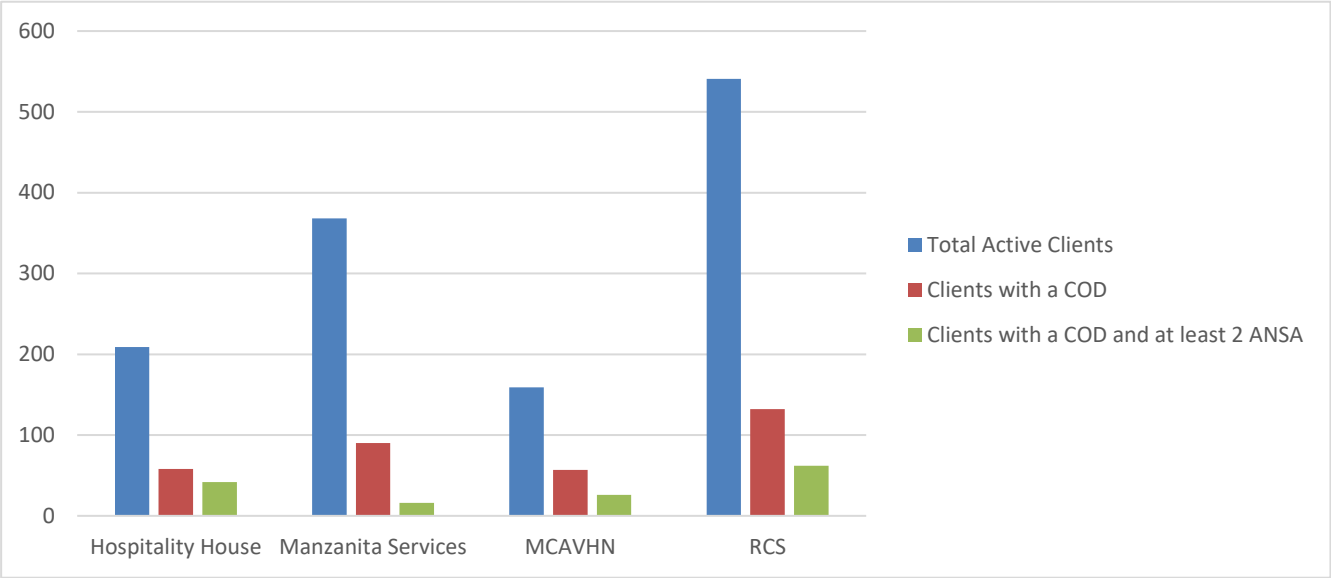
	Hospitality House	Manzanita Services	MCAVHN	RCS	Total
Clients with a Positive Outcome	78	98	52	171	**399**
Clients with a Negative Outcome	102	121	22	69	**314**
Total Clients with 2 or more ANSA Scores	180	219	74	240	**713**
Percentage of Clients with a Positive Outcome	43%	45%	70%	71%	**56%**





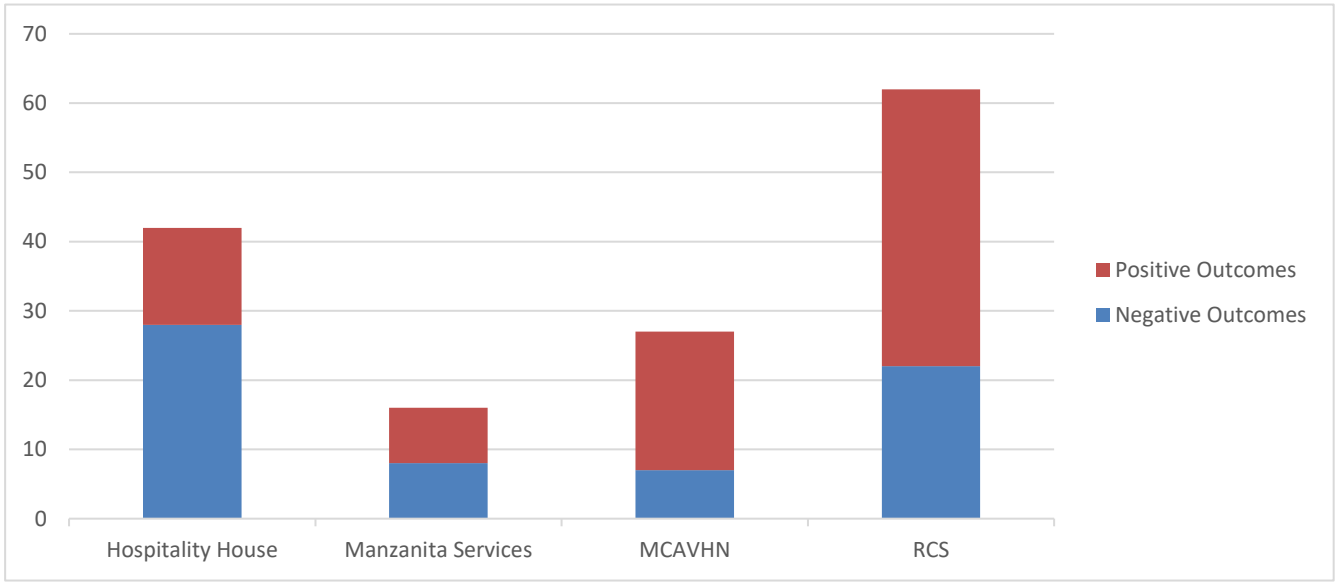
Active Clients Admitted After January 1, 2018

	Hospitality House	Manzanita Services	MCAVHN	RCS	Total
Total Active Clients January – June 2019	209	368	159	541	**1277**
Percent of Clients with a Co-Occuring Diagnosis	28%	24%	36%	24%	**26%**
Total number of clients with a co-occuring diagnosis	58	90	57	132	**337**
Number of clients with a co-occuring diagnosis and at least 2 ANSA Assessments	42	16	26	62	**146**



Clients with a Co-Occuring Diagnosis and 2 ANSA Assessments

	Hospitality House	Manzanita Services	MCAVHN	RCS	Total
Total number of clients with a co-occuring diagnosis and at least 2 ANSA Assessments:	42	16	26	62	**146**
Number of clients with a co-occuring diagnosis, 2 ANSA Assessments and positive outcomes.	14	8	20	40	**82**
Percent of clients showing improvement	33%	50%	77%	65%	**56%**
Number of clients with a co-occuring diagnosis, 2 ANSA Assessments and negative outcomes.	28	8	7	22	**65**
Percent of clients not showing improvement	67%	50%	27%	35%	**45%**

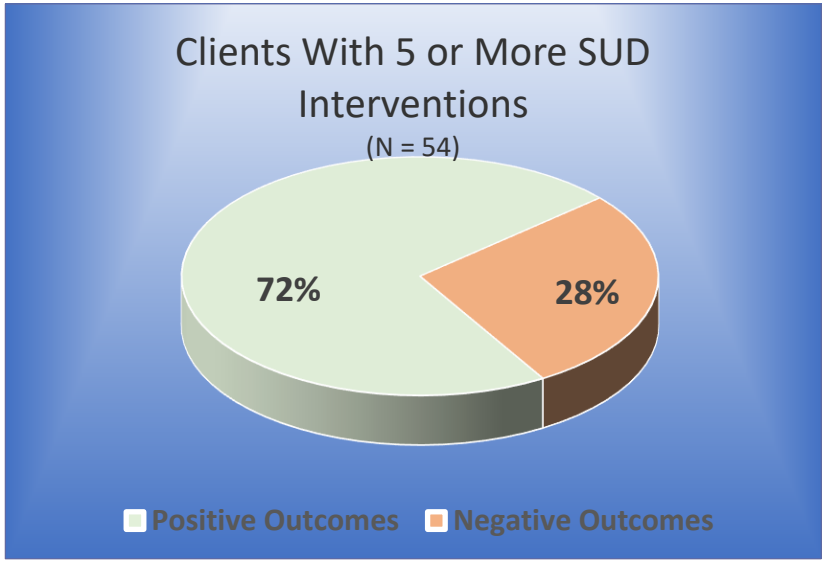


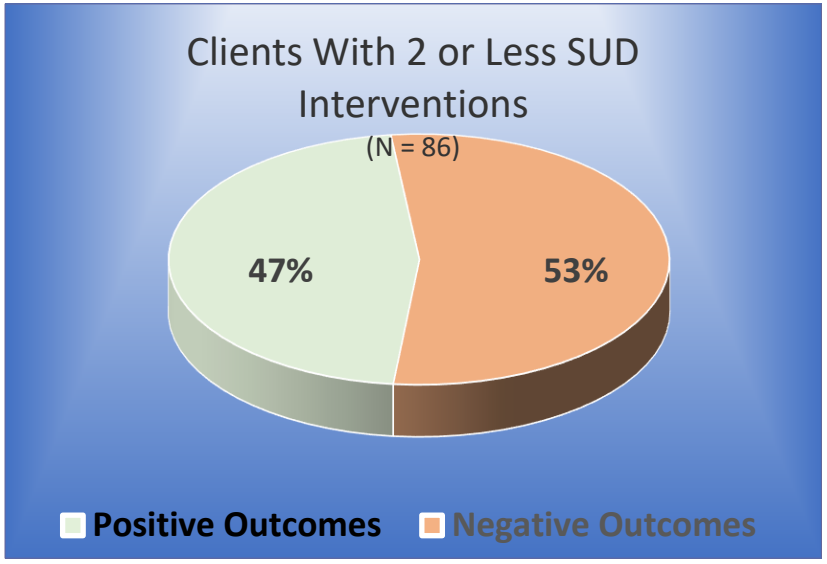
Clients with 5 or More SUD Interventions

	Hospitality House	Manzanita Services	MCAVHN	RCS	Totals
Total Clients	9	6	12	27	**54**
Positive Outcomes	7	6	9	17	**39**
Percentage with Positive Outcomes	78%	100%	75%	63%	**72%**
Negative Outcomes	2	0	3	10	**15**
Percent with Negative Outcomes	22%	0%	25%	37%	**28%**

Clients with 2 or Less SUD Interventions

	Hospitality House	Manzanita Services	MCAVHN	RCS	Totals
Total Clients	30	13	14	29	**86**
Positive Outcomes	7	5	11	17	**40**
Percentage with Positive Outcomes	23%	38%	78%	59%	**47%**
Negative Outcomes	23	8	3	12	**46**
Percent with Negative Outcomes	77%	62%	22%	41%	**53%**



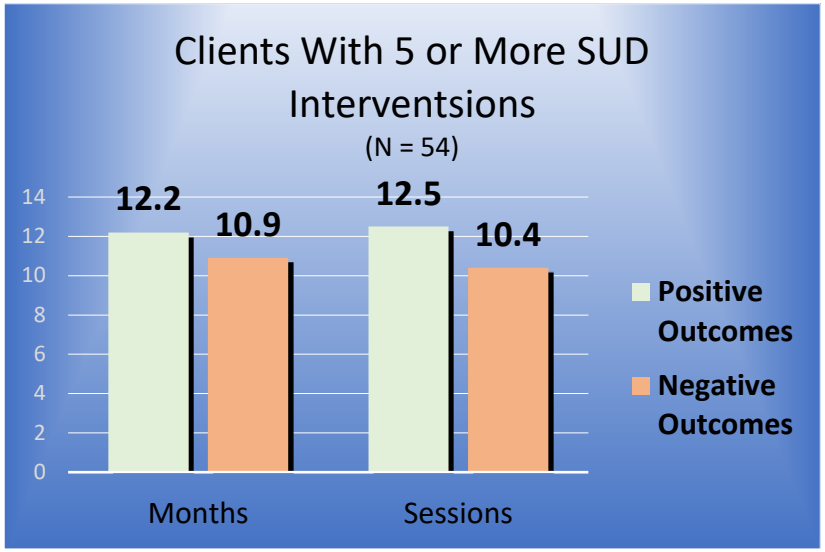


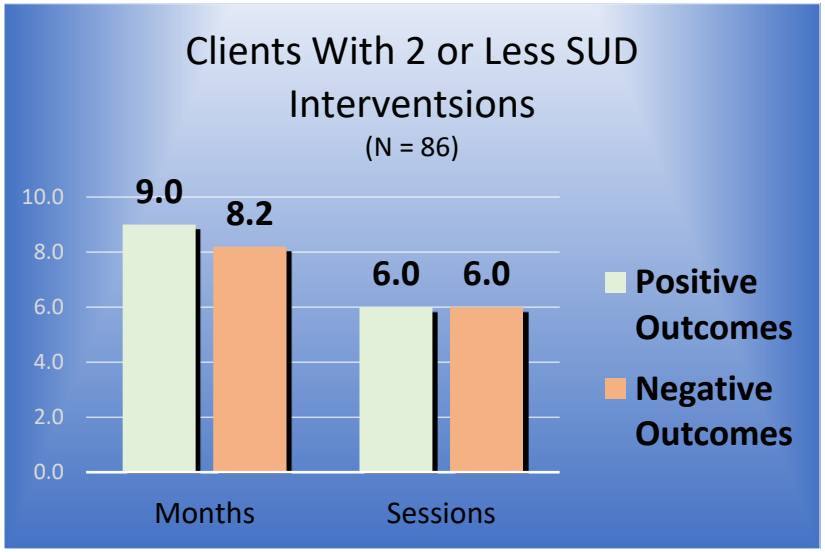
Clients with 5 or More SUD Interventions

	Hospitality House	Manzanita Services	MCAVHN	RCS	Totals
Resulted In Positive Outcomes					
Avg. number of months in Service	11.6	14.3	13.1	9.6	**12.2**
Avg. Number of sessions per month	8.4	7.0	7.9	26.6	**12.5**
Resulted in Negative Outcomes					
Avg. number of months in Service	9.0	12.7	14.0	7.7	**10.9**
Avg. Number of sessions per month	3.1	9.6	5.2	23.7	**10.4**

Clients with 2 or Less SUD Interventions

	Hospitality House	Manzanita Services	MCAVHN	RCS	Totals
Resulted In Positive Outcomes					
Avg. number of months in Service	7.1	11.8	9.2	7.9	**9.0**
Avg. Number of sessions per month	4.0	5.5	5.1	9.5	**6.0**
Resulted in Negative Outcomes					
Avg. number of months in Service	5.7	10.3	8.0	8.8	**8.2**
Avg. Number of sessions per month	5.4	4.6	6.5	7.6	**6.0**



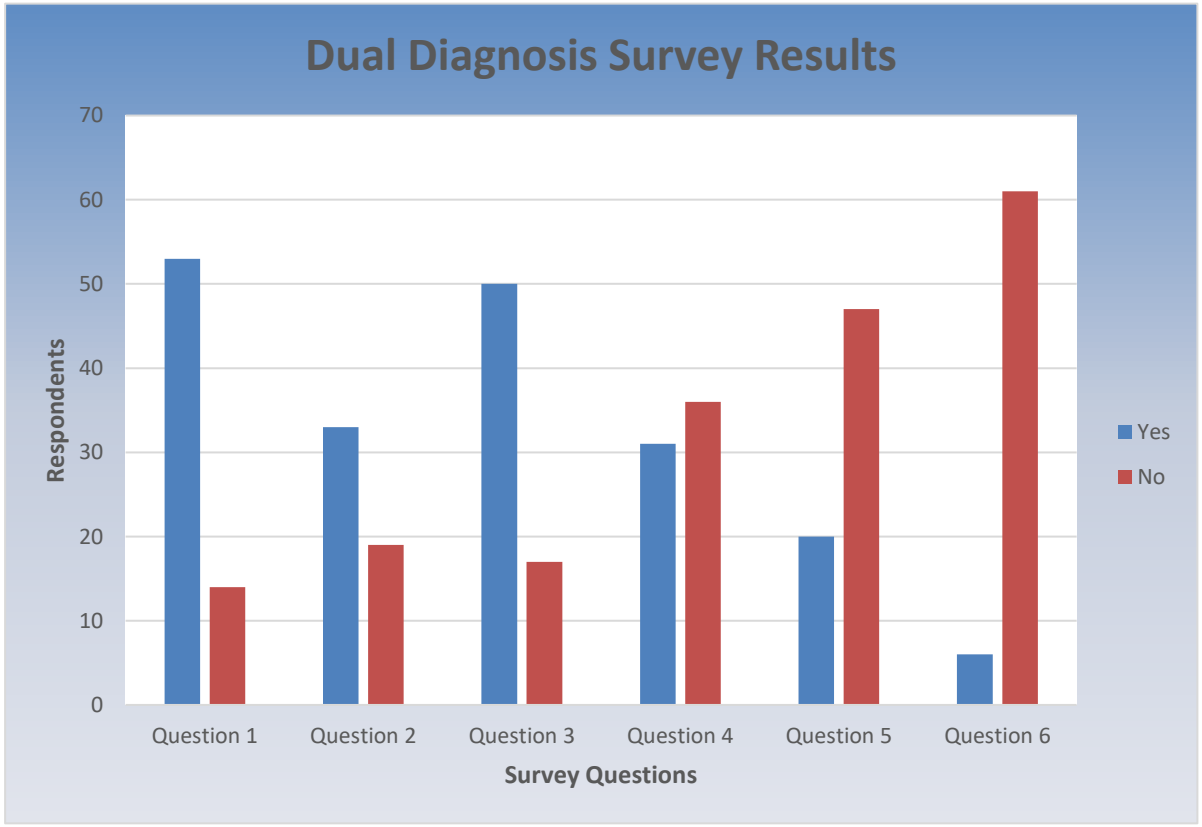


Dual Diagnosis* Survey Results

Questions	Manzanita Services	RCS	MCAVHN	Hospitality House	Totals
Total Number of Clients Queried	25	16	12	14	**67**
Question 1: Do you consider yourself to be dually diagnosed with both mental health and substance use concerns?					
Yes	20	12	11	10	**53**
No	5	4	1	4	**14**
Question 2: If yes, were you referred to a substance use disorder treatment program?					
Yes	14	8	8	3	**33**
No	6	4	3	6	**19**
Question 3: Do you talk to your mental health provider about your mental health and substance abuse treatment goals?					
Yes	19	13	7	11	**50**
No	6	3	5	3	**17**
Question 4: Do you feel you need more support from you service provider to work on you mental health treatment?					

Yes	9	6	8	8	**31**
No	16	10	4	6	**36**
Question 5: Do you feel you need more support from your service provider to work on your substance abuse treatment?					
Yes	6	3	8	3	**20**
No	19	13	4	11	**47**
Question 6: Would you like to have a referral to the local county Substance Use Disorders Treatment program for more intensive treatment?					
Yes	2	1	2	1	**6**
No	23	15	10	13	**61**

*In this survey the wording used for a co-occurring diagnosis was ‘dual diagnosis’.



STEP 9: ASSESS WHETHER IMPROVEMENT IS "REAL" IMPROVEMENT

Real and sustained improvement are the result of a continuous cycle of measuring and analyzing performance, thoroughly analyzing results, and ensuring implementation of appropriate solutions. To analyze the results of the PIP the MHP must document the following steps:

- Describe issues associated with data analysis –
  - Did data cycles clearly identify when measurements occurred? Should monitoring have occurred more frequently?
  - Results of statistical significance testing.
  - What factors influenced comparability of the initial and repeat measures?
  - What, if any, factors threatened the internal or external validity of the outcomes?
- To what extent was the PIP successful and how did the interventions applied contribute to this success?
- Are there plans for follow-up activities?
- Does the data analysis demonstrate an improvement in processes or consumer outcomes?

We began collecting data for this PIP on January 1, 2018, after all clinical staff had the benefit of the UCLA training. This simplified the variables impacting the performance indicators. Only assessments and services performed post-training were considered, including the two ANSA required to show improvement via this instrument. Data on those clients with two ANSA and 5+SUD sessions was gathered on June 30, 2019. To establish meaningful results, time was needed for ample clients to receive two ANSA and engage in 5+ SUD sessions following their initial Biopsychosocial Assessment. Data was first gathered for the Performance Indicators on June 30 2018. For COD clients admitted post January 1, 2018, 11 had received 2 ANSA, and of these, 5 had received 5+ SUD sessions. Data was again gathered on March 12, 2019. There were 66 clients with 2 ANSA and 14 of these had participated in 5+ SUD sessions. These earlier data draws indicated to our team that the full 18 months of this study was needed to develop a robust data base.

Internal and external validity cannot be strictly determined for this PIP study, as we did not control for variables sufficient to determine causality of the performance indicators.

The PIP team considers this PIP to have been successful. The rate of diagnosing co-occurring disorders has risen significantly from years prior to the PIP (although there is been variation in the rate of diagnosis). There is an increased level of awareness throughout clinical staff in the mental health system with respect to the importance of diagnosing, treating, and referring co-occurring individuals. There is a high level of need in the COD population, and not all of these needs can be met through referrals to substance abuse treatment programs. This PIP demonstrated that mental health clinical staff addressing substance abuse issues concurrent to mental health symptoms, within scope of practice, can produce significant results. Although the instruments (ANSA) and the control of variables are not perfect, this PIP presented a 72% increase in the ANSA scores of those receiving the 5+SUD treatment sessions from their mental health clinical staff, and these services were

delivered at the client's primary mental health service location. These co-occurring disorder clients receiving the 5+ SUD sessions also revealed a 90% increase in services per month and a 34% increase in the average number of months they received services. It seems possible that having more of their symptoms addressed in an accessible format increased treatment session value for clients, and they chose to continue.

Mendocino County Mental Health system plans to continue ongoing training and training updates, to develop and sustain staff competence in diagnosing, treating, and referring clients with co-occurring disorders. Individuals with co-occurring disorders are difficult to retain in services. One takeaway from this PIP is that providing SUD treatment sessions to COD clients concurrent to their mental health treatment sessions has a positive effect on engagement, retention, and functional status.