# Addendum A

## Identification of Project

| | | | |
|---|---|---|---|
| Project Title: | **HealthyBody HealthyMind** | Clinical: __X__ | Non-Clinical: ___ |
| Project Leader: | **Amanda Fenn, MPH candidate** | Title: PIP Coordinator | Role: Independent Contractor |
| Initiation Date: | **December, 2015** | | |
| Completion : | **Active and On-going** | | |

## Section 1: Select & Describe the Study Topic

Mono County Behavioral Health (MCBH) assembled a PIP committee comprised of the department's Director (Robin Roberts), Fiscal & Administrative Services Officer (Shirley Martin), and PIP Coordinator (Amanda Fenn). Throughout the process of developing and implementing this clinical PIP, several other key stakeholders, including therapists and case managers were asked to contribute feedback to the provider training plan.

Each of these stakeholders brought a critical viewpoint to the PIP development process. The members contributed an intimate knowledge of the department's inner workings and challenges, as well as insight into the strategic vision and direction of the department. The therapists and case managers provided further information about daily practices and the feasibility of the intervention, while the PIP Coordinator – a new member of the team – brought an outsider's perspective.

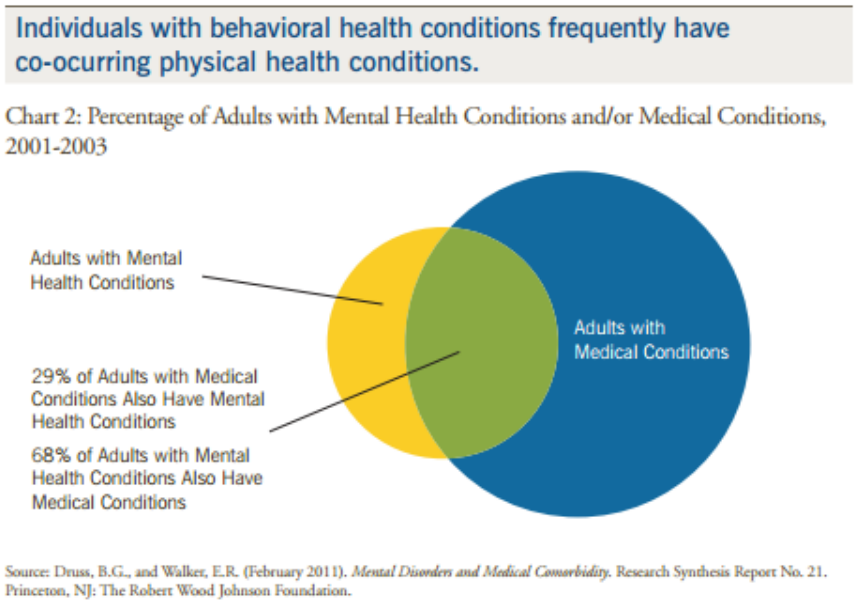
Research has shown that "individuals with behavioral health disorders frequently have co-occurring physical health conditions" (see Figure 1). Moreover, "mental health and medical conditions are risk factors for each other and the presence of one can complicate the treatment of the other."[1] Physical health and mental health are closely intertwined; however, just as many primary care physicians (PCPs) are not adequately trained to recognize and discuss mental health disorders with patients, many behavioral health providers do not have the skills, knowledge, comfort, or confidence to initiate conversations about consumers' physical health status.[2] [3] Thanks to primary data collection, the MCBH PIP Committee discovered that therapists and case managers are only bringing up physical health concerns with 25-49 percent of consumers. A further investigation demonstrated that they need to strengthen their knowledge related to initiating physical health conversations (see Figure 2). Additionally, a review of MCBH's EHR revealed that 28 percent of consumers have a diagnosis of chronic disease or engage in risky behaviors like smoking that significantly increase the risk of chronic disease (Figure 3).

[1] American Hospital Association (2012). Bringing Behavioral Health into the Care Continuum: Opportunities to Improve Quality, Costs and Outcomes. Retrieved 2/8/16 from http://www.aha.org/research/reports/tw/12jan-tw-behavhealth.pdf

[2] Gadomski, A. M., Wissow, L. S., Palinkas, L., Hoagwood, K. E., Daly, J. M., & Kaye, D. L. (2014). Encouraging and sustaining integration of child mental health into primary care: interviews with primary care providers participating in Project TEACH (CAPES and CAP PC) in NY. *General Hospital Psychiatry*, 36:6, 555-562.

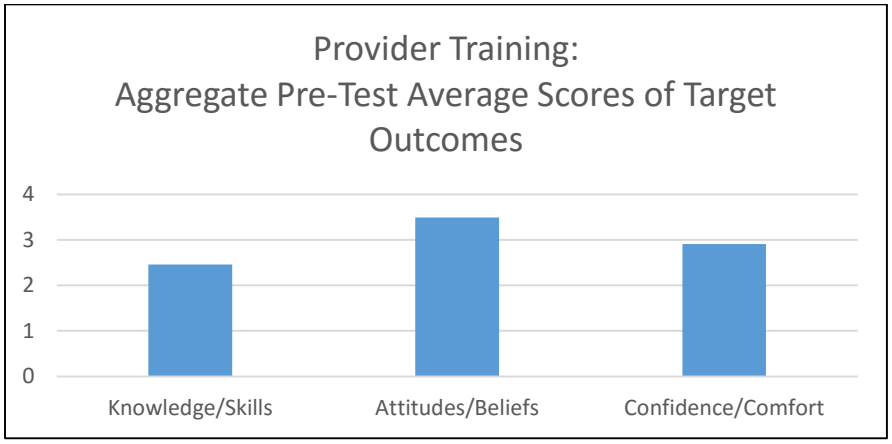
[3] Burka, S. D., Cleve, S. N., Shafer, S., & Barkin, J. L. (2014). Integration of Pediatric Mental Health Care: An Evidence-Based Workshop for Primary Care Providers. *Journal of Pediatric Health Care*, 28:1, 23-34.

**FIGURE 1:**




This problem came to the committee's attention largely through a review of the department's current physical health data collection program that was part of the Small County Care Integration (SCCI) initiative in 2012. As part of this program, MCBH collects blood pressure, weight, chronic disease diagnosis, and PCP information from incoming consumers; however, it was suspected that few providers were actually using these physical health indicators to initiate conversations about the consumer's physical health status. Additionally, when reviewing the goals of SCCI, the PIP Coordinator noticed a gap in the change objectives; although one of the themes of the initiative was to "Promote the value of physical health with behavioral health staff," the change ideas focus on training providers to use scales and blood pressure cuffs rather than training them on how chronic disease can affect behavior and how providers can initiate conversations about physical health problems.[4] This problem was further confirmed by surveying providers on current physical health conversation initiation practices (see Figure 2).

**FIGURE 2: MCBH PROVIDER SURVEY RESULTS**

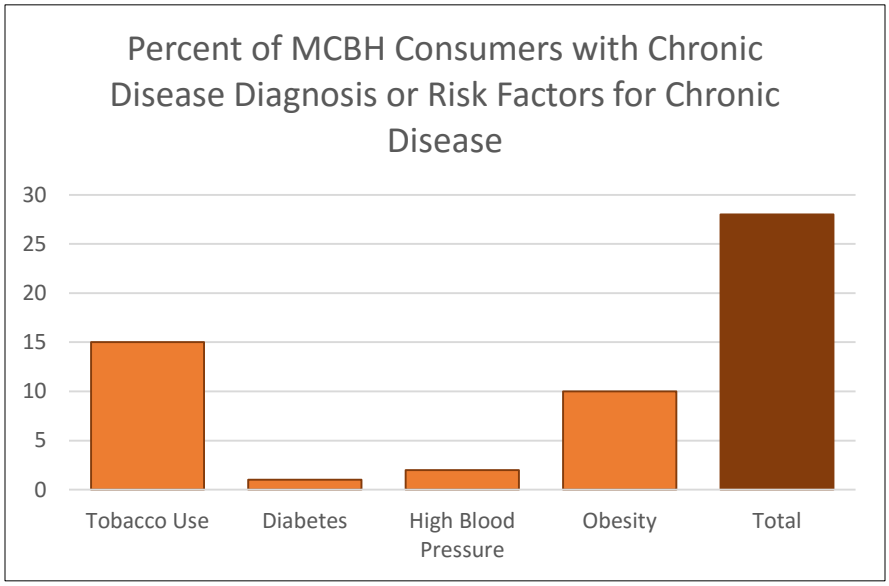



[4] SCCI. (2012). *Proposed Change Package for: Small County Care Integration Learning Collaborative.*

In order to address this problem, this PIP will consist of a provider training program that will take place over six in-service sessions in spring and summer 2016, which will in turn affect consumer outcomes. The goal of the training itself will be to increase/improve the team's knowledge/skills, attitudes/beliefs, and confidence/comfort to initiate and sustain conversations about physical health status with consumers. More importantly, however, the PIP's goal is to ultimately increase the occurrence of these conversations and improve outcomes for consumers. The training program developed for this PIP will be grounded in both proven methods and behavior change theory. Using the Intervention Mapping process of program planning, the PIP Coordinator identified target determinants of behavior change from the Theory of Reasoned Action (TRA) and the Information-Motivation-Behavior Skills Model (IMB). She also identified specific performance objectives and change objectives that form the basis of the provider training intervention (see Table 2). Furthermore, she has identified specific evidence-based learning methods to target each of these objectives in the training program.

This training intervention will improve outcomes of care by giving providers the tools they need to start and sustain conversations about the physical health indicators that MCBH is already collecting and then measuring the change in providers as well as the changes in consumers. The lack of training surrounding provider conversation education was a gap in the SCCI initiative, so training providers to use this information is a critical step toward improving outcomes and doing a better job of integrating physical and behavioral health care.

**FIGURE 3: MCBH CONSUMER CO-OCCURRING PHYSICAL HEALTH DIAGNOSES**




## Section 2: Define & Include the Study Question

Provider training study questions:

One month following the intervention, will MCBH clinical staff report a statistically significant increase in knowledge/skills, attitudes/beliefs, and confidence/comfort to initiate and sustain conversations about consumer physical health status (compared to baseline)?

Conversation initiation study questions:

Six months after completion of the intervention, will MCBH therapists and case managers report a statistically significant increase in the number of physical health conversations that have been initiated and sustained (compared to baseline)?

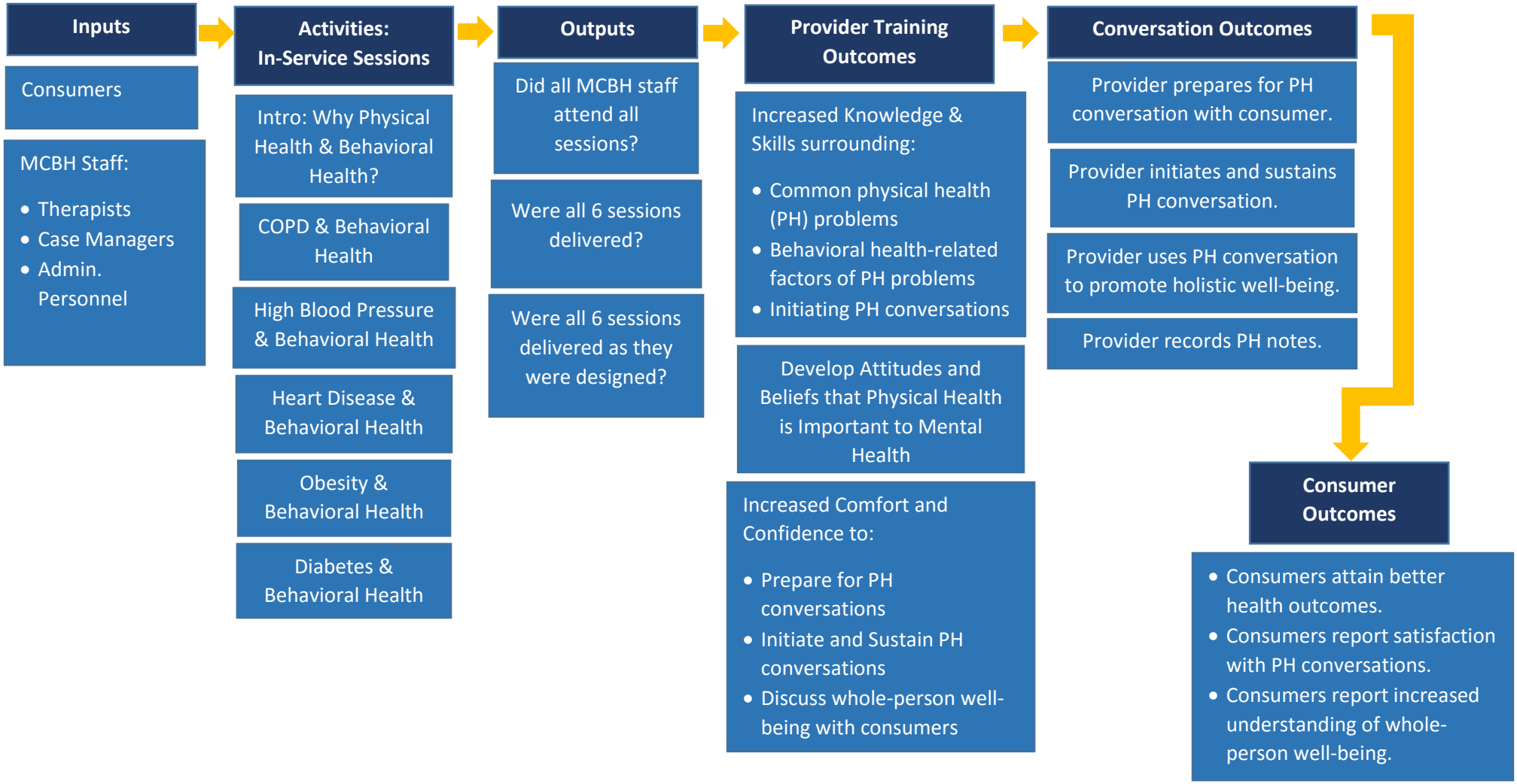
Consumer outcomes study questions:

Six months after providers complete the intervention, will MCBH consumers report satisfaction with the physical health conversations? How do consumers rate the quality of these conversations?

One year after providers complete the intervention, has there been an increase in utilization of physical health programming (walking, yoga)? Has there been an increase in the number of patients who report having a PCP? Did the intervention affect any consumer health indicators (blood pressure, weight) as compared to baseline?

***See Figure 4 (Logic Model) for visual outline of program outcomes, which correlate to each study question.***

**FIGURE 4: LOGIC MODEL: HEALTHYBODY HEALTHYMIND PROVIDER TRAINING**



## Section 3: Identify Study Population

The study population for this intervention will be all therapists and case managers currently working on the MCBH team. The team is approximately 50 percent Caucasian and 50 percent Hispanic/Latino. Because there is strong evidence (as outlined in Section 1) that improving physical health communication with behavioral health consumers leads to better overall health outcomes, the intervention will be provided to all members of the MCBH team.

When looking at the longer-term study questions, the study population includes all consumers at MCBH who are actively receiving care. Data will be pulled from existing medical records collected by MCBH and will be collected by creating new surveys for consumers.

## Section 4: Select & Explain the Study Indicators

*See Table 1.*

| **Table 1: Study Measures and Rationale** | |
|---|---|
| ***Study Question (Provider Training)*** | **One month following the intervention, will MCBH therapists and case managers report a statistically significant increase in knowledge/skills, attitudes/beliefs, and confidence/comfort to initiate and sustain conversations about consumer physical health status (compared to baseline)?** |
| *Rationale for Selection of Study Measures 1-3:* | In the short-term, the intervention will target the following determinants of behavior change: knowledge/skills, attitudes/beliefs, and confidence/comfort. Study Measures 1-3 will measure the change in each of these areas.<br><br>It is hypothesized that mean positive change in each of these areas will in turn affect the targeted intermediate outcome (see Study Measure 4). Study Measures 1-3 were chosen based on a review of the literature, as well as primary quantitative research of the study population. For further information on how each of these measures relates to the training program plan, please see Table 2, which lists the program's primary performance objectives, the relevant determinants of behavior change, and the change objectives. |
| *Quantifiable Measure #1:* | Mean change in provider knowledge and skills, as measured in a pre- and post-intervention self-report survey. The survey will contain questions derived from the change objectives (see gold cells located in Table 2). |
| Change measured by: | A Repeated Measures ANOVA test will be used to measure the mean change in knowledge and skills from pre-test to post-test. This test was chosen because it controls for non-independent sampling (measuring the same people in the pre-test as in the post-test). |
| First measurement period dates: | Pre-intervention (March 2016) |
| Baseline: | 2.46 out of 4 |
| Goal: | Statistically significant increase as measured through ANOVA using SPSS |
| | |

| | |
|---|---|
| *Quantifiable Measure #2* | Mean change in provider attitudes and beliefs, as measured in a pre- and post-intervention self-report survey. The survey will contain questions derived from the change objectives (see gold cells located in Table 2). |
| Change measured by: | A Repeated Measures ANOVA test will be used to measure the mean self-reported change in attitudes from pre-test to post-test. |
| First measurement period dates | Pre-intervention (March 2016) |
| Baseline: | 3.49 out of 4 |
| Goal: | Statistically significant increase as measured through ANOVA using SPSS |
| | |
| *Quantifiable Measure #3* | Mean change in provider comfort and confidence, as measured in a pre- and post-intervention self-report survey. The survey will contain questions derived from the change objectives (see gold cells located in Table 2). |
| Change measured by: | A Repeated Measures ANOVA test will be used to measure the mean self-reported change in comfort and confidence from pre-test to post-test. |
| First measurement period dates | Pre-intervention (March 2016) |
| Baseline: | 2.91 out of 4 |
| Goal: | Statistically significant increase as measured through ANOVA using SPSS |
| | |
| ***Study Question (Conversation Initiation)*** | **Six months after completion of the intervention, will MCBH staff who receive the training report a statistically significant increase in the number of physical health conversations that have been initiated and sustained (compared to baseline)?** |
| *Rationale for Selection of Study Measure 4:* | If the intervention is successful in changing provider knowledge/skills, attitudes/beliefs, and confidence/comfort, then it is hypothesized that the number of PH conversations that are initiated and sustained by providers will increase. (It is then hypothesized that this will lead to long-term changes in patient outcomes). Measuring the number of PH conversations will ensure that providers are incorporating the tenants of the program into their daily practice. |
| *Quantifiable Measure #4* | Mean change in number of PH conversations that have been initiated and sustained, as measured in a pre- and post-intervention self-report survey. |
| Change measured by: | A Repeated Measures ANOVA test will be used to measure the mean self-reported change in provider conversations from pre-test to post-test. |
| First measurement period dates | Pre-intervention (March 2016) |
| Baseline: | 25-49% (3.13 OUT OF 6) |
| Goal: | Statistically significant increase as measured through ANOVA using SPSS |

| | |
|---|---|
| **Study Question (Consumer Outcomes at 6 Months)** | **Six months after providers complete the intervention, will MCBH consumers report satisfaction with the physical health conversations?** |
| *Rationale for Selection of Study Measure 5:* | It is critical that consumers be satisfied with the conversations they are having with their providers about physical health, otherwise it will not affect their behaviors. |
| *Quantifiable Measure #5* | Mean level of self-reported satisfaction with physical health conversation. Scores will be generated by aggregating responses across all consumers who take the survey. |
| Change Measured by: | This measure will not focus on change, but rather producing a satisfaction score of 75 percent at six months. This survey will contain 5-10 questions on a Likert scale from 1-5. |
| Measurement dates | Six months after providers complete the training. |
| Goal | Average satisfaction score of 75 percent or higher |
| | |
| **Study Question (Consumer Outcomes at 12 Months)** | **One year after providers complete the intervention, has there been an increase in utilization of physical health programming (walking, yoga)? Did the intervention affect any consumer health indicators (blood pressure, weight, reported PCP) as compared to baseline?** |
| *Rationale for Selection of Study Measure 6:* | Presently, MCBH offers several physical health programs, including walking and yoga. With more emphasis placed on physical health through conversations, MCBH predicts it will also see an increase in participation in physical health programs. |
| *Quantifiable Measure #6* | Percent increase in physical health program participation, as measured by examining records at baseline time period and one year later. |
| Change Measured by | Percent increase in participation from baseline period to follow-up period. |
| First measurement period dates | April 1, 2016-August 1, 2016 |
| Follow-up period | April 1, 2017-August 1, 2017 |
| Baseline | To be measured in August |
| Goal | 15% increase in participation in physical health programs |
| | |
| *Rationale for Selection of Study Measure 7:* | Presently, MCBH collects data on several health indicators (BP, weight, having a PCP). It's possible that over time the department's efforts at talking about physical health will improve these outcomes. Although many factors affect these indicators, by measuring them continually and assessing change, MCBH will be able to evaluate consumer health outcomes. |
| *Quantifiable Measure #7* | Mean change in each health indicator from baseline (August 2016) compared to one year later. |
| Change Measured by: | A Repeated Measures ANOVA test will be used to measure the aggregated mean BP, mean weight, and mean number of patients who report having a PCP from baseline to one year later. |
| First measurement period dates | August 1 - August 31, 2016 |
| Follow-up period | August 1 - August 31, 2017 |
| Baseline | To be measured in August |
| Goal | Statistically significant increase as measured through ANOVA using SPSS |

## Section 5: Develop & Describe Study Interventions

This intervention is comprised of six in-service sessions that will be 60 minutes long each. These sessions (which are also outlined in the logic model as "Activities") will focus on the following topics: Introduction on the Importance of Integrating Behavioral and Physical Health Services, COPD, Obesity, Blood Pressure, Heart Disease, and Diabetes. Each of these sessions is designed to target the three provider training outcomes (also referred to as determinants of behavior change) and will be measured with the pre/post-test survey. (See Section 6, Table 3 for the specific items that were used to measure each of these outcomes).

For a full outline of the program, including the specific barriers/causes that the provider intervention is designed to address, please see Table 2 below, the Matrix of Change.

To create this table, the program planner first identified four performance objectives that staff should be able to complete once the program is finished (located in the left hand column):

- Provider reviews consumer chart and prepares to discuss physical health markers.
- Provider initiates and sustains physical health conversation.
- Provider notes conversation/plan in chart.
- Provider uses physical health conversation to promote well-being.

*These performance objectives also correspond to the conversation initiation outcomes in the logic model.

In order to achieve these objectives, the program planner then identified three key factors that would have to change within each provider in order for the program to be successful (located in the top rows):

- Knowledge & Skills
- Attitudes & Beliefs
- Comfort & Confidence

These factors are evidence-based determinants of behavior change and drawn from such theories as the Theory of Reasoned Action and the Health Belief Model. They also correspond to the provider training outcomes in the logic model.

Finally, in order to ensure that each determinant of behavior change is used effectively to help staff members achieve the performance objectives, the program planner devised an exhaustive set of change objectives within the matrix.

> For example, in order to achieve performance objective one ("Provider reviews consumer chart and prepares to discuss physical health markers"), the provider will need to increase his/her knowledge and skills. To meet this goal, the intervention will ensure that the provider learns the following:
>
> - KS.1.a. Provider knows where to find indicators in chart.
> - KS.1.b. Provider can explain what each health marker means.
> - KS.1.c. Provider can explain 5 behavioral outcomes related to each targeted condition: obesity, diabetes, high blood pressure, COPD, and heart disease
> - KS.1.d. Provider can list 3 resources where further research can be found.

In this way, the intervention systematically covers each barrier to behavior change. Moreover, these change objectives informed the development of the pre/post-test that is being used to ensure that the training is effective. The study continues by ensuring that over time providers are incorporating these skills into their daily work with consumers. By measuring whether providers are initiating conversations (at six months) and by surveying consumers to see if they are satisfied with these physical health

conversations, the study will ensure that the provider training will have an impact on consumer health outcomes.

By focusing first on the provider training and ensuring that it is effective, MCBH will be able to state with more certainty that the intervention outlined in this PIP is responsible for any changes observed in consumer physical health outcomes. In order to address this final portion of the study, MCBH will measure changes in consumer health indicators over time and the change in participation in physical health programs.

**Table 2: HealthyBody HealthyMind Staff Training: Matrix of Change**

| **Goal:** Six months after completion of the staff training, MCBH therapists and case managers will report a statistically significant increase in the number of physical health conversations that have been initiated and sustained. This in turn will have a positive measurable impact on consumer outcomes. | | | |
|---|---|---|---|
| Performance Objectives | Determinants of Behavior Change & Change Objectives | | |
| | Knowledge/Skills | Attitudes/Beliefs | Comfort/Confidence |
| PO1. Provider reviews consumer chart and prepares to discuss physical health (PH) markers. | KS.1.a. Provider knows where to find indicators in chart.<br>KS.1.b. Provider can explain what each health marker means.<br>KS.1.c. Provider can explain 5 behavioral outcomes related to each targeted condition: obesity, diabetes, high blood pressure, COPD, and heart disease.<br>KS.1.d. Provider can list 3 resources (including training handouts) where further research can be found.<br>KS.1.e. Provider can list behavioral health (BH) related side-effects of common meds for the targeted conditions.<br>KS.1.f. Provider can list 3 resources where further information about PH community services can be found. | A.1.a. Provider states 3 benefits of addressing PH in BH appts.<br>A.1.b. Provider reports belief that he/she can make a difference in health outcomes by addressing PH.<br>A.1.c. Provider reports belief that conducting further research will help him/her have a better PH conversation.<br>A.1.d. Provider reports belief that PH conversation should be culturally relevant. | C.1.a. Provider expresses confidence and comfort in abilities to prepare for PH conversation. |
| PO2. Provider initiates and sustains PH convo. | KS.2.a. Provider lists 3 ways to start PH convo (PCP, recent appt)<br>KS.2.b. Provider lists 3 types of follow-up questions (related to BH factors of diagnosis).<br>KS.2.c. Provider demonstrates ability to initiate and sustain PH convo.<br>KS.2.d. Provider can list Stages of Change (SOCs).<br>KS.2.e. Provider demonstrates ability to assess consumer's SOC.<br>KS.2.f. Provider demonstrates ability to use SOC assessment to direct conversation and PH plan development.<br>KS.2.e. Provider lists 3 strategies for helping a consumer develop a PH plan for 5 chronic diseases. | A.2.a. Provider reports belief that they should initiate PH convo.<br>A.2.b. Provider reports belief that the PH convo will lead to better outcomes.<br>A.2.c. Provider reports belief that understanding SOC will help him/her meet the consumer where they are.<br>A.2.d. Provider reports belief that he/she is a critical to developing a PH improvement plan. | C.2.a. Provider expresses confidence and comfort in ability to initiate convo.<br>C.2.b. Provider expresses confidence and comfort in ability to sustain convo with follow-up questions.<br>C.2.c. Provider expresses confidence and comfort in ability to help consumer develop PH plan. |
| PO3. Provider notes convo/ plan in chart. | KS.3.a. Provider can list the information that should be recorded in the chart. | A.3.a. Provider reports belief that listing all required information will improve the integration and continuation of PH/BH care.<br>A.3.b. Provider reports belief that listing all required information will improve evaluation efforts. | C.3. Provider expresses confidence and comfort in ability to record convo notes and PH improvement plan. |
| PO4. Provider uses PH convo to promote well-being. | KS.4.a. Provider can explain whole-person well-being.<br>KS.4.b. Provider demonstrates ability to discuss whole-person well-being with consumers. | A.4. Provider reports belief that whole-person well-being is a critical component to his/her work with consumers. | C.4. Provider expresses confidence and comfort in ability to discuss whole-person well-being with consumers. |

## Section 6: Develop Study Design & Data Collection Procedures

The measures for all phases of this project were designed by the PIP Coordinator, who is an independent contractor. She will also be responsible for collecting and analyzing the data. The PIP Coordinator is a Master of Public Health Student with experience in survey development, evaluation plan development, and program planning. She is proficient in SPSS statistical software.

The data collected includes 23 items that measure knowledge and skills, attitudes and beliefs, comfort and confidence, and the conversation initiation outcomes. See Table 3 below to view each measure and the associated provider training outcome. These questions were derived from the Matrix of Change Objectives (see Table 2). Aligning the questions for the pre/post-test study with the change objectives in Table 2 ensures that all the most important changes are covered in the data collection tool.

Ideally, these data will show statistically significant increases in the targeted constructs and outcomes. If it does not, a secondary level of analysis will identify if certain items received notably low scores in the post-test. This analysis will allow the program planners to create a follow-up in-service training session that will cover additional information. If the data do show improvements, then the study will continue as planned, measuring the change in provider-initiated physical health conversations over time.

***See Table 4 on the following page for a summary of the data collection and analysis plan.***

**Table 3: Pre/Post-Test Survey Items for Provider Training**

| Survey Item | Targeted Outcome | Aggregate Baseline Mean |
|---|---|---|
| For each of the following conditions, how many resources can you think of where consumers can go for more help or information? | Knowledge/ Skills | 2.46 out of 4 |
| I can list the mental health side effects for medications commonly prescribed for the following conditions. | Knowledge/ Skills | |
| I know where to look for the physical health information in a consumer's chart. | Knowledge/ Skills | |
| When I talk with consumers about physical health problems, I know what to record in the notes afterwards. | Knowledge/ Skills | |
| I can explain whole-person well-being. | Knowledge/ Skills | |
| I know how to assess "where a consumer is" in terms of making a behavior change that will affect their physical health. | Knowledge/ Skills | |
| Learning more about the following conditions will help me be a better therapist or case manager. | Attitudes/ Beliefs | 3.49 out of 4 |
| I believe that it's important to discuss physical health conditions in the mental health setting. | Attitudes/ Beliefs | |
| I believe that talking about physical health problems will lead to improved mental health. | Attitudes/ Beliefs | |
| It's my responsibility to start conversations about physical health. | Attitudes/ Beliefs | |
| The consumer will bring up physical health problems if they want to talk about them. | Attitudes/ Beliefs | |

| | | |
|---|---|---|
| I believe that I can make a difference in a consumer's mental health by talking about physical health issues. | **ATTITUDES/ BELIEFS** | |
| When working with consumers, I should just focus on their mental health. | **ATTITUDES/ BELIEFS** | |
| I am comfortable talking about the following health conditions with consumers. | **CONFIDENCE/ COMFORT** | 2.91 OUT OF 4 |
| It would be HARD for me to start a conversation about the following health conditions. | **CONFIDENCE/ COMFORT** | |
| It would be EASY for me to talk about the following health conditions for 15 minutes. | **CONFIDENCE/ COMFORT** | |
| I am confident that I can help consumers develop a health improvement plan for the following conditions. | **CONFIDENCE/ COMFORT** | |
| I am comfortable discussing whole-person well-being with consumers. | **CONFIDENCE/ COMFORT** | |
| After I talk to consumers about physical health problems, I'm comfortable recording the appropriate information in the notes. | **CONFIDENCE/ COMFORT** | |
| I am comfortable "meeting a consumer where they are" to discuss their physical health problems. | **CONFIDENCE/ COMFORT** | |
| I am comfortable "meeting a consumer where they are" to discuss changes they can make to their behaviors to improve physical health. | **CONFIDENCE/ COMFORT** | |
| Currently, I have meaningful conversations about physical health with __% of the consumers I meet with. | **CONVERSATION INITIATION** | 25-49% (3.13 OUT OF 6) |
| I look at the physical health information in a consumer's chart before every appointment. | **CONVERSATION INITIATION** | |

| Table 4: Data Collection & Analysis | | | | |
|---|---|---|---|---|
| Measure | Who | Timing | Data Collection | Analysis Steps |
| Mean change in provider training outcomes (knowledge, attitudes, confidence) | PIP Coordinator | Baseline collected: March 2016<br><br>Follow-up: one month post-training | SurveyMonkey pre/post-test** (see Table 3 for questions) | 1. Aggregate the pre-test scores of all the knowledge/skills items and report the mean.<br>2. Aggregate the post-test scores of all the knowledge/skills items and report the mean.<br>3. Use a Repeated Measures ANOVA test in SPSS to compare the two means and report on any statistically significant change.*<br>4. Repeat process for the attitudes/beliefs items and the confidence/comfort items. |
| Mean change in convo initiation items | PIP Coordinator | Baseline collected: March 2016<br><br>Follow-up: six months post-training | SurveyMonkey pre/post-test** (see Table 3 for questions) | 1. Aggregate the pre-test scores of all the conversation initiation outcomes items and report the mean.<br>2. At six months post-intervention, administer follow-up to measure conversation initiation. Aggregate the post-test scores of all the conversation initiation measurement items and report the mean.<br>3. Use a Repeated Measures ANOVA test in SPSS to compare the two means and report on any statistically significant change.* |
| Consumer Satisfaction with physical health convos | PIP Coordinator | Single-point measure at six months post-training | A SurveyMonkey questionnaire with 5-10 items will be administered to all consenting consumers. | The responses will be aggregated and divided by the number of participants and the number of questions to generate a mean score. Goal = 75 percent satisfaction with physical health conversations. |
| Percent change in physical health programming participation | PIP Coordinator | Baseline:<br>April 1-August 1, 2016<br><br>Follow-up:<br>April 1-August 1, 2017 | Data will be drawn from attendance records for physical health programs. | 1. Calculate number of people at all physical health programs during baseline period.<br>2. Calculate number of people at all physical health programs during follow-up period.<br>3. Calculate the percent change by subtracting baseline participation from follow-up participation.<br>4. Divide baseline participation by this difference. |
| Mean change in consumer health outcomes (BP, weight, reported PCP) | PIP Coordinator<br><br>Case Managers<br><br>Admin. Personnel | Baseline:<br>August 1-31, 2016<br><br>Follow-up:<br>August 1-31, 2017 | The health indicator data will be collected during the prescribed time periods and recorded in the consumer's chart. | 1. Aggregate baseline mean for weight and BP. Count number of consumers with a reported PCP.<br>2. At follow-up, repeat step 1.<br>3. For weight and BP, compare baseline and follow-up means using a repeated measures ANOVA in SPSS. Report on any statistically significant change.<br>4. For reported PCP, measure percent change using steps outlined for programming participation. Goal = 15% increase. |

*These data will be reported in Section 7, Table 5 | **All staff who complete the intervention will complete the pre- and post-test, thus capturing the entire sample.

## Section 7: Data Analysis & Interpretation of Study Results

This PIP is active and on-going, therefore the analysis of the pre/post-test data has not yet been completed. Please see Section 6 for the data analysis plan. The pre-test data that has been collected has been input into the table below. The columns highlighted in gold will be filled out once the intervention has been completed and the post-test analysis run. Data for the consumer outcomes will be measured beginning in August, as indicated in Table 4.

As mentioned above, this data is expected to trigger further QI projects. If the data show statistically significant improvements, then MCBH will continue with its quality improvement plan by measuring the change in physical health conversations that take place, as well as consumer satisfaction about this expansion of services and any changes in consumer physical health status. (See Table 6 below for a summary of these later term data analyses.) If the data do not show statistically significant improvements, then the program planner will return to the data to see what aspects of the intervention were less successful and develop an additional in-service training to cover those objectives before moving on to future stages of the intervention. Furthermore, the program planner will interview members of the staff to further understand how the intervention could be improved.

***Please see Table 5 below for a summary of the provider training data analysis***

**Table 5: Summary of Performance Indicators & Measurement – Staff Training & Conversation Initiation**

| Performance Indicator | Date of Baseline | Baseline Msmt (Mean) | Goal for Improvement | Intervention Dates | Date of Follow-Up | Follow-Up Msmt (Mean) | Mean Change | Statistically Significant Increase? |
|---|---|---|---|---|---|---|---|---|
| Mean change in provider knowledge and skills. | March 7-11, 2016 | 2.46 out of 4 | Stat. Sig. Increase | May-August 2016 | Sept. 2016 | | | |
| Mean change in provider attitudes and beliefs. | March 7-11, 2016 | 3.49 out of 4 | Stat. Sig. Increase | May-August 2016 | Sept. 2016 | | | |
| Mean change in provider comfort and confidence. | March 7-11, 2016 | 2.91 out of 4 | Stat. Sig. Increase | May-August 2016 | Sept. 2016 | | | |
| Mean change in number of PH conversations that have been initiated and sustained. | March 7-11, 2016 | 25-49% | Stat. Sig. Increase | Ongoing | Feb. 2017 | | | |

**Table 6: Summary of Performance Indicators & Measurement – Consumer Outcomes**

| Performance Indicator | Date of Baseline | Baseline Msmt | Intervention Dates | Date of Follow-Up | Follow-Up Msmt | Goal for Improvement | Goal Met? (Y/N) |
|---|---|---|---|---|---|---|---|
| Consumer Satisfaction with physical health convos | n/a | n/a | Ongoing | Feb. 2017 | | 75% satisfaction | |
| Percent change in physical health programming participation | April 1-Aug 1 2016 | | Ongoing | April 1-Aug 1 2017 | | 15% Increase | |
| Mean change in consumer health outcomes (BP, weight, reported PCP) | August 1-31 2016 | BP mean:<br><br>Weight mean:<br><br>PCP: | Ongoing | August 1-31 2017 | BP:<br><br>Weight<br><br>PCP: | Stat. Sig. Decrease in BP and Weight<br><br>15% increase in reported PCP | |

## Section 8: Assess Outcomes of PIP

This PIP is active and ongoing, therefore a thoughtful reflection on the results of the PIP is not possible at this time. However, given the small sample size of the provider and consumer populations at MCBH, we do not anticipate distinct challenges related to sampling, monitoring, or analysis in terms of studying the results of this PIP.

We also do not anticipate challenges with the comparability of the initial and repeat measures (pre/post-test) for the provider training or the consumer outcomes given our small sample and the fact that we have chosen to run the data analysis with a Repeated Measures ANOVA statistical test to control for our non-independent sampling. This study is not designed to be generalized across individuals, settings, and times, and is therefore not subject to threats to external validity.

Results of statistical significance testing will be reported in the table above (Section 7, Tables 5-6). The PIP will be considered successful if providers show change in knowledge, attitudes, and confidence and if the longer-term goals related to conversation initiation and consumer outcomes are met. Although there is no control group for this intervention, we can assume that if the provider training and conversation initiation are successful, that the intervention was the cause of the success. MCBH feels comfortable making this assumption due to the rather specific nature of this intervention and the minimal threats to internal validity.

If the consumer outcome goals of satisfaction and increased participation in physical health programming are met, we can assume that this is a result of the intervention; however, changes in consumer health indicators will likely not be closely related to the intervention in such a short amount of time. That said, MCBH plans to continue measuring these indicators going forward and hopes to observe change over longer periods of time. In addition to this follow-up activity, MCBH will use the data gathered to inform programming decisions and potentially add new physical health programs.

## Section 9: Plan for "Real" Improvement

The pre-test data for the provider training was collected using SurveyMonkey and was sent out via email to providers' Mono County email accounts. The post-test data will be collected the same way, thus validating the methodology. The PIP Coordinator will also ensure that the baseline and follow-up data for the consumer outcomes is collected with consistency.

This PIP is active and on-going. We look forward to reporting on any quantitative improvements in consumer outcomes after running the data analysis outlined in Section 6. The reporting for most items will also include statistical evidence (statistical significance testing using Repeated Measures ANOVA tests) to assess whether the improvement is true improvement.

Although integration of physical health and behavioral health services is a topic of interest state-wide, this is the first initiative in Mono County to train behavioral health providers on how to initiate conversations surrounding physical health problems. Therefore, if the PIP is successful in ultimately affecting consumer physical health program participation and satisfaction, it is likely that this intervention is the cause of this success.

Finally, with regard to sustained improvement, the focus on physical health conversations will continue at least until August, 2017 thanks to this on-going PIP. Progress will be monitored according to the data collection and analysis plan, which will allow MCBH to measure whether the improvement is sustained over time.