

INNOVATIVE PROJECT PLAN
Addressing Metabolic Syndrome Pilot Project – Tulare County

County: Tulare Date Submitted: _____

Project Name: Addressing Metabolic Syndrome and Its Components in Consumers Taking Antipsychotic Medication

I. Project Overview

1) Primary Problem

- a) **What primary problem or challenge are you trying to address? Please provide a brief narrative summary of the challenge or problem that you have identified and why it is important to solve for your community.**

CCR Title 9, Sect. 3930(c)(2) specifically requires the Innovation Component of the Three-Year Program and Expenditure Plan or Annual Update to describe the reasons that a County's selected primary purpose for a project is "a priority for the County for which there is a need ... to design, develop, pilot, and evaluate approaches not already demonstrated as successful within the mental health system." This question asks you to go beyond the selected primary purpose (e.g., "Increase access to mental health services,") to discuss more specifically the nature of the challenge you seek to solve.

Individuals with serious mental illness die, on average, 25 years earlier than the general population, primarily due to preventable chronic disease (Parks et al., 2006).¹ A review of the literature reveals that there are many variables which lead to this higher mortality rate, including cardiovascular diseases, diabetes, obesity, obesity-related cancer, stroke, and cigarette smoking (De Hert, Correll, et al., 2011; De Hert, Dekker, et al., 2009; Glasheen et al., 2014; Parks et al., 2006).

Metabolic syndrome is a cluster of risk factors that includes obesity, high blood pressure, elevated blood glucose and triglyceride levels, and a low level of high-density lipoprotein (HDL) cholesterol (Ahima 1, 2016). The prevalence of metabolic syndrome is high among people with schizophrenia, ranging from 19.4% to 68.0%, depending on the metabolic syndrome criteria used, gender, ethnicity, country, age groups, and antipsychotic treatment. The prevalence of metabolic syndrome is 25-50% among people with bipolar disorder, 42% among those with schizoaffective disorder, 12-36% among individuals with recurrent depression, and 32-35% among those with combat post-traumatic stress disorder (Jakovljević et al., 2007) A recent large national medical survey in Australia found that 57.8% of people with psychosis had metabolic syndrome (Waterreus et al., 2016).

¹ Full citation references are included at the end of this document.

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There is strong evidence of a high rate of metabolic syndrome among mental health consumers in our county: Through a study conducted on metabolic syndrome among individuals who were admitted to the psychiatric hospital in our county in 2013 and 2014, only 2.4% had ever been evaluated for metabolic syndrome and just 0.16% had ever been treated for the condition. During the study's intervention, which included computerized scanning of medical records to determine whether patients met the metabolic syndrome criteria, 34.5% met them (Lui et al., 2016).

A main reason for this high rate of metabolic syndrome among people with psychosis is that individuals who take antipsychotic medications are more likely to develop components of metabolic syndrome: "Antipsychotic medications are widely prescribed and carry a variable propensity to cause weight gain and its attendant sequelae – hyperglycemia, hypertension and hyperlipidemia. These metabolic risks ... occur between two and five times more often in patients with psychosis than in the general population" (Lambert, 2011).

As background, Lambert writes:

Antipsychotic drugs remain the cornerstone of treatment for a number of psychiatric illnesses, including schizophrenia and bipolar disorder, however they have a wide range of adverse effects. A major problem of the older antipsychotics is the neurological effects such as parkinsonism, dystonia, dyskinesia and akathisia. With some of the newer 'atypical' [second-generation] antipsychotics, obesity and other risk factors for cardiovascular and metabolic disease are a problem. Although these metabolic effects can also be caused by the older antipsychotics, they have assumed greater importance as the incidence of premature mortality from preventable cardiovascular disease and diabetes has become increasingly evident.

De Hert, Detraux, et al. provide more physiological and pharmacological detail:

Antipsychotic medications can induce cardiovascular and metabolic abnormalities (such as obesity, hyperglycemia, dyslipidemia and the metabolic syndrome) that are associated with an increased risk of type 2 diabetes mellitus and cardiovascular disease. Controversy remains about the contribution of individual antipsychotic drugs to this increased risk and whether they cause sudden cardiac death through prolongation of the corrected QT interval. Although some drug receptor binding affinities correlate with specific cardiovascular and metabolic abnormalities, the exact pharmacological mechanisms underlying these associations remain unclear. Antipsychotic agents with prominent metabolic adverse effects might cause abnormalities in glucose and lipid metabolism via both obesity-related and obesity-unrelated molecular mechanisms.

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As Lambert notes above, second-generation antipsychotics in particular, while they have fewer extrapyramidal effects than older antipsychotics, can have a very strong impact on the metabolism. The strength of the effects varies across medications. As Lui et al. state:

Clozapine and olanzapine directly impair glucose metabolism and induce insulin resistance compared with risperidone and are associated with diabetes. Clozapine and olanzapine are associated with significant weight gain. Olanzapine was discontinued due to excessive weight gain twice as often as other antipsychotics in the Clinical Antipsychotic Trials on Intervention Effectiveness (CATIE) trial. Quetiapine and risperidone have less effect on weight. Aripiprazole and ziprasidone cause the least weight gain [among second-generation antipsychotics].

One study finds a strong underlying relationship between metabolic syndrome and a wide spectrum of mental conditions (Nousen et al., 2013):

There is a strong bidirectional association between [metabolic syndrome] and [mental conditions] including schizophrenia, bipolar disorder, depression, anxiety, attention-deficit/hyperactivity disorder, and autism spectrum disorders. Medication side effects and social repercussions are contributing environmental factors, but there are a number of shared underlying neurological and physiological mechanisms that explain the high comorbidity between these two disorders. Inflammation is a state shared by both disorders, and it contributes to disruptions of neuroregulatory systems (including the serotonergic, dopaminergic, and neuropeptide Y systems) as well as dysregulation of the hypothalamic-pituitary-adrenal axis. [Metabolic syndrome] in pregnant women also exposes the developing fetal brain to inflammatory factors that predispose the offspring to [metabolic syndrome] and psychopathologies. Due to the shared nature of these conditions, treatment should address aspects of both mental health and metabolic disorders. Additionally, interventions that can interrupt the transfer of increased risk of the disorders to the next generation need to be developed.

The impact on consumers of mental health services is that metabolic syndrome can lead to serious diseases, such as cardiovascular disease and type 2 diabetes (Kamkar et al., 2016), which can both shorten people's lives and reduce their quality of life.

One study found that 58% of people with psychosis had metabolic syndrome.

Individuals who take antipsychotic medication are more likely to develop hyperglycemia, hyperlipidemia, and hypertension: components of metabolic syndrome. There is a direct link between this common treatment for mental illnesses – antipsychotic medication – and the development of this serious condition.

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While helping mental health consumers live longer with a higher quality of life is good in itself, addressing the problem of metabolic syndrome can also positively impact their mental health. Research has found causal linkages between medical conditions that are components of or closely related to metabolic syndrome and mental illness. Obesity, a component of metabolic syndrome, has been shown to increase the risk of developing depression (Luppino et al., 2010).

Diabetes mellitus (in which blood sugar level is a core component, as it is in metabolic syndrome) has been found to be a risk factor in the development of depression (Ehrmann et al., 2015) and elevated blood glucose levels have been shown to be associated with greater schizophrenia severity (Perry et al., 2017). Another study concluded that, "The reduction of diabetes distress is a statistical predictor of improvement of depressive symptoms" (Reimer et al., 2017).

One study looked at metabolic syndrome and its relationship to cognitive impairments associated with schizophrenia. It found that two components of metabolic syndrome – hyperglycemia and hypertension – were associated with cognitive impairments in people with schizophrenia and concluded that, "It appears that medical treatment of certain components of the metabolic syndrome could affect cognitive performance in patients with schizophrenia" (Goughari et al., 2015). Another study concluded that, "[Metabolic syndrome] might aggravate injury of cognitive function in chronic schizophrenia, especially in immediate memory, delayed memory, and attention" (Li et al., 2014).

Another study investigated metabolic syndrome in individuals with bipolar disorder and found that metabolic syndrome leads to worse psychiatric outcomes and that monitoring for metabolic syndrome is crucial. It concluded, "Our results indicated that patients with comorbid bipolar disorder and [metabolic syndrome] have more adverse clinical outcomes than those without, with more hospitalizations, severer tardive dyskinesia, poorer insight, poorer global function, and more impaired executive function. Monitoring [metabolic syndrome] is crucial for assessing not only physical burden, but also psychiatric outcomes" (Bai et al., 2016).

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How This Project Will Promote the Mental Health of Participants

Mental health and physical health are fundamentally linked. Both are common, and they can both be disabling. These conditions can affect anyone, regardless of age, sex, race/ethnicity, culture, or income.

Consider the following graphic, poignant scenario: You are a mental health consumer, and you are well along your way to wellness and recovery. You are working or volunteering. You have a supportive family and several friends in your life. You have gained a great deal of independence, and you are now happy, proud, and hopeful. Your mental health is better than it has ever been. — Now, because of inadequate attention given to the diabetes that developed as a result of your antipsychotic, you are facing the possible amputation of your foot. What effect will this event have on your happiness, pride, and sense of hope?

- Metabolic syndrome and related medical conditions – including obesity and diabetes – are associated with increased risk of psychiatric symptoms or disorders. Reducing or eliminating them correlates with recovering mental health.
- Increased physical activity has been shown to improve mental health, including reducing the symptoms of psychotic and depressive disorders.
- Improved nutrition can protect against depression.
- Alcohol consumption is correlated with worsening the courses of several psychiatric conditions, including depression and schizophrenia. Reducing or eliminating alcohol consumption should improve mental health.
- Experiences with disability often cause distress and isolate people from their necessary social supports. Eliminating or preventing the physical health problems associated with metabolic syndrome – including diabetes, high blood pressure, heart attack, and stroke – will help participants better focus on their journey toward mental health wellness and recovery and give them a higher chance of succeeding on it.

Research has shown that changes to modifiable health behaviors that address components of metabolic syndrome can also directly foster mental health. Increasing physical activity, as an adjunct to treatment, can improve mental health, including reducing symptoms of schizophrenia, psychosis, and depression (Rosenbaum, Tiedemann, Stanton, et al., 2016; Rosenbaum, Tiedemann, Sherrington, et al. 2014; Mittal et al., 2017).

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A recent study finds that nutrition, "... especially a healthy diet rich in folate, and a dietary pattern rich in vegetables, fruits, berries, whole-grains, poultry, fish and low-fat cheese, may be protective against depression" (Ruusunen, 2013).

One study concluded that, "... obesity was associated with substantially worse cognitive performance in bipolar disorder. This association was independent of symptom severity ..." (Depp et al., 2014). If obesity were addressed, then presumably the cognitive performance of these individuals with bipolar disorder would improve. Another study found that individuals with bipolar disorder and an elevated risk of cardiovascular disease experienced a reduction in blood pressure as well as in manic symptoms when they participated in a program in which they monitored and managed their own health behaviors (Kilbourne et al., 2013).

Alcohol consumption is correlated with some mental illnesses, including schizophrenia, personality disorders, depression, and anxiety. For example, "Over a 12-month and lifetime basis, alcohol dependence and major depression co-occur in the general population at levels higher than chance. Similarly, amongst those in the general population who drink alcohol, higher volume of consumption is associated with more symptoms of depression" (Cornah, 2006).

Generally speaking, therapeutic lifestyle changes such as those that address exercise and nutrition/diet "are sometimes as effective as either psychotherapy or pharmacology [in addressing mental illnesses] and can offer significant advantages" (Walsh, 2011).

Helping participants to make positive changes in their modifiable health behaviors related to metabolic syndrome – including increasing physical activity, improving nutrition, and reducing or eliminating alcohol and tobacco use – is a major element of the project presented in this plan.

Secondly, significant stressors in one part of a consumer's life – such as physical health – can have a large impact on his or her mental health. As stressors are reduced or eliminated, mental health consumers are better able to focus on and are more likely succeed on their journey to wellness and recovery. The Tulare County Health and Human Services Agency's Mental Health Department has fully embraced the Wellness and Recovery Model and takes a holistic view of consumers' wellness.

b) Describe what led to the development of the idea for your INN project and the reasons that you have prioritized this project over alternative challenges identified in your county.

Tulare County Mental Health has embraced a philosophy of not only treating mental illnesses, but treating people who have mental illness holistically, with consideration of their mental health treatment and overall health and well-being. Case managers at our clinics work to ensure that consumers of mental health services encounter as few barriers as possible on

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their path to wellness and recovery. This includes seeing to it that they have housing, transportation, and assistance with a variety of other needs, to the limit of available resources. We do so because we know that reducing individuals' life stressors apart from mental illness increases engagement and success on their journey to wellness and recovery.

Several years ago, the Tulare County Mental Health Medical Director, being both a family practice doctor and a licensed psychiatric provider, made it his mission to more fully integrate physical health and mental health. Since that time, on a national scale, it has become more widely recognized that physical health diagnoses, physical health medications, and reproductive status can impact a consumer's mental health condition, and her or his ability to more fully achieve wellness and recovery.

Results from surveys and focus groups of community members as part of our Tulare County Mental Health Services Act 2017 Community Program Planning process indicated that physical health, as it relates to mental illness, was of significant concern to community members. And their views of health, as expressed in numerous focus groups, were largely holistic, combining both mental and physical health. (See Section II.6.a below for details.) The development and implementation of an innovative project that integrates mental and physical health is warranted.

Our Medical Director, with much help from various key stakeholders from the Mental Health and Public Health Departments, developed this metabolic syndrome pilot project to address one component of the pressing physical health needs among mental health consumers. Metabolic syndrome is one of the many physical health disorders that can have a profound impact on a consumer's mental health.

This project is a continuation of our efforts to integrate physical health and mental health. The initial efforts, which have continued to show success, are the Older Adult Hopelessness Screening (OAHS) Program and the Physical Health and Mental Health Integration Program:

The OAHS program began in 2011 through the Mental Health Services Act Prevention and Early Intervention component within the suicide prevention efforts. The purpose of OAHS is to identify suicide risk via the Beck Hopelessness Scale® (BHS®) among older adults receiving services at the County-operated health care center and provide short-term early intervention to those whose BHS® score indicate hopelessness. This program came from studies which revealed that up to 70% of older adults who died by suicide had visited a Primary Care Provider (PCP) a month prior to their death (Davidson, 2008), and 22% of older adults who died by suicide saw their PCP the week prior to their death (Davidson, 2008; Draper, Snowden & Wyder, 2008). This program was adopted by the Suicide Prevention Resource Center in 2013 as a promising practice:

<http://www.sprc.org/resources-programs/check-you-older-adult-hopelessness-screening-program-oahs>

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The Physical Health and Mental Health Integration program began in 2012 through the Mental Health Services Act Innovation component and is now sustained through the Community Services and Supports component. The purpose of the program is to ameliorate the fragmentation of service delivery and create pathways of communication between the mental health system of care and the physical health system of care. This was accomplished through extensive trainings among providers, creation of ongoing networking opportunities, co-locating a team of mental health staff within the health care center, and creating a consistent and seamless pathway for cross-system consultation, brief assessment, and referral. Some of the outcomes, per the Tulare County Integration Health Program (IHP) Innovation Final Report, referrals increased by 171% (86 to 233 from the health care center to mental health), mental health consultation and/or brief assessment at the health care center increased by 294% (317 to 1,249), and the number of prescriptions of the 22 most-prescribed psychiatric medications at the health care center decreased by 53% due to the enhanced consultation and collaboration between Public Health and Mental Health.

This pilot project fits with our belief and philosophy that helping the mental health consumer as a whole person is beneficial to their mental health. For this reason, we have made this project our priority for Innovation funding.

2) What Has Been Done Elsewhere to Address Your Primary Problem?

“A mental health practice or approach that has already demonstrated its effectiveness is not eligible for funding as an Innovative Project unless the County provides documentation about how and why the County is adapting the practice or approach.” (CCR, Title 9, Sect. 3910(b))

The Commission expects a County to show evidence that they have made a good-faith effort to establish that the approach contained within their proposed project either has not been demonstrated to be effective in mental health or is meaningfully adapted from an approach that has been demonstrated to be effective. Describe the efforts have you made to investigate existing models or approaches close to what you're proposing (e.g., literature reviews, internet searches, or direct inquiries to/with other counties). Have you identified gaps in the literature or existing practice that your project would seek to address?

- a) Describe the methods you have used to identify and review relevant published literature regarding existing practices or approaches. What have you found? Are there existing evidence-based models relevant to the problem you wish to address? If so, what limitations to those models apply to your circumstances?**
- b) Describe the methods you have used to identify and review existing, related practices in other counties, states or countries. What have you found? If there**

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**are existing practices addressing similar problems, have they been evaluated?
What limitations to those examples apply to your circumstances?**

[The responses to a) and b) are combined.]

We conducted an extensive literature review using PubMed and Google Scholar. In doing so, we found that the high prevalence of metabolic syndrome in individuals taking anti-psychotic medication is widely recognized.

There have been other programs that have attempted to address the problem of metabolic syndrome or its components in individuals with severe and persistent mental illness, especially in those taking antipsychotic medication. However, none is as comprehensive as the project we describe in this plan.

Table 1, which begins on page 11, displays the programs we found in our literature review. It shows in the third column, with shaded dark grey cells, whether the programs include screening for metabolic syndrome. Cells with light grey crosshatching indicate that several, but not all, of the components of metabolic syndrome are screened for, based on the American Heart Association's definition (Huang, 2009). The screening components are listed in the cells.

The table also shows whether the programs offer any pharmacological treatment for metabolic syndrome or its components, whether they include help to improve participants' modifiable health behaviors associated with metabolic syndrome, and whether the studies show any statistically significant improvements.

What we found is that none of these programs offer pharmacological treatment for any of the components of metabolic syndrome. While making changes in specific modifiable health behaviors can certainly be effective, some individuals may also benefit from treatment with pharmaceuticals to, for example, lower their blood pressure or LDL cholesterol levels.² The reason for this may be that none of these programs appears to include a licensed medical provider, as ours will. Our program will employ a family practice MD to screen participants for metabolic syndrome and the components thereof and refer the participants to their PCPs for pharmacological treatment, if needed.

We also found that only one of the programs, "Team Solutions," included help for participants to reduce or eliminate their alcohol and tobacco use, in order to address metabolic syndrome or its components. All of the other programs only address exercise and/or nutri-

² "Medications for obesity, diabetes, hypertension, and dyslipidemia may be necessary for the treatment of components of metabolic syndrome and to reduce the risk of cardiovascular disease" (Ahima 2, 2016).

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tion. Studies show that both alcohol (Alkerwi et al., 2009) and tobacco use (Kolovou, Kolovou, & Mavrogeni, 2016) increase the prevalence of metabolic syndrome. For this reason, we believe it is important to help participants not only to exercise more and eat more healthfully, but also to reduce or eliminate their alcohol and tobacco use.

Of course, it is essential to address the modifiable health behaviors of nutrition and exercise, as they have been shown to have beneficial impacts on components of metabolic syndrome. Nutritional changes have led to, for instance, lower hemoglobin A1c, LDL cholesterol, and triglyceride levels. In addition, physical exercise has been shown to be a predictor of weight loss maintenance (Allison & Sawyer, 2016). As Rexford S. Ahima, M.D., Ph.D. states, "The management of metabolic syndrome requires a healthy low-calorie diet, increased physical activity, and other behaviors that promote the maintenance of weight loss" (Ahima 2, 2016).

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Table 1

Programs That Addressed Metabolic Syndrome or Its Components in People with Mental Illness								
Studies of Programs	Population	Metabolic Syndrome		Help to Improve Modifiable Health Behaviors Connected to Metabolic Syndrome				Stat. Signif. Change
		Screening	Pharmacol. Treatment	Nutrition	Exercise	Alcohol	Tobacco	
“Solutions for Wellness” and “Team Solutions” ³ : Lindenmayer, Khan, Wance, MacCabee, Kaushik, & Kaushik (2009)	Chronically mentally ill					Team Solutions only	Team Solutions only	
Poulin, Chaput, Simard, Vincent, Bernier, Gauthier, Lanctôt, Saindon, Vincent, Gagnon, & Tremblay (2007)	Taking second-generation antipsychotics	Weight, body mass index (BMI), waist circumference, plasma glucose, hemoglobin A1c, cholesterol, triglycerides						
Erickson, Mean, Pierre, Blum, Martin, Hellemann, Aragaki, Firestone, Lee, Lee, Kunkel, & Ames (2016)	Adults taking antipsychotics with high BMI or weight gain	Weight, BMI, plasma glucose, hemoglobin A1c, plasma lipids						
Menza, Vreeland, Minsky, Gara, Radler, & Sakowitz (2004)	Taking antipsychotics	Weight, BMI, hemoglobin A1c, blood pressure, cholesterol						
Chen, Chen, & Huang (2009)	Adults taking antipsychotics with high BMI	Weight, BMI, plasma glucose, cholesterol, triglycerides						

³ The name of the program studied, if any, is included in quotations before the study reference.

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Programs That Addressed Metabolic Syndrome or Its Components in People with Mental Illness								
Studies of Programs	Population	Metabolic Syndrome		Help to Improve Modifiable Health Behaviors Connected to Metabolic Syndrome				Stat. Signif. Change
		Screening	Pharmacol. Treatment	Nutrition	Exercise	Alcohol	Tobacco	
"Mind and Body": Jones, Benson, Griffiths, Berk, & Dodd (2009)	Adults taking second-generation anti-psychotics	Weight, BMI, plasma glucose, hemoglobin A1c, cholesterol, triglycerides						
"In SHAPE": Naslund, Aschbrenner, Scherer, Pratt, Wolfe, & Bartels (2015)	With schizophrenia or a mood disorder, and obese	Weight, BMI, blood pressure, plasma lipids						
"Passport 4 Life": Usher, Park, Foster, & Buettner (2013)	Adults taking second-generation anti-psychotics	Weight, girth, height, BMI						
Blouin, Binet, Bouchard, Després, & Alméreas (2009)	Adults taking second-generation anti-psychotics	Weight, BMI, lipid profile						
"STRIDE": Green, Yarborough, Leo, Yarborough, Stumbo, Janoff, Perrin, Nichols, & Stevens (2015)	Adults taking antipsychotics with high BMI	Weight, blood glucose						
"Superwellness": Magni, Ferrari, Rossi, Staffieri, Uberti, Lamonaca, Boggian, Merlin, Primerano, Mombrini, Poli, Saviotti, Caldera, Zanotti, & Rossi (2017)	Adults diagnosed with schizophrenia, schizophreniaiform disorder, or	Weight, BMI						

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Programs That Addressed Metabolic Syndrome or Its Components in People with Mental Illness								
Studies of Programs	Population	Metabolic Syndrome		Help to Improve Modifiable Health Behaviors Connected to Metabolic Syndrome				Stat. Signif. Change
		Screening	Pharmacol. Treatment	Nutrition	Exercise	Alcohol	Tobacco	
	schizoaffective disorder taking anti-psychotics with high BMI							
Mauri, Castrogiovanni, Simoncini, Iovieno, Miniati, Rossi, Dell'Agnello, Fagiolini, Donda, & Cassano (2006)	Adults taking antipsychotics with high BMI	Weight, BMI						
Littrell, Hilligoss, Kirshner, Petty, & Johnson (2003)	Adults with schizophrenia or schizoaffective disorder taking olanzapine (an antipsychotic)	Weight						
“Scandinavian Solutions for Wellness”: Porsdal, Beal, Kleivenes, Martinsen, Lindström, Nilsson, & Svanborg (2010)	Taking antipsychotics, antidepressants, or mood stabilizers; overweight or gaining weight	Weight, waist circumference						

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Programs That Addressed Metabolic Syndrome or Its Components in People with Mental Illness								
Studies of Programs	Population	Metabolic Syndrome		Help to Improve Modifiable Health Behaviors Connected to Metabolic Syndrome				Stat. Signif. Change
		Screening	Pharmacol. Treatment	Nutrition	Exercise	Alcohol	Tobacco	
Kalarchian, Marcus, Levine, Haas, Greeno, Weissfeld, & Qin (2005)	Taking anti-psychotics with a high BMI	Weight, BMI						
Green, Janoff, Yarborough, & Yarborough (2014)	Taking anti-psychotics	Weight						
“RENEW”: Brown, Goetz, & Hamera (2011)	Taking anti-psychotics	Weight						
Alvarez-Jiménez, González-Blanch, Vázquez-Barquero, Pérez-Iglesias, Martínez-García, Pérez-Pardal, Ramírez-Bonilla, & Crespo-Facorro (2006)	Taking anti-psychotics, with first episode psychosis	Weight, BMI						
“Solutions for Wellness”: Hoffmann, Meyers, Schuh, Shults, Collins, & Jensen (2005)	Adults with severe and persistent mental illness	Weight, BMI						
Fraser, Brown, Whiteford, & Burton (2017)	Adults with mental illness							
Curtis, Watkins, Rosenbaum, Teasdale, Kalucy, Samaras, & Ward (2016)	Youths with first episode psychosis							

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3) The Proposed Project

Describe the Innovative Project you are proposing. Note that the “project” might consist of a process (e.g. figuring out how to bring stakeholders together; or adaptation of an administrative/management strategy from outside of the Mental Health field), the development of a new or adapted intervention or approach, or the implementation and/or outcomes evaluation of a new or adapted intervention. See CCR, Title 9, Sect. 3910(d).

Include sufficient details so that a reader without prior knowledge of the model or approach you are proposing can understand the relationship between the primary problem you identified and the potential solution you seek to test. You may wish to identify how you plan to implement the project, the relevant participants/roles, what participants will typically experience, and any other key activities associated with development and implementation.

a) Provide a brief narrative overview description of the proposed project.

Goal

The goal of this project is to identify mental health consumers with risk factors associated with metabolic syndrome and provide medical and behavioral interventions to improve their long-term outcomes, such as decreased morbidity and increased life expectancy in these individuals. It is also to measure the extent to which the two major new interventions, planned to start in July 2019, will improve the outcomes for participants who voluntarily take part in them and compared to those who do not take part in them.

Target Population

The target population for this pilot is mental health consumers at the Visalia Adult Integrated Clinic (VAIC) who are being administered injectable antipsychotic medication.

This population was chosen for several reasons. First, VAIC serves approximately 1,600 consumers per month. Therefore, the project participation size needed to be refined to ensure resource availability. There are approximately 120 consumers at VAIC who receive injectable antipsychotic medication. Secondly, consumers on antipsychotic medication are at greater risk for metabolic syndrome (Lambert, 2011). Therefore, it was important to target a population not only at greater risk of metabolic syndrome due to severe mental illness (Kamkar et al., 2016), but an even greater risk compounded by the use of antipsychotic medication.

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Objectives

1. Screen all consumers who are receiving injectable antipsychotics for behavioral risk factors and medical conditions associated with metabolic syndrome.
2. Develop a collaborative treatment process between medical staff at VAIC and the consumer's primary care provider to refer and address medical conditions identified or suspected to be associated with metabolic syndrome such as hypertension, high cholesterol, and diabetes.
3. Refer consumers to the Nurse Health Educator (public health nurse) to provide intervention and ongoing assessment related to modifiable health behaviors associated with metabolic syndrome such as poor nutrition/diet, a low level of physical activity, and alcohol and tobacco use.
4. Provide education and training for VAIC licensed psychiatric providers to consider metabolic syndrome in their prescribing practice, as well as to VAIC mental health treatment staff to consider when providing services.

Process

A licensed medical provider, aided by a Medical Assistant, from the Visalia Health Care Center (VHCC) will see target population participants at quarterly appointments in the two newly-developed physical examination rooms at VAIC. Participants will be screened for medical issues related to metabolic syndrome using the criteria specified below. There are multiple definitions of metabolic syndrome. The one we will employ for this project is as follows. It is a slightly modified version of the American Heart Association's definition.⁴

The criteria to identify metabolic syndrome by the presence of three or more of these risk factors:

- (1) Waist circumference ≥ 102 cm (40 in.) in men or ≥ 88 cm (35 in.) in women; if Asian American, ≥ 90 cm (35 in.) in men or ≥ 80 cm (32 in.) in women; OR body mass index (BMI) ≥ 25
- (2) Blood pressure $\geq 130/85$ mm Hg (or receiving drug therapy for hypertension)
- (3) Triglycerides ≥ 150 mg/dL (or receiving drug therapy for hyperlipidemia)
- (4) HDL cholesterol < 40 mg/dL in men or < 50 mg/dL in women (or receiving drug therapy for hyperlipidemia)

⁴ "In 2001, the National Cholesterol Education Program (NCEP) Adult Treatment Panel III (ATP III) devised a definition for the metabolic syndrome ... which was updated by the American Heart Association and the National Heart Lung and Blood Institute in 2005" (Huang, 2009).

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- (5) Impaired glycemia: Hemoglobin A1c \geq 5.7 (or already diagnosed with diabetes or receiving drug therapy for hyperglycemia)

If the licensed medical provider determines medical issues related to or at-risk for metabolic syndrome, this information will be transmitted to their PCP and an appointment will be scheduled and will also be sent to their VAIC licensed psychiatric provider and treatment team via the electronic health record for purposes of collaborative care.

Just before their metabolic syndrome screening appointment with the VHCC licensed medical provider at VAIC, the participants will complete the Department of Health Care Services' "Staying Healthy Assessment" (Attachment 1). This tool includes seven questions about modifiable health behaviors which have been linked with metabolic syndrome medical conditions. The results of this tool will be discussed with the participant by a Nurse Health Educator from VHCC, who will also be at VAIC on a weekly basis. The Nurse Health Educator will help the participant determine what changes to make in their health behaviors, assist in developing a personalized plan to make the changes most effectively, provide information and referrals to services and supports (e.g., fitness center memberships and smoking cessation programs), and offer coaching and encouragement in order to help the participant succeed in making the needed changes.

The Nurse Health Educator will meet with the individual participants on a quarterly basis. She will check in with the participants on their progress toward their plan goals. If necessary, she and the participants will modify the plans. She will continue to provide information, coaching, encouragement, and referrals to available services and supports, as needed.

The Nurse Health Educator (Public Health Nurse) has education in nutrition generally and specifically with regard to diabetes as well as work experience in nutrition advising.

If the Nurse Health Educator believes that a participant may have an addiction to alcohol or other drugs, she will inform the individual's case manager at the mental health clinic. If warranted, the case manager will refer the individual to the Alcohol and Other Drugs Division, located on the second floor of the clinic. If the individual may be addicted to tobacco, there is an active local support group that can provide assistance. The participant's PCP can write a prescription for tobacco quit aids, which are covered by Medi-Cal.

In addition to the meetings with the Nurse Health Educator to improve their modifiable health behaviors related to metabolic syndrome, other VAIC staff members (including, but not limited to, psychiatrists, nurses, peer support specialists, case managers, and therapists) will check in with the participants on their progress toward their health goals, providing them with encouragement and facilitating the provision of additional information and supports.

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Information related to this program, such as screening results and personalized Health Behavior Improvement Plans, will be included in the mental health electronic records for each of the participants. The consumer's mental health treatment team will be asked to re-view this information before or during their contacts with the participants, to speak with the participants about their progress toward their health goals, and to offer support. (See Attachment 2, the Basic Work Process.)

Implementation of This Project Started with Other Funding Beginning in April 2018. Will Add New Interventions Starting in July 2019.

We developed this project with the intention of starting it with Innovation funds. However, given the importance we placed on serving our consumers with the services in this plan as soon as possible, we opted to start the project with Community Services and Supports funds. The first day of implementation was April 11, 2018. MHSOAC staff informed us on December 20, 2018, that we may still apply for Innovation funds for this project, but we would first have to modify it, "adding elements or expanding this project to meet the innovation guidelines as an innovation project."

In response, we developed three interventions to add to our innovative project. We will measure the extent to which the two major interventions, which will be voluntary for consumers participating in the project, each improve the outcomes for participants who take part in them (and comparing the outcomes to participants who do not take part in either of the new interventions).

To solicit feedback from mental health consumers we discussed possible interventions at the January 15, 2019, meeting of the Tulare County Mental Health Wellness and Recovery Committee. The committee meeting included one family member of a consumer health services and four consumers, two of whom are participating in this project. They responded positively and provided useful feedback regarding the proposed interventions.

The **new interventions** we will implement starting on July 1, 2019, are:

1. Each week participants in this project, on a voluntary basis, may choose to go on a group trip just for participants in this project, with transportation provided in one or more vans, to a gym operated by the local healthcare district for an hour-long visit of physical activity. Afterwards, the group will be provided with a healthy lunch.

2. Each week participants in this project, on a voluntary basis, will have a group session focused on health and wellness at the Visalia Wellness Center (a center for consumers of mental health services). The sessions will include hands-on classes on healthy, easy cooking as well as a support group in which participants can discuss with each other, should they so

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choose, their successes and challenges as they try to make positive changes to their modifiable health behaviors.

3. A new minor intervention we are adding is providing participants with healthy snacks, such as nuts and healthy granola bars, at the conclusion of their appointments with the medical provider and Public Health Nurse. We will do this to encourage the participants to eat healthy snacks, rather than unhealthy ones, in their daily lives and to provide the participants with a small incentive to show up to their appointments.

The new interventions, especially the first two, are intended to help the participants make changes to their modifiable health behaviors in two of the domains that relate to the elements of metabolic syndrome: (1) nutrition/diet and (2) exercise.

As part of this project, participants set personal goals, working with a Public Health Nurse, for the improvement of their modifiable health behaviors, in one or more of four possible domains: (1) nutrition/diet, (2) exercise, (3) alcohol use, or (4) tobacco use. Thus far, the domains participants have selected most frequently are nutrition/diet and exercise. This information from the participants guided the selection and development of the two new major interventions.

The weekly visits to the gym will be led by a Peer Support Specialist or Case Manager employed by the mental health clinic that the participants go to. Several staff members will always accompany the participants. Participants will engage in exercise of their choice. Apart from increasing their level of physical activity, we hope that the weekly group trips (as well as the cooking and support group described below) will develop group cohesion and a feeling of mutual support.

The weekly hands-on cooking classes and health and wellness support group will be led or co-led by peers. Each month an RN who works the mental health clinic the participants go to and who has training in diet and nutrition will co-lead the group along with a Wellness Center peer staff member. The RN will provide expert guidance to the group on other weeks, providing suggestions and feedback on the recipes the group will learn to cook together. In other weeks the group will be led by a peer Wellness Center staff member. For the sake of continuity, we aim to have the same staff member lead or co-lead the group each week. We have included funds in the budget for food for the group to cook together.

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b) Identify which of the three approaches specified in CCR, Title 9, Sect. 3910(a) the project will implement (introduces a practice or approach that is new to the overall mental health system; makes a change to an existing practice in the field of mental health; or applies to the mental health system a promising community-driven practice or an approach that has been successful in non-mental health contexts or settings).

We will “apply to the mental health system a promising community-driven practice or an approach that has been successful in non-mental health contexts or settings.”

c) Briefly explain how you have determined that your selected approach is appropriate. For example, if you intend to apply to mental health a practice from outside of mental health, briefly describe how the practice has been applied previously.

The approach of this pilot project includes common, time-tested standard practices in the medical and public health fields that we will implement in a mental health setting to promote the participants’ physical health and mental health. The novel approach to mental health involves collaborating with health care practitioners to address a known condition which afflicts individuals with serious mental illness, especially those administered antipsychotics, in the setting of a mental health clinic. While the approach of this project is novel, the elements of it are standard practice in medicine and public health.

A Medical Assistant, under the supervision of a physician, will take information (such as height and weight) and administer tests (such as for cholesterol levels) that are part of routine primary care provider appointments. If diagnosed with metabolic syndrome, the individual will receive a warm referral to his or her PCP for medical treatment, as determined by the PCP. These elements are standard medical practice.

Apart from the routine physical examination room visits, other elements of this project that involve participants are asking them to fill out the California Department of Health Care Services’ “Staying Healthy Assessment” and asking them to meet on a regular basis with a Public Health Nurse, who will help them set goals for the improvement of their health in the areas of nutrition, exercise, and alcohol and tobacco use; give them health-related information; and provide them with access to needed supports (such as a gym memberships). These elements also fall well within the realm of standard public health practice.

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4) Innovative Component

Describe the key elements or approach(es) that will be new, changed, or adapted in your project (potentially including project development, implementation or evaluation). What are you doing that distinguishes your project from similar projects that other counties and/or providers have already tested or implemented?

- a) If you are adapting an existing mental health model or approach, describe how your approach adds to or modifies specific aspects of that existing approach and why you believe these to be important aspects to examine.**
- b) If you are applying an approach or practice from outside of mental health or that is entirely new, what key aspects of that approach or practice do you regard as innovative in mental health, and why?**

How This Project Is Innovative

This pilot project is innovative because it includes, as an integrated component of mental health care, the comprehensive prevention, assessment, diagnosis, and treatment of a physical health condition, metabolic syndrome. This syndrome, and its components, are associated with serious and persistent mental illness, and can be caused by a common mental health treatment, antipsychotic medication. This project will promote the participants' physical health and mental health, and it will operate in a mental health clinic. (See page 5 for a description of how this project will enhance participants' mental health.)

This project addresses the problem more comprehensively than any other we have found in the mental health and medical literature. It enables metabolic syndrome and its components to be addressed holistically, including with pharmaceutical intervention, at the discretion of participants' primary care providers. We have not found another program that includes this element, and we are not aware of any program like this one in any other county.

This pilot project includes training of mental health clinic staff about metabolic syndrome and its connection to antipsychotic medications, and that some medications have a higher level of association with metabolic syndrome than others. One of the program objectives is that psychiatric providers will take metabolic syndrome into account more often in their treatment choices.

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5) Learning Goals / Project Aims

The broad objective of the Innovative Component of the MHSA is to incentivize learning that contributes to the spread of effective practices in the mental health system. Describe your learning goals/specific aims and how you hope to contribute to the spread of effective practices.

a) What is it that you want to learn or better understand over the course of the INN Project, and why have you prioritized these goals?

There is no maximum number of learning goals required, but we suggest at least two. Goals might revolve around understanding processes, testing hypotheses, or achieving specific outcomes.

The following are our **learning goals**:

- (1) Can this project increase the number of individuals taking antipsychotics who are diagnosed and treated for metabolic syndrome?
- (2) Can this project improve participants' indicators of the components of metabolic syndrome?
- (3) Can this project improve participants' modifiable health behaviors related to metabolic syndrome?
- (4) Can this project increase the degree to which mental health clinic staff take metabolic syndrome and related modifiable health behaviors into account within mental health treatment?
- (5) Can strong interagency collaboration take place over the course of this project?

This fifth learning goal addresses the "primary purpose" of our project that we selected: "Promote interagency collaboration related to mental health services, supports, or outcomes."

- (6) Will the two major new interventions to start in July 2019 – (a) weekly group visits to a gym with a healthy lunch afterwards and (b) a weekly hands-on cooking class and health and wellness support group – improve participant outcomes?

We have prioritized these learning goals because they will help us answer the question of whether we can institute a pilot project that, through intensive interagency collaboration, will effectively address the serious condition of metabolic syndrome that is highly prevalent among mental health consumers who take antipsychotic medications by: (1) screening for the components of metabolic syndrome and diagnosing and treating it, if warranted; (2) improving the participants' indicators of the components of metabolic syndrome; (3) improving their modifiable health behaviors related to metabolic syndrome; and (4) increasing the degree to which

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mental health staff take metabolic syndrome and related health behaviors into account within mental health treatment. All of the learning goals relate directly to the objectives and elements of this pilot project.

b) How do your learning goals relate to the key elements/approaches that are new, changed or adapted in your project?

All of our learning goals relate to the key elements that are new or adapted. Our table of outcome indicators (Table 2, starting on page 25) lists next to each indicator the applicable learning goal. What makes our project innovative is not the individual elements of the project themselves, but the combination of elements that are provided to consumers in a mental health clinic, to prevent or address existing metabolic syndrome in consumers who take injectable antipsychotic medication, with the purpose of improving their physical and mental health.

6) Evaluation or Learning Plan

For each of your learning goals or specific aims, describe the approach you will take to determine whether the goal or objective was met. What observable consequences do you expect to follow from your project's implementation? How do they relate to the project's objectives? What else could cause these observables to change, and how will you distinguish between the impact of your project and these potential alternative explanations?

The greater the number of specific learning goals you seek to assess, generally, the larger the number of measurements (e.g., your "sample size") required to be able to distinguish between alternative explanations for the pattern of outcomes you obtain.

In formulating your data collection and analysis plan, we suggest that you consider the following categories, where applicable:

a) Who are the target participants and/or data sources (e.g., who you plan to survey to or interview, from whom are you collecting data); How will they be recruited or acquired?

Potential participants will be consumers at VAIC who receive injectable antipsychotic medication. There are currently approximately 120. They will be asked if they would like to participate in this project after being informed of its purpose and what it will require on their part. They will also be informed that they are under no obligation to participate and that, if they choose not to participate, this decision will not affect their treatment at the clinic in any way.

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Those who choose to participate in this project will complete consent and release of information forms.⁵

We will collect data from the following sources:

- (1) Participants' mental health and physical health records, mainly from electronic health records systems. If the participants' PCPs are not employed by Tulare County government health clinics, the medical providers will be contacted to obtain specific information related to metabolic syndrome. Consumers who agree to participate in this project will sign a release of information form.
- (2) Participants' metabolic syndrome-related vital statistics and test results and The State of California's Department of Health Care Services' "Staying Healthy Assessment" (Attachment 1)
- (3) Participants' Health Behavior Improvement Plans related to metabolic syndrome as developed collaboratively by the Nurse Health Educator and the participant, as well as the participants' self-reported progress in reaching their modifiable health behavior goals (Attachment 3).
- (4) Providers and staff at VAIC will fill out brief surveys on a regular basis to measure changes in knowledge, attitudes, and beliefs related to metabolic syndrome and the incorporation of mental health consumers' physical health within their mental health treatment
- (5) Participants' attendance at their appointments with the licensed medical provider and Public Health and their attendance at the new voluntary interventions: (a) weekly trips to the gym with a healthy lunch afterwards and (b) weekly hands-on cooking classes and health and wellness support group

⁵One of the public comments we received suggested utilizing as a control group the consumers taking injectable antipsychotics who opt not to participate in this project. While appealing at first glance, this approach is not very sound theoretically. The reason is that there may be one or more significant characteristics of the consumers who choose not to participate that differ from those who choose to participate. Even if we should find both groups to have similar demographic characteristics, the fact of the difference in choice between the groups may indicate one or more important differences between the groups themselves that may affect their outcomes. In addition, we would need the non-participants to consent to data collection. Nonetheless, if it is practicable to do so, it may be informative and helpful to analyze available data on non-participants for comparison to participants as an informal comparison group.

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b) What is the data to be collected? Describe specific measures, performance indicators, or type of qualitative data. This can include information or measures related to project implementation, process, outcomes, broader impact, and/or effective dissemination. Please provide examples.

Design

The evaluation will mainly employ a pre-post design, comparing indicators from each assessment to assess influence on medical and behavioral factors related to metabolic syndrome.

One element of the evaluation will employ a case-control design. All Tulare County employed and contracted psychiatric providers who provide adult mental health care (including, but not limited to, those at VAIC) will be asked to fill out surveys related to metabolic syndrome (Attachments 4 and 5). Psychiatric providers working at VAIC will receive education and training related to metabolic syndrome, and they will be able to view metabolic syndrome-related information in the Avatar electronic health record system about project participants, while non-VAIC licensed psychiatric providers will not be provided this training due to being outside the design setting for this pilot project. The VAIC Psychiatric providers will serve as our case group, and the non-VAIC Psychiatric providers will be our control group for this element of the evaluation.

Indicators

The evaluation will include both outcome and process indicators. The outcome indicators (Table 2) enable us to gauge the extent to which the project is meeting its goal and objectives.

Table 2

Measurable	Outcome Indicators	Target	When to Collect	Source
1. Screen participants for metabolic syndrome (Learning Goal 1)	Percentage of participants screened for metabolic syndrome quarterly	Providing metabolic syndrome screening to 90% of participants each quarter	At enrollment and quarterly thereafter, unless otherwise clinically indicated	Program records
2. Identification of metabolic syndrome and its components among participants (Learning Goal 1)	Number of participants meeting the criteria for or having components of metabolic syndrome, according to the licensed medical provider at VAIC	Undetermined; however, a local study found 34.5% of individuals within their design setting of patients at the local psychiatric hospital met the criteria for metabolic syndrome	At enrollment and quarterly thereafter, unless otherwise clinically indicated	Diagnosis records of the project licensed medical provider and participants' vital statistics and

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Measurable	Outcome Indicators	Target	When to Collect	Source
3. Provision of treatment for metabolic syndrome or component thereof (Learning Goal 2)	Number of participants being treated for metabolic syndrome or one or more components thereof	90% of the participants diagnosed with metabolic syndrome and who have not been receiving treatments for it will receive treatment for metabolic syndrome from their PCP during the project	Monthly in County health center electronic medical record (GE) / telephone calls to offices of PCPs who do not work at County health clinics	blood test results GE (Physical health electronic record system), PCPs
4. Improved medical status among participants (Learning Goal 2)	Waist circumference, body mass index, blood pressure, hemoglobin A1c, total cholesterol, LDL cholesterol, HDL cholesterol, and triglyceride levels	10% overall improvement in each indicator requiring health improvement	Quarterly monitoring for total improvement at conclusion of pilot	Participants' vital statistics and blood test results
5. Improved health behaviors among participants (Learning Goal 3)	7 yes/no responses on the Staying Healthy Assessment: 4 about diet, 1 about exercise, 1 about alcohol use, and 1 about tobacco use	Among participants who indicated having one or more unhealthy metabolic syndrome-related behaviors, an average change from "unhealthy" to "healthy" responses in at least 33% of the indicators	Quarterly monitoring for total improvement at conclusion of pilot	Staying Healthy Assessment
6. Increase consideration of metabolic syndrome and the components thereof among VAIC psychiatric providers (psychiatrists, physician assistants, nurse practitioners, and nurses) (Learning Goal 4)	Number of times VAIC psychiatric providers mention metabolic syndrome or components thereof – screening, diagnosis, or treatment – in their progress notes on participants, comparing the 6 months before the start of the project to the 6 months before the end	200% increase during the project, compared to the 6 months before the start of the project	At the end of the project review electronic health records on participants from two timespans: the 6 months before the start of the project and the 6 months before the end of the project.	Avatar mental health electronic health record system (Avatar)
7. Increase in VAIC psychiatric providers' self-reported	Pre/post survey indicators addressing measurables (Attachment 5)	10% increase in positive mean responses	Prior to start of project and end of project	Pre/post survey

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Measurable	Outcome Indicators	Target	When to Collect	Source
confidence in diagnosing metabolic syndrome, frequency of screening, and consideration of metabolic syndrome in choosing a medication to prescribe (Learning Goal 4)				
8. Increase in awareness among VAIC psychiatric providers and staff regarding metabolic syndrome as a risk factor for cardiovascular disease (Learning Goal 4)	Pre/post survey indicators addressing measurable (Attachments 4 and 5)	20% increase in awareness	Prior to start of project and end of project	Pre/post survey
9. Increase in inter-agency collaboration (Learning Goal 5)	Qualitative collection of instances of interagency collaboration that occur over the course of this project	Increase in interagency collaboration	Over the whole course of this project, including planning, implementation, final outcome evaluation, and dissemination of findings	Qualitative data collection by Evaluator

Additional data will be collected for use in the outcome analysis (Table 3). These include the participants' demographic characteristics and medications taken over the course of the project, both psychiatric and medical.

Table 3

Additional Data for Outcome Analysis	When to Collect	Source
Age	Start of project	GE
Sex	Start of project	GE
Race/ethnicity	Start of project	GE
Primary language	Start of project	GE
ZIP code	Start + end of project	GE
Medications to treat components of metabolic syndrome and dosages taken by each participant during the project	At each appointment (every 3 months)	GE

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Additional Data for Outcome Analysis	When to Collect	Source
Psychiatric medications and dosages taken by each participant during the project	At each appointment (every 3 months)	Avatar

The process indicators in Table 4 will enable us to track to what degree the program is operating as it should, in order for it to be able to produce the desired outcomes.

Table 4

Process Indicators	Target	When to Collect	Source
Number of participants seen each week by the Visalia Health Care Clinic (VHCC) licensed medical provider at VAIC	TBD, based on the number of participants	Weekly	Medical Assistant
Percentage of total participants seen each week by the VHCC licensed medical provider at VAIC	8.3% (=1/12)	Weekly	[Calculated]
Number of participants seen each week by the Nurse Health Educator	TBD, based on the number of participants	Weekly	Nurse Health Educator
Percentage of total participants seen each week by the Nurse Health Educator	8.3% (=1/12)	Weekly	[Calculated]
Number of Health Behavior Improvement Plans written by the Nurse Health Educator in collaboration with the participants	[None]	Weekly	Nurse Health Educator
No-show rate for appointments with the VHCC licensed medical provider at VAIC	10% or less	Weekly	Medical Assistant
No-show rate for appointments with the Nurse Health Educator	10% or less	Weekly	Health Educator
Number of new metabolic syndrome diagnoses made by the VHCC licensed medical provider at VAIC	[None]	Weekly	Medical Assistant
Percentage of participants who see their PCP within 3 months of receiving a metabolic syndrome diagnosis from the VHCC licensed medical provider at VAIC	75%	Quarterly	GE or Primary Care Providers
Of the participants who received a diagnosis of metabolic syndrome and subsequently saw their Primary Care Provider about it, the percentage receiving treatment for metabolic syndrome (i.e., medication and/or therapeutic life changes information and assistance from their PCP)	95%	Quarterly	GE or Primary Care Providers
Participant attendance at the new voluntary interventions: (a) weekly trips to the gym with a healthy lunch afterwards and (b)	[None]	Weekly	Attendance logs

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Process Indicators	Target	When to Collect	Source
weekly hands-on cooking classes and health and wellness support group			

- c) What is the method for collecting data (e.g. interviews with clinicians, focus groups with family members, ethnographic observation by two evaluators, surveys completed by clients, analysis of encounter or assessment data)?**
- d) How is the method administered (e.g., during an encounter, for an intervention group and a comparison group, for the same individuals pre and post intervention)?**

[The responses to c) and d) are combined.]

As shown above in Tables 2-4, the methods for collecting data include:

- (1) Reviewing participants' consumer mental and physical health records. The mental health records are in the Avatar electronic health records system. For participants who have a PCP at a county health clinic, their physical health records are in the GE electronic health records system. All consumers who agree to participate in this project must sign a release of information form.
- (2) For those participants with PCPs not employed by the County of Tulare, requesting information related to metabolic syndrome from these licensed medical providers.
- (3) During their quarterly appointments with the project's licensed medical provider at VAIC, the Medical Assistant will record the participants' blood pressure, waist circumference, height, and weight. (Body mass index is calculated from height and weight.) Two small samples of blood will be taken via finger skin punctures to run blood tests to collect the following information: hemoglobin A1c, total cholesterol, LDL cholesterol, HDL cholesterol, and triglyceride levels.
- (4) Immediately before or after their quarterly appointments with the project's medical provider, the participants will fill out the California Department of Health Care Services' "Staying Healthy Assessment."
- (5) On the same day, the Nurse Health Educator will meet with the participants to develop Health Behavior Improvement Plans (in the areas of exercise, nutrition, and alcohol and tobacco use). At subsequent appointments with the Nurse Health Educator, the participants will report on their progress toward meeting their goals. The plans can be modified, as needed.

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- (6) Psychiatric providers and other staff members at VAIC will fill out surveys on a regular basis, as will other psychiatrists who work in Tulare County.
- (7) Evaluator will collect qualitative data on instances of interagency collaboration over the course of the project.

e) What is the *preliminary* plan for how the data will be entered and analyzed?

Participants' health information related to this project will be input into the GE electronic health records system (for physical health) by the Medical Assistant. The Nurse Health Educator will scan into GE the Health Behavior Improvement Plans and participants' self-reported progress on their plans as well as the completed and signed consent and release of information forms.

Clerical staff will scan program data weekly into the Avatar electronic health records system (for mental health), and it will reside in participants' mental health records. Clinic staff who work with the participants will be encouraged to check the information from this project regularly and to use the information when they meet with the participants.

Information on participants' psychiatric medication will continue to be input into the Avatar electronic health records system. Licensed psychiatric providers and other staff members at VAIC will fill out surveys online on a regular basis (Attachments 4 and 5).

To the extent possible, we will combine the data on our evaluation indicators into a single database, to facilitate data retrieval and analysis as part of the process and outcome evaluation. Clerical staff will enter the data. In full compliance with confidentiality laws and regulations and HIPAA, the data will be provided to our External Evaluator for analysis. Provider and staff survey data will be stored separately. The data will be analyzed to determine whether targets were met and to provide insights on any areas of needed improvement.

Statistical significance testing will be performed using methods most appropriate to the specific data. At a minimum, paired-sample t-tests will be performed. Sample size may limit the types of statistical analyses that can be undertaken, but we will have a sufficient sample size for significance testing, even if fewer than half of the 120 consumers currently taking injectable antipsychotics at VAIC consent to participate in this pilot project. If the sample size is sufficient, additional analysis will be performed to determine the specific effects of the additional variables listed in Table 3.

We will analyze the degree to which participant attendance at the two new major voluntary interventions starting in July 2019 – (a) weekly trips to the gym with a healthy lunch afterwards and (b) weekly hands-on cooking classes and health and wellness support group – is associated with stronger outcomes for the project participants who took part in them. We

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will compare the outcomes of the participants who took part in neither of the new interventions to those who participated in only the first intervention, only in the second, or both interventions. In our analysis we will include the number of times participants took part in each of the new interventions.

7) Contracting

If you expect to contract out the INN project and/or project evaluation, what project resources will be applied to managing the County's relationship to the contractor(s)? How will the County ensure quality as well as regulatory compliance in these contracted relationships?

Although the implementation of the project will not be contracted out, as it is being piloted within the County-run Visalia Adult Integrated Clinic, we will **contract out the evaluation** to an evaluation firm under a professional service agreement. We have been working with an evaluation contractor successfully for years on many projects, and the quality of the work has been very high. Oversight is performed at monthly meetings, as well as during other routine contacts, to ensure that expectations are met, and that regulatory compliance is maintained. The amount of administrative time needed for oversight has been minimal. Evaluator staff has attended all relevant planning meetings for this project and collaborated in the development of the evaluation plan. Evaluator staff will attend all project team meetings. We plan to allocate 3.6% of the budget for the External Evaluator.

II. Additional Information for Regulatory Requirements

Documentation that the source of INN funds is 5% of the County's MHSA allocation.

1) Certifications

Innovative Project proposals submitted for approval by the MHSOAC must include documented evidence of County Board of Supervisors review and approval as well as certain certifications. Additionally, we ask that you explain how you have obtained or waived the necessity for human subjects review, such as by your County Institutional Review Board.

- a) Adoption by County Board of Supervisors. Please present evidence to demonstrate that your County Board of Supervisors has approved the proposed project. Evidence may include explicit approval as a stand-alone proposal or as part of a Three-Year Plan or Annual Update; or inclusion of funding authority in your departmental budget. If your project has not been reviewed in one of these ways by your Board of Supervisors, please explain how and when you expect to obtain approval prior to

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your intended start date.

- b) Certification by the County mental health director that the County has complied with all pertinent regulations, laws, and statutes of the Mental Health Services Act (MHSA). Welfare and Institutions Code (WIC) 5847(b)(8) specifies that each Three-Year Plan and Annual Update must include “Certification by the county behavioral health director, which ensures that the county has complied with all pertinent regulations, laws, and statutes of the Mental Health Services Act, including stakeholder participation and nonsupplantation requirements.”

Certification by the County mental health director and by the County auditor-controller if necessary that the County has complied with any fiscal accountability requirements, and that all expenditures are consistent with the requirements of the MHSA. WIC 5847(b)(9) specifies that each Three-Year Plan and Annual Update must include “Certification by the county behavioral health director and by the county auditor-controller that the county has complied with any fiscal accountability requirements as directed by the State Department of Health Care Services, and that all expenditures are consistent with the requirements of the Mental Health Services Act.”

Of particular concern to the Commission is evidence that the County has satisfied any fiscal accountability reporting requirements to DHCS and the MHSOAC, such as submission of required Annual Revenue and Expenditure Reports or an explanation as to when any outstanding ARERs will be completed and filed.

- a) This project was adopted as a stand-alone proposal by the Tulare County Board of Supervisors on May 22, 2018. See Attachment 7.
- b) See Attachment 8.
- c) See Attachment 9.

Human Subjects Review

We do not believe that this project rises to the level of requiring an Institutional Review Board (IRB). The purpose of an IRB is to ensure the protection of human subjects in research studies. This project does not require approval through an IRB, as it is not a research study. Instead, it is a pilot project of a novel approach to mental health that involves collaborating with health care practitioners to address a known condition which afflicts individuals with serious mental illness, especially those administered antipsychotics, in the setting of a mental health clinic. While the approach of this project is novel, the elements of it are standard practice in medicine and public health.

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A Medical Assistant, under the supervision of a physician, will only take information (such as height and weight) and administer tests (such as for cholesterol levels) that are part of routine primary care provider appointments. We will track that information over time and only report it as aggregated data. These facts lead us to conclude that there is no anticipated harm to the mental health consumers from participating in this project, and that this project is not a research study, but rather an implementation of standard medical and public health practices, recording the resulting information for evaluation.

Apart from the routine physical examination room visits, other elements of this project that involve participants are asking them to fill out the California Department of Health Care Services' "Staying Healthy Assessment" and asking them to meet on a regular basis with a Public Health Nurse, who will help them set goals for the improvement of their health in the areas of nutrition, exercise, and alcohol and tobacco use; give them health-related information; and provide them with access to needed supports (such as a gym memberships). These elements also fall well within the realm of standard practice. In addition, the participants are informed that they are completely free to choose to participate in the project or not, with no negative consequences whatsoever for declining to participate.

2) Community Program Planning

Please describe the County's Community Program Planning process for the Innovative Project, encompassing inclusion of stakeholders, representatives of unserved or underserved populations, and individuals who reflect the cultural, ethnic and racial diversity of the County's community.

Five Innovation Community Program Planning (CPP) Meetings were held between January and October 2016. Sixteen community members, representing the diverse ethnic and cultural populations of Tulare County, participated in the stakeholder meetings. The stakeholders included consumers, family members, staff, specialty groups, and general community members. The goal of the initial meetings was to discuss strengths and deficiencies of current programs; key community needs; and gaps in services, allowing the group to determine the desired outcomes of a future Innovation project.

Subsequent meetings consisted of an Innovations 101 training to educate the stakeholders of the purpose, process, and requirements of Innovation within MHSA, brainstorming, and decision making. All feedback from these meetings was compiled and served as the foundation for the creation of this Innovation project. Findings from community member surveys and focus groups as part of the 2017 general CPP process provided support for the selection of this project. (See Section II.6.a below for details.)

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3) Primary Purpose

Select **one** of the following as the primary purpose of your project. (I.e. the overarching purpose that most closely aligns with the need or challenge described in Item 1 (The Service Need).

- a) Increase access to mental health services to underserved groups
- b) Increase the quality of mental health services, including measurable outcomes
- c) Promote interagency collaboration related to mental health services, supports, or outcomes
- d) Increase access to mental health services

The primary purpose we have selected is: “Promote interagency collaboration related to mental health services, supports, or outcomes.”

This pilot project is a collaboration between the Tulare County Mental Health Department and the Tulare County Public Health Department, and it is part of a drive in the County of Tulare toward the integration of mental health and physical health services at County clinics.

The planning process for this pilot project has been fully collaborative between the two departments, and the implementation will also be fully collaborative. Most of the project’s operational staff – a physician, a Medical Assistant, and a Public Health Nurse – will be employees of the Public Health Department. They will work out of two examination rooms and a neighboring office in the mental health clinic. Some of the participants will be served by PCP at Public Health Department clinics. In addition, there will be limited sharing of information on the participants between the staff of both departments, with the participants’ written consent. The project management team will include staff of both departments and it will meet together on a regular basis. As part of the evaluation, we will track all instances of interagency collaboration.

4) MHSA Innovative Project Category

Which MHSA Innovation definition best applies to your new INN Project (select one):

- a) Introduces a new mental health practice or approach.
- b) Makes a change to an existing mental health practice that has not yet been demonstrated to be effective, including, but not limited to, adaptation for a new setting, population or community.

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- c) Introduces a new application to the mental health system of a promising community-driven practice or an approach that has been successful in a non-mental health context or setting.

The **MHSA Innovative Project Category** of this project is: **“Introduces a new application to the mental health system of a promising community-driven practice or an approach that has been successful in a non-mental health context or setting.”**

The approach of this pilot project includes common, time-tested standard practices in the medical and public health fields that we will implement in a mental health setting to promote the mental health consumers’ physical health and mental health. The novel approach to mental health involves collaborating with health care practitioners to address a known condition which afflicts individuals with serious mental illness, especially those administered antipsychotics, in the setting of a mental health clinic. While the approach of this project is novel, the elements of it are standard practice in medicine and public health.

A Medical Assistant, under the supervision of a physician, will take information (such as height and weight) and administer tests (such as for cholesterol levels) that are part of routine PCP appointments. If diagnosed with metabolic syndrome, the individual will receive a warm referral to his or her PCP for medical treatment, as determined by the PCP. These elements fall within standard medical practice.

Apart from the routine physical examination room visits, other elements of this project that involve participants are asking them to fill out the California Department of Health Care Services’ “Staying Healthy Assessment” and asking them to meet on a regular basis with a Public Health Nurse, who will help them set goals for the improvement of their health in the areas of nutrition, exercise, and alcohol and tobacco use; give them health-related information; and provide them with access to needed supports (such as a gym memberships). These elements fall well within the realm of standard public health practice. The participants and family members will have impactful roles in the project, as described on page 40.

5) Population (if applicable)

- a) **If your project includes direct services to mental health consumers, family members, or individuals at risk of serious mental illness/serious emotional disturbance, please estimate number of individuals expected to be served annually. How are you estimating this number?**

There are approximately 120 consumers at VAIC who are taking injectable antipsychotic medication. We estimate that 50-75% will choose to participate in the project, for a total of

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60-90 participants at the start. Some participants will leave the program over time, as they no longer use clinic services or choose to opt out, while others, such as consumers who are new to the clinic, will join the project over time. We aim always to maintain the number of participants at 50 or higher.

b) Describe the population to be served, including relevant demographic information such as age, gender identity, race, ethnicity, sexual orientation, and/or language used to communicate. In some circumstances, demographic information for individuals served is a reporting requirement for the Annual Innovative Project Report and Final Innovative Project Report.

We do not yet know which potential participants will consent to participate in this project, so we cannot give precise demographic statistics on the participants. We anticipate the population to be served by this project to be similar to the population of individuals receiving injectable antipsychotic medications at the VAIC. We do not anticipate that any demographic characteristic will be correlated with the individuals' likelihood to consent to participate.

Of the consumers currently receiving injectable antipsychotic medications, 67% are male and 33% are female.

The age range of these consumers is 20-75. Their mean age is 42.9 and their median age is 42.0.

The races/ethnicities of this set of consumers include Hispanic (50.0%), non-Hispanic white (30.6%), African-American (5.1%), Filipino (5.1%), Laotian (3.1%), Native American (3.1%), Asian Indian (1.0%), Hmong (1.0%), and "other race" (1.0%).

Their primary languages include English (80.6%), Spanish (14.4%), Hmong (2.0%), American Sign Language (1.0%), Arabic (1.0%), and Mien (1.0%).

We do not yet collect data on consumers' sexual orientation or gender identity. If this is approved as an Innovation program, this data will begin to be collected per regulations.

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c) Does the project plan to serve a focal population, e.g., providing specialized services for a target group, or having eligibility criteria that must be met? If so, please explain.

This project will serve consumers of mental health services at the Visalia Adult Integrated Clinic who take injectable antipsychotic medications. They currently number approximately 120.

6) MHSA General Standards

Using specific examples, briefly describe how your INN Project reflects and is consistent with all potentially applicable MHSA General Standards set forth in Title 9 California Code of Regulations, Section 3320. (Please refer to the MHSOAC Innovation Review Tool for definitions of and references for each of the General Standards.) If one or more general standard could not apply to your INN Project, please explain why.

a) Community Collaboration

The project is supported by the results of the 2017 Community Program Planning process, which included stakeholder meetings, surveys of community members in English and Spanish (with nearly 900 completed), and 28 focus groups in English, Spanish, and Lahu. Great care was taken to include in the process stakeholders from as diverse a variety of community members as possible, including, among others: mental health consumers; Asian-Americans; Native Americans; bilingual and monolingual Spanish speakers; lesbian, gay, bisexual, and transgender (LGBT) residents; homeless people; people in recovery and rehabilitation; older adults; care providers of seniors; veterans; former transitional-age youth; and foster youth.

The survey we asked community members to fill out posed the question, "In your perspective, in Tulare County, what are the main issues resulting from untreated mental illness? (Check the three that you think are most important.)"

The option "untreated medical conditions" received 28.9% of the responses overall. It was the sixth-highest response on the English-language survey and the fourth-highest on the Spanish-language survey. This indicates a rather high level of awareness among residents of our county, especially Spanish-speaking residents, that mental illness can have a

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significant impact on one’s physical health. Metabolic syndrome comes to mind when considering this result, as certain mental illnesses and the treatment thereof with antipsychotic medications are associated with the development of metabolic syndrome.

The reader may wonder why we chose to pursue a project in an area with the sixth-highest ranked response on our English-language Community Program Planning survey and fourth-highest on our Spanish-language survey. The answer is that we have started to address the higher-ranking issues with other projects and initiatives. We nonetheless recognize that, although “untreated medical conditions” ranked lower than other issues, it is still important to Tulare County residents, and we should address it, if possible. MHSA Innovation funds can help make it possible.

Focus group participants were all asked the question, “How do you define health?” The participants often included in their collective responses an awareness that mental health and physical health go hand in hand. For example, in the focus group of homeless people with severe mental illness, “Participants defined health as mental, physical, emotional, and over all well-being.” Family members of children and youth considered health to be, “the overall mental, physical, and emotional state of being.” In the group of older adults, “Many nodded in agreement as one participant explained health as being physically, mentally, emotionally, nutritionally, and spiritually well.” The group of Spanish-speaking caregivers of youth responded that, “having wellness meant being healthy in all aspects of life.”

These responses and others recognize the fundamental connection between mental and physical health, that they are parts of a whole that includes general health and well-being. This realization that is part of these and other community member focus group responses underlies the metabolic syndrome project presented in this plan. This project will address the physical impacts of mental illness and medication used to treat it and, when the negative physical impacts are addressed, participants’ mental health can also be expected to improve.

b) Cultural Competency

The Tulare County Health & Human Services Agency places a high value and strong emphasis on cultural competency, which can be defined as the ability to work effectively across cultures. The Agency’s mission statement reads: “The Tulare County Health & Human Services Agency is dedicated to protecting and strengthening the well-being of the community through development of effective policies, practices, and services delivered in a culturally and linguistically competent manner.”

This is reflected in the Agency’s policy on cultural and linguistic competency: “The policy of the Tulare County Health and Human Services Agency is to ensure cultural and linguistic competency is an integral part of our day-to-day management public initiatives. The Agency

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is dedicated to providing services, programs, and policies appropriate and accessible to our customers, who encompass a broad range of human differences. The Agency, its workforce, and its customers will be enriched by the Agency's inclusion of persons from all backgrounds, value systems, and perceptions of the world. Culture includes a broad range of human differences such as age, ethnicity, sex, mental and physical abilities and characteristics, race, sexual orientation, communication styles, education, gender identity, family status, military service, organizational roles, levels of responsibility, religion, languages, geographic locations, income, work experience, and work styles. All play a critical role in shaping value systems, expectations, and experiences. By ensuring cultural and linguistic competency, the Tulare County Health and Human Services Agency acknowledges, appreciates, and respects the differences we recognize in one another. This includes the varied perspectives, approaches, and competencies of those with whom we work and of the populations we serve."

Tulare County Mental Health has taken numerous actions to foster cultural and linguistic competence. For example, at the Visalia Adult Integrated Clinic, where this project will be implemented, Spanish-language interpreters are readily available on site. In fact, over 50% of clinic staff speak Spanish. Interpretation in other languages is provided by Language Line Services, Inc., which provides face-to-face audio and video language interpretation via iPad tablets in over 120 languages, including American Sign Language.

Many other actions are described in the annual "Tulare County Mental Health Cultural Competency Plan." These include:

- Numerous trainings on cultural competency, with an emphasis on equity and inclusion,
- Community outreach and engagement with traditionally unserved and/or underserved populations,
- Education and training sponsorship to former and current consumer/family members, caregivers, cultural brokers, mental health providers, interested community members, educators, staff and leaders in the mental health profession, and
- A Cultural Competency Committee with membership open to all interested staff and community members.

Our project will adhere to the high standards of cultural and linguistic competence of the Tulare County Health & Human Services Agency and its Mental Health Department. The project will be located in a Tulare County Mental Health clinic and staffed by Tulare County Health & Human Services Agency staff.

In addition, the project's implementation and evaluation methodology and design will be discussed as it is being more fully developed with our Mental Health Cultural Competency Committee (MHCCC), which meets on a monthly basis. Once the project is approved, this will be an agenda item.

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c) Client- and Family-Driven

This project is strongly client-driven, and family members will have a significant role. Firstly, participation is completely voluntary. Consumers taking injectable antipsychotics must actively choose to participate in the project. They are informed that, while we expect that the project will benefit them, they are under no obligation to participate and that there will be no negative repercussions if they choose not to do so. They may also decline to participate in the project, or any of its elements, at any time.

Secondly, if the project's medical provider diagnoses the consumer with metabolic syndrome or components thereof (e.g., high blood pressure), he will recommend to the participants that they see their PCP for treatment and encourage them to do so. But it is ultimately participating consumers' decision whether or not to see their PCP and, if a treatment regimen is determined, whether or not to follow it (e.g., get a prescription for blood pressure medication and take the medication). Their choice is essential to their treatment.

A key element of the project involves the improvement of participating consumers' modifiable health behaviors. The Health Behavior Improvement Plans will be developed by both the consumer and the Nurse Health Educator, in true collaboration. The consumer will decide just what the plans will include (e.g., how much exercise or what kind of tobacco-use cessation efforts, if any, will be included). And, of course, the consumer will have the sole responsibility for implementing his or her plan. At each quarterly appointment with the Nurse Health Educator, the nurse and the consumer will revisit the plan together. The consumer will report on his or her progress in each of the plan areas over the past three months, and the plan can be revised in collaboration between the consumer and the Nurse Health Educator. The consumer is genuinely the prime mover of this major element of the project.

Participants' family members and friends will be encouraged to help participants, if they are invited to do so by the participants themselves. Family members' active participation could prove to be invaluable, especially in encouraging participants to visit their PCP for treatment for metabolic syndrome or its components, if needed, and in supporting them as they make changes in their health behaviors.

When the Nurse Health Educator completes a Health Behavior Improvement Plan with a participant, if the participant states that he or she has a family member or friend that the participant would like to support him or her in this way, the nurse will give the participant a second copy of the plan. If the participant so chooses, he or she may share the second copy with a family member or friend whom the participant believes will support him or her as the participant makes the often challenging health behavior changes.

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d) Wellness-, Recovery-, and Resilience-Focused

Tulare County Mental Health has fully embraced the Wellness and Recovery Model. It is imbued into all of the services and supports we provide. We have a multitude of activities and practices that expand and enhance the mental health system of care in efforts to fully adopt and promote the Wellness and Recovery Model. Activities and services consist of such areas as, but are not limited to, trainings for the community and staff, wellness centers for individuals with mental illness and family members, activities for strengthening consumer engagement and increasing support networks, and peer-delivered services.

Peer-delivered services facilitate a path for individuals with lived experience to mentor and support consumers and family members within the mental health system and in the community. Services include, but are not limited to, peer engagement and crisis services, peer-run groups and activities, a newsletter, and orientation and transition services.

The mental health treatment we provide is centered around meeting the consumer where they are in their wellness and recovery journey. As such, we have mental health treatment teams based on the engagement and treatment needs of each consumer. These teams include the Outreach & Engagement (O&E) Team, which works primarily in the community, assisting consumers who are at-risk of “falling through the cracks” to more successfully link them with treatment, such as consumers discharging from the psychiatric hospital; the Assertive Community Treatment (ACT) Team, which provides nearly daily services to those within the mental health system of care experiencing the most engagement barriers; the Full Service Partnership (FSP) Team, which offers a lower level of care than the ACT team that still provides frequent services to consumers experiencing engagement barriers, but not as significant as those of the ACT Team; and the Recovery-Oriented Services (ROS) Team, which is the lowest level of care within the system of care, providing services to individuals who are engaged in services and working towards their consumer wellness plan that is developed collaboratively by the consumer, family member when available, and mental health treatment team.

During transition from mental health treatment and after discharge, Tulare County Mental Health realizes that supports are still desired for individuals to best maintain and enhance wellness and recovery. As such, a large-scale Wellness Center has been established in the southern region of our County and one for the northern region has been purchased and is currently undergoing renovation. In addition to the Wellness Center, Tulare County has the 24/7 peer-operated Warm Line for individuals to connect with peers when they need someone to listen. And we offer a program called the My Voice Media Center, which enables consumers and their family members to learn computer and creative skills to express themselves and their wellness and recovery journeys through the arts:

<https://www.facebook.com/myvoicemediacenter/>

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<https://www.myvoicemediacenter.com/single-post/2017/05/26/PBS-picks-up-MVMC-VIDEO>

We also operate four facilities that provide supportive housing with integrated mental health and peer-facilitated services that promote independent living, self-sufficiency, and recovery, resiliency, and wellness. Three are transitional programs and one is permanent housing.

Tulare County Mental Health also offers a Consumer Supported Employment and Volunteer Program, which provides employment preparation and volunteer opportunities for consumers and, to some extent, family members. The focus is on developing essential skill sets and supports to promote success in employment and volunteerism.

The paragraphs above demonstrate how Tulare County Mental Health has fully integrated a focus on consumer wellness, recovery, and resilience into all we do. This focus will likewise be applied to the Addressing Metabolic Syndrome Pilot Project. The project itself is an effort to help our consumers who take antipsychotic medications to achieve a higher level of wellness and recovery than they otherwise would. (Research we refer to above indicates a causal connection between physical health, related to components of metabolic syndrome, and mental health.)

e) Integrated Service Experience for Clients and Families
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The provision of an integrated service experience is the essence of this project, as it will address specific physical health needs of mental health consumers in a mental health clinic setting, with the ultimate goal of improving their mental health and their physical health. Integration of the systems of physical health care and mental health care for the participating consumers is fundamental to this project. Key project elements that demonstrate integration include:

- (1) Having a licensed medical provider and Medical Assistant who are based at a physical health clinic see mental health consumers in physical examination rooms in the mental health clinic.
- (2) Including physical health information of participating consumers related to metabolic syndrome in the mental health electronic health records system, and encouraging psychiatric providers, nurses, and case managers at the mental health clinic to review it and use the information in their work with the participants.
- (3) Having a Public Health Nurse work with mental health consumers in a mental health clinic to develop modifiable health behavior improvement plans, related to metabolic syndrome, in collaboration with them.

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- (4) If they so choose, participants will be given a second copy of the Health Behavior Improvement Plan they develop with the Nurse Health Educator. They may give this copy to a family member or friend they believe will support them as they make the often-challenging changes to their health behaviors.

7) Continuity of Care for Individuals with Serious Mental Illness

Will individuals with serious mental illness receive services from the proposed project?

If yes, describe how you plan to protect and provide continuity of care for these individuals when the project ends.

This project will provide services to individuals with serious mental illness.

When Innovation funds for this project are no longer available, and if the evaluation outcomes are sufficiently strong to warrant it, we plan to continue to support it with Community Services and Supports funds.

If no funds for this project are available, some elements of it will continue nonetheless. This project will educate all clinical staff members and case managers at the mental health clinic about metabolic syndrome, its causes and ill effects. Metabolic syndrome will be integrated explicitly into the electronic medical record system in use at the mental health clinic.

Staff members who work with project participants will be continually reminded to view the metabolic syndrome information in the system whenever they review the consumers' files, and to speak to the consumers about it and about changes in health behaviors they are trying to make related to metabolic syndrome. The continuation of this structural change and staff procedure requires no additional funds. If we are unable to continue to have a Public Health Nurse at our mental health clinic, the nurses and case managers at our clinic will take on this role.

After the expiration of funding, we plan to continue to offer physical examinations to consumers in the mental health clinic, in the two physical examination rooms. If we are unable to do so, we will focus on tracking when our mental health consumers, particularly those on antipsychotic medications, see their PCPs, and encourage them all to see their PCPs on a regular basis. This will leave diagnosis and treatment of metabolic syndrome to the PCPs. The PCPs will also be able to provide information, encouragement, and access to services and supports for changes in modifiable health behaviors related to metabolic syndrome.

The cost for the two new interventions to start in July 2019 will be low. We should be able to continue them for participating consumers once this funding expires.

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8) INN Project Evaluation Cultural Competence and Meaningful Stakeholder Involvement.

a) Explain how you plan to ensure that the Project evaluation is culturally competent.

Note: this is not a required element of the initial INN Project Plan description but is a mandatory component of the INN Final Report. We therefore advise considering a strategy for cultural competence early in the planning process. An example of cultural competence in an evaluation framework would be vetting evaluation methods and/or outcomes with any targeted ethnic/racial/linguistic minority groups.

Tulare County Mental Health has integrated cultural competence into all of its policies and practices. In this project, we will offer all forms and documents for consumers in both English and Spanish, the two threshold languages in our county. These include the release of information form, "Staying Healthy Assessment," Health Behavior Improvement Plan form, and information related to modifiable health behaviors. Interpretation services are available in Spanish at the clinic, in person. (About 50% of the staff members at the clinic where this project will be offered speak Spanish.) Interpretation in other languages is provided by Language Line Services, Inc., which provides face-to-face audio and video language interpretation via iPad tablets in over 120 languages, including American Sign Language.

We are not targeting specific ethnic/racial/linguistic groups in our project or its evaluation. However, we are committed to serving all project participants in a culturally competent manner. The project implementation and evaluation methodology and design will be discussed with our Mental Health Cultural Competency Committee (MHCCC), which meets monthly.

b) Explain how you plan to ensure meaningful stakeholder participation in the evaluation.

Note that the mere involvement of participants and/or stakeholders as participants (e.g. participants of the interview, focus group, or survey component of an evaluation) is not sufficient. Participants and/or stakeholders must contribute in some meaningful way to project evaluation, such as evaluation planning, implementation and analysis. Examples of stakeholder involvement include hiring peer/client evaluation support staff or convening an evaluation advisory group composed of diverse community members that weighs in at different stages of the evaluation.

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After the start of this project, the Project Team will continue to meet on a regular basis to review the project's progress, including process and outcome data, and troubleshoot any problems that may arise. Additionally, the project team will report periodically to the Quality Improvement Committee, Adult Systems Improvement Council, and the Tulare County Mental Health Board. These committees and the Mental Board include, but are not limited to, consumers, family members, and community and agency partners. They will provide invaluable stakeholder input on the project, including by consumers and family members.

9) Deciding Whether and How to Continue the Project Without INN Funds

Briefly describe how the County will decide whether and how to continue the INN Project, or elements of the Project, without INN Funds following project completion. For example, if the evaluation does (or does not) indicate that the service or approach is effective, what are the next steps?

If the evaluation outcomes for the project demonstrate a sufficient level of effectiveness, as determined by the Mental Health Department and Mental Health Board, we will most likely support the project with Community Services and Supports funds. If not, the project will end, but we will ensure continuity of care for project participants, to the fullest extent possible, as outlined above in our response in Section 7.

10) Communication and Dissemination Plan

Describe how you plan to communicate results, newly demonstrated successful practices, and lessons learned from your INN Project.

a) How do you plan to disseminate information to stakeholders within your county and (if applicable) to other counties?

An overview of the project and key evaluation findings will be presented in a public forum during our Mental Health Board's general meeting on an annual basis, if the Board so chooses. After the initial presentation, copies of the presentation will be available upon request. We will also share publicly our project reports, including our comprehensive final report, for stakeholders and community members interested in an in-depth review of the project.

We will also write one or more guest articles on the project for submission to the newsletter published and written by mental health consumers in our county called "The Trestle" and to NAMI Tulare County, for distribution to its members on Facebook and through other channels. Information on the project will also be published in online social media posts (including Facebook) of the Tulare County Health & Human Services Agency and on the Agency's website.

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If the evaluation outcomes are sufficiently positive to warrant it, we will distribute our comprehensive final project report to other counties via their MHSA Managers. This report will include all evaluation results as well as detailed descriptions of the project and all of its elements and its work process. It will describe barriers the project encountered, how they were overcome, and any changes that were made in the project over time. All of this will be provided to other counties with the aim of helping them to replicate the project, if they so choose. If it meets the criteria, we will also submit the project to a best-practice registry and possibly write an article about the project for a peer-reviewed journal, for wider dissemination.

b) How will program participants or other stakeholders be involved in communication efforts?

Project participants, family members, and stakeholders will be encouraged to participate in the public Mental Health Board meeting at which this project is reviewed. Shared experiences on the project's impacts on the lives of community members will be welcomed and encouraged. Project participants will be invited to share in publications such as "The Trestle," the NAMI Tulare County newsletter, and other news outlets – without revealing their identities – how the project benefitted them and their loved ones.

c) KEYWORDS for search: Please list up to 5 keywords or phrases for this project that someone interested in your project might use to find it in a search.

1. Metabolic syndrome
3. Health behaviors
4. Health integration
5. Innovation
5. Tulare County

11) Timeline

a) Specify the total timeframe (duration) of the INN Project: 5 Years , 0 Months

b) Specify the expected start date and end date of your INN Project:

Note: Please allow processing time for approval following official submission of the INN Project Description.

Start Date: July 2019
End Date: June 2024

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- c) Include a timeline that specifies key activities and milestones and a brief explanation of how the project’s timeframe will allow sufficient time for**
- i. Development and refinement of the new or changed approach;**
 - ii. Evaluation of the INN Project;**
 - iii. Decision-making, including meaningful involvement of stakeholders, about whether and how to continue the Project;**
 - iv. Communication of results and lessons learned.**

(1) Planning Phase: January 2017 – August 2017

- Consideration and specification of the project goal
- Deliberations regarding project objectives
- Deciding which services the project should offer to achieve the objectives
- Development of the work process and evaluation plan
- Discussion of the information that exists in the two electronic health record systems (for physical health and mental health) and how project information could best be exchanged between them
- Consideration of needed staff and policies and procedures
- Construction of the two physical examination rooms in the mental health clinic completed
- Deciding upon the hours of operation
- Deciding upon and ordering examination room equipment and supplies and blood testing equipment
- Selection of internal staff for the project
- Finalizing the release of information form

(2) Preparation Phase: September 2017 – June 2019

- Finalizing the objectives, services, work process, and evaluation plan
- Completing the policies and procedures
- Continuing enrollment of project participants
- Finishing changes to the electronic health record systems to facilitate the entry and retrieval of project information
- Finalizing the menu of information, services, and supportive resources to offer participants, to help them make changes in their modifiable health behaviors

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- Educating mental health clinic staff about metabolic syndrome and policies and procedures related to the project and the physical examination rooms
- Training select clinic staff in the use of the blood testing equipment
- Writing staff surveys and administering pre-surveys
- Providing basic training to the staff members (licensed medical provider, Medical Assistant, and Nurse Health Educator) who will primarily implement the project
- Development of a custom database for project information, for process and outcome evaluation
- Enrolling project participants on a voluntary basis. Participants sign release of information form.
- Conducting an operations test “walk-through” just prior to implementation, for final trouble-shooting
- Development and selection of new project interventions to implement starting in July 2019.

(3) Implementation Phase: July 2019 – June 2024

- Participants see the licensed medical provider, Medical Assistant, and Nurse Health Educator on a quarterly basis in a physical examination room in the mental health clinic, on days when they receive antipsychotic medication injections, if possible.
- Psychiatric providers, nurses, and case managers at the mental health clinic review the participants' metabolic syndrome-related information in the mental health electronic record system. They use the information in their work with the participants and help and encourage them as they work to achieve the modifiable health behavior goals they established in their plans.
- Entry/scanning of data into the electronic health record systems and the project database
- Communication with PCPs of metabolic syndrome-related information.
- Attendance at Mental Health Cultural Competency Committee meetings and solicitation of feedback from the committee on the level of cultural competence in the project
- Instructing licensed psychiatric providers, nurses, and case managers at the mental health clinic in how to review the metabolic syndrome information, including the modifiable health behavior plans, of participants in the mental health electronic health record system
- Instructing licensed psychiatric providers, nurses, and case managers in how to assist and encourage participants to meet their modifiable health plan goals

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Review of process and outcome evaluation data by the Project Team, at least on a quarterly basis, to ensure that the project implementation is continuing as planned and is achieving its outcome targets.

External Evaluator will write annual reports, for presentation to the Mental Health Board, if the Board so chooses.

(4) Final Outcome Evaluation and Dissemination Phase: June – December 2024

- Administration of final staff surveys
- Comparative pre-post review of participants' mental health records to gauge the extent to which metabolic syndrome or its components were taken into account by licensed psychiatric providers in their work with participants
- Analysis of all project data, including statistical significance testing, by the External Evaluator
- Writing of the comprehensive final project report by the External Evaluator. Development of summaries of varying lengths, to aid in dissemination.
- Dissemination of the comprehensive final project report and summaries to local stakeholders, for as wide a distribution as possible, and to MHPA Managers in other California counties.
- If the evaluation outcomes are sufficiently strong, write an application for submission to a best-practices registry and draft an article for submission to a peer-reviewed journal.
- Continue services to participants, to the fullest extent possible.

(5) Final Decision-Making Phase: January 2025

- Decide whether to continue the project with another funding source or sources, such as Community Services and Supports funds, based on the evaluation outcomes. Include stakeholder input, including that of program participants and family members, in the process.

12) INN Project Budget and Source of Expenditures

The next three sections identify how the MHPA funds are being utilized:

- a) BUDGET NARRATIVE (Specifics about how money is being spent for the development of this project)**
- b) BUDGET BY FISCAL YEAR AND SPECIFIC BUDGET CATEGORY (Identification of expenses of the project by funding category and fiscal year)**

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BUDGET CONTEXT (If MHSA funds are being leveraged with other funding sources)

A. Budget Narrative

Provide a brief budget narrative to explain how the total budget is appropriate for the described INN project. The goal of the narrative should be to provide the interested reader with both an overview of the total project and enough detail to understand the proposed project structure. Ideally, the narrative would include an explanation of amounts budgeted to ensure/support stakeholder involvement (For example, "\$5000 for annual involvement stipends for stakeholder representatives, for 3 years: Total \$15,000") and identify the key personnel and contracted roles and responsibilities that will be involved in the project (For example, "Project coordinator, full-time; Statistical consultant, part-time; 2 Research assistants, part-time..."). Please include a discussion of administration expenses (direct and indirect) and evaluation expenses associated with this project. Please consider amounts associated with developing, refining, piloting and evaluating the proposed project and the dissemination of the Innovative project results.

Budget Narrative

Personnel

2019-2020 Salaries: **\$123,240***

1. Primary Care Practitioner, 0.1 FTE, \$16,725.20- Review, analyze, and interpret testing results with patient. Provide diagnosis based on test results. Provide recommendation for follow up with primary care practitioner.
2. Medical Assistant, 0.1 FTE, \$3,455.40 – Perform lab test, (blood test by finger pokes, measurements). Check patient weight and waist size. Documents results and provide documentation to primary care practitioner.
3. Public Health Nurse, 0.1 FTE, \$7,854.50 –Assist in completing stay assessment document. Provide education on continuing and promoting healthier life choices.
4. Mental Health Medical Director, 0.1 FTE, \$29,359.80- – Provide oversight of overall medical and behavior clinic operations. Coordinate open communication with all clinic staff and project staff. Inform all clinic staff of project process and updates. Provide written and oral presentation on project.
5. Psychologist (Clinic Manager), 0.1 FTE, \$9,947.10 – Provide oversight of overall clinic operations. Coordinate open communication with all clinic staff and project staff. Inform all clinic staff of project process and updates. Assist medical director with integration of project and clinic operations.
6. Mental Health Specialist, 0.1 FTE, \$5,854.60- Provide supervision to office staff for doctor appointments, coordinate facility concerns and issues, coordinate furniture purchases.
7. Staff Services Analyst, 0.1 FTE, \$6,083.10 – Budgetary support of funding utilized for the project. Collection, and cost tracking of supply request for purchases. Inventory control and auditing of medical supplies.
8. Unit Manager, 0.1 FTE, \$7,448.20 – Coordination of project implementation, room setup, facility contact. Administrative support for project room coordination.

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9. Lead Registered Nurse, 0.1 FTE, \$8,255.00 - Provide supervision, oversight and follow up to registered nurse regarding patients seen in metabolic syndrome project. Weekly calibration of project equipment. Primary contact for public health staff regarding any concerns.
10. Registered Nurse, 0.1 FTE, \$7,447.20 – Assess the physical and emotional condition of patients. Provide education to clients with health conditions. Implement nursing policies.
11. Office Assistant IV, 0.1 FTE, \$3,684.70- Perform a variety of supportive office functions including receiving, sorting, and distributing incoming and outgoing correspondence. Scheduling appointments, follow up and reminder calls. Compile scheduling calendar, documentation scanning in to medical records. Compile information, and prepare reports.
12. Psychologist II, 0.1 FTE, \$9,747.00 –Provide supervision, education and training to the public health staff.
13. Administrative Specialist, 0.1 FTE, \$7,378.20 – Administrative support to include but not limited to: writing policies and procedures, developing training, training tracking, compile information, prepare reports and make written oral presentations.

2019-2020 Personnel Costs (benefits/worker's comp): **\$40,503**

2019-2020 Total Personnel Costs: \$163,743

Five percent annual increase for personnel costs calculated for subsequent years: Tulare County Health and Human Services employment position have a five step salary scale, with each step providing a five percent (5%) increase.

2020-2021: \$171,931*

2021-2022: \$180,527

2022-2023: \$189,553

2023-2024: \$199,031

Total Five Year Personnel Costs: \$904,785

Operating Costs

Direct Costs:

- Consumable medical and office supplies: Purchase of medical supplies to perform required tests.
- Items include but not limited to: Test kits, test strips, needles, gauze, medical tape, sanitized wipes, alcohol pads, paper towels, paper table covers, and gloves.
- Cost of Gym access and healthy lunch after gym use (approx. N-60, \$28,800).
- Cost of healthy snacks at time of appointment (approx. N-60, \$2,400).
- Cost of Food for cooking lessons on healthy meals (approx. N-60, \$14,400).

2019-2020: \$67,358*

2020-2021: \$67,358*

2021-2022: \$67,358

2022-2023: \$67,358

2023-2024: \$67,358

Total Five Year Direct Operating Costs: \$336,790

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Indirect Costs: Program Oversight and administrative costs. Indirect cost for overhead expenses, general and administrative expenses is calculated at approximately 20% of personnel cost for each year of operations.

2019-2020: \$33,295*

2020-2021: \$35,900*

2021-2022: \$37,400

2022-2023: \$39,000

2023-2024: \$40,600

Total Five Year Indirect Operating Costs: \$186,195

Non Recurring Costs: Purchase of equipment, furniture, technology, and remodel- Medical exam rooms have been fully completed with needed medical equipment, EKG machine, Lipid/Cholesterol machine, urinalysis machine, and Hgb A1C Machine. Furniture includes medical table, chairs, wall cabinets, rolling cabinets, computer mount. Technology includes computer monitors, keyboard, mouse, lap top, printer, and label printer.

2019-2020: \$133,714*

2020-2021: \$0

2021-2022: \$0

2022-2023: \$0

2023-2024: \$0

Total Five Year Non Recurring Costs: \$133,714

Consultant Costs/Contracts: Evaluator is a county contractor with a current contract with MHSA. The evaluator is expected to spend ten percent of his contract salary on this project. Project consists of one day 4 hours to provide metabolic syndrome services, which correlates to ten percent of contract salary.

2019-2020: \$9,850*

2020-2021: \$9,850*

2021-2022: \$9,850

2022-2023: \$9,850

2023-2024: \$9,850

Total Five Year Non Recurring Costs: \$49,250

Total Personnel Costs: \$904,785

Total Operating Costs: \$294,985

Total Non-Recurring Costs: \$133,714

Total Consultant Costs: \$49,250

Total Five Year Innovation Budget: \$1,610,734

* Tulare County Mental Health Branch anticipates utilizing Assembly Bill (AB) 114 funding reversion the first two years of the program (2019-20 at \$407,960 and 2020-21 at \$285,039) for a total of \$692,999. These AB 114 funds will utilize some funds available from FY 2010-11 for Tulare County.

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A. New Innovative Project Budget By FISCAL YEAR (FY)*							
EXPENDITURES							
PERSONNEL COSTS (salaries, wages, benefits)		FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	Total
1.	Salaries	\$163,743	\$171,931	\$180,527	\$189,553	\$199,031	\$904,785
2.	Direct Costs						
3.	Indirect Costs						
4.	Total Personnel Costs	\$163,743	\$171,931	\$180,527	\$189,553	\$199,031	\$904,785
OPERATING COSTS							
OPERATING COSTS		FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	Total
5.	Direct Costs	\$67,358	\$67,358	\$67,358	\$67,358	\$67,358	\$336,790
6.	Indirect Costs	\$33,295	\$35,900	\$37,400	\$39,000	\$40,600	\$186,195
7.	Total Operating Costs	\$55,053	\$57,658	\$59,158	\$60,758	\$62,358	\$522,985
NON RECURRING COSTS (equipment, technology)							
NON RECURRING COSTS (equipment, technology)		FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	Total
8.	Equipment/Furniture/Tech	\$133,714	\$0	\$0	\$0	\$0	\$133,714
9.							
10.	Total Non-recurring costs	\$133,714	\$0	\$0	\$0	\$0	\$133,714
CONSULTANT COSTS/CONTRACTS (clinical, training, facilitator, evaluation)							
CONSULTANT COSTS/CONTRACTS (clinical, training, facilitator, evaluation)		FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	Total
11.	Direct Costs	\$9,850	\$9,850	\$9,850	\$9,850	\$9,850	\$49,250
12.	Indirect Costs						
13.	Total Consultant Costs	\$9,850	\$9,850	\$9,850	\$9,850	\$9,850	\$49,250
OTHER EXPENDITURES (please explain in budget narrative)							
14.	OTHER EXPENDITURES (please explain in budget narrative)	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	Total
15.	Total Other expenditures						0
BUDGET TOTALS							
BUDGET TOTALS							
Personnel (line 1)		\$163,743	\$171,931	\$180,527	\$189,553	\$199,031	\$904,785
Direct Costs (add lines 2, 5 and 11 from above)		\$77,208	\$77,208	\$77,208	\$77,208	\$77,208	\$386,040
Indirect Costs (add lines 3, 6 and 12 from above)		\$33,295	\$35,900	\$37,400	\$39,000	\$40,600	\$186,195
Non-recurring costs (line 10)		\$133,714	0	0	0	0	\$133,714
Other Expenditures (line 16)							
TOTAL INNOVATION BUDGET		\$407,960 *	\$285,039*	\$295,135	\$305,761	\$316,839	\$1,610,734

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A. Expenditures By Funding Source and FISCAL YEAR (FY)							
Administration:							
A.	Estimated total mental health expenditures for ADMINISTRATION for the entire duration of this INN Project by FY & the following funding sources:	2019-20	2020-21	2021-22	2022-23	2023-24	Total
1.	Innovative MHSA Funds	\$398,110	\$275,189	\$285,285	\$295,911	\$306,989	\$1,561,484
2.	Federal Financial Participation						
3.	1991 Realignment						
4.	Behavioral Health Subaccount						
5.	Other funding*						
6.	Total Proposed Administration	\$398,110	\$275,189	\$285,285	\$295,911	\$306,989	\$1,561,484
Evaluation:							
B.	Estimated total mental health expenditures for EVALUATION for the entire duration of this INN Project by FY & the following funding sources:	2019-20	2020-21	2021-22	2022-23	2023-24	Total
1.	Innovative MHSA Funds	\$9,850	\$9,850	\$9,850	\$9,850	\$9,850	\$49,250
2.	Federal Financial Participation						
3.	1991 Realignment						
4.	Behavioral Health Subaccount						
5.	Other funding*						
6.	Total Proposed Evaluation	\$9,850	\$9,850	\$9,850	\$9,850	\$9,850	\$49,250
TOTAL:							
C.	Estimated TOTAL mental health expenditures (this sum to total	2019-20	2020-21	2021-22	2022-23	2023-24	Total

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	funding requested) for the entire duration of this INN Project by FY & the following funding sources:						
1.	Innovative MHSA Funds	\$407,960	\$285,039	\$295,135	\$305,761	\$316,839	\$1,610,734
2.	Federal Financial Participation						
3.	1991 Realignment						
4.	Behavioral Health Subaccount						
5.	Other funding*						
6.	Total Proposed Expenditures	\$407,960*	\$285,039*	\$295,135	\$305,761	\$316,839	\$1,610,734
*If "Other funding" is included, please explain.							

*Tulare County Mental Health Branch anticipates utilizing Assembly Bill (AB) 114 funding reversion the first two years of the program (2019-20 at \$407,960 and 2020-21 at \$285,039) for a total of \$692,999. These AB 114 funds will utilize some funds available from FY 2010-11 for Tulare County.

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Attachments

1. "Staying Healthy Assessment," English language version, from the California Department of Health Care Services. (It is also available in a wide variety of other languages.)
2. Basic Work Process
3. Health Behavior Improvement Plan form, English language version. (It is also available in Spanish.)
4. Survey for psychiatrists
5. Survey for mental health clinic staff other than psychiatrists
6. Substantive public comments regarding this plan
7. Certification of adoption by the Tulare County Board of Supervisors
8. Certification by the Mental Health Director of compliance with all pertinent regulations, laws, and statutes of the Mental Health Services Act
9. Certification by the Mental Health Director and the County Auditor-Controller of compliance with any fiscal accountability requirements and that all expenditures are consistent with the requirements of the MHSA

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**INNOVATIVE PROJECT PLAN
Addressing Metabolic Syndrome Pilot Project – Tulare County**

Attachment 1
Department of Health Care Services' "Staying Healthy Assessment"

State of California — Health and Human Services Agency

Department of Health Care Services

**Staying Healthy
Assessment
Adult**

Patient's Name (first & last)		Date of Birth		<input type="checkbox"/> Female <input type="checkbox"/> Male		Today's Date	
Person Completing Form (if patient needs help)		<input type="checkbox"/> Family Member <input type="checkbox"/> Other (Specify)		<input type="checkbox"/> Friend		Need help with form? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Please answer all the questions on this form as best you can. Circle "Skip" if you do not know an answer or do not wish to answer. Be sure to talk to the doctor if you have questions about anything on this form. Your answers will be protected as part of your medical record.							Need Interpreter? <input type="checkbox"/> Yes <input type="checkbox"/> No
							<i>Clinic Use Only:</i>
							Nutrition
1	Do you drink or eat 3 servings of calcium-rich foods daily, such as milk, cheese, yogurt, soy milk, or tofu?	Yes	No	Skip			
2	Do you eat fruits and vegetables every day?	Yes	No	Skip			
3	Do you limit the amount of fried food or fast food that you eat?	Yes	No	Skip			
4	Are you easily able to get enough healthy food?	Yes	No	Skip			
5	Do you drink a soda, juice drink, sports or energy drink most days of the week?	No	Yes	Skip			
6	Do you often eat too much or too little food?	No	Yes	Skip			
7	Are you concerned about your weight?	No	Yes	Skip			
							Physical Activity
8	Do you exercise or spend time doing activities, such as walking, gardening, swimming for ½ hour a day?	Yes	No	Skip			
							Safety
9	Do you feel safe where you live?	Yes	No	Skip			
10	Have you had any car accidents lately?	No	Yes	Skip			
11	Have you been hit, slapped, kicked, or physically hurt by someone in the last year?	No	Yes	Skip			
12	Do you always wear a seat belt when driving or riding in a car?	Yes	No	Skip			
13	Do you keep a gun in your house or place where you live?	No	Yes	Skip			
							Dental Health
14	Do you brush and floss your teeth daily?	Yes	No	Skip			
							Mental Health
15	Do you often feel sad, hopeless, angry, or worried?	No	Yes	Skip			
16	Do you often have trouble sleeping?	No	Yes	Skip			
							Alcohol, Tobacco, Drug Use
17	Do you smoke or chew tobacco?	No	Yes	Skip			
18	Do friends or family members smoke in your house or place where you live?	No	Yes	Skip			

INNOVATIVE PROJECT PLAN Addressing Metabolic Syndrome Pilot Project – Tulare County

State of California — Health and Human Services Agency

Department of Health Care Services

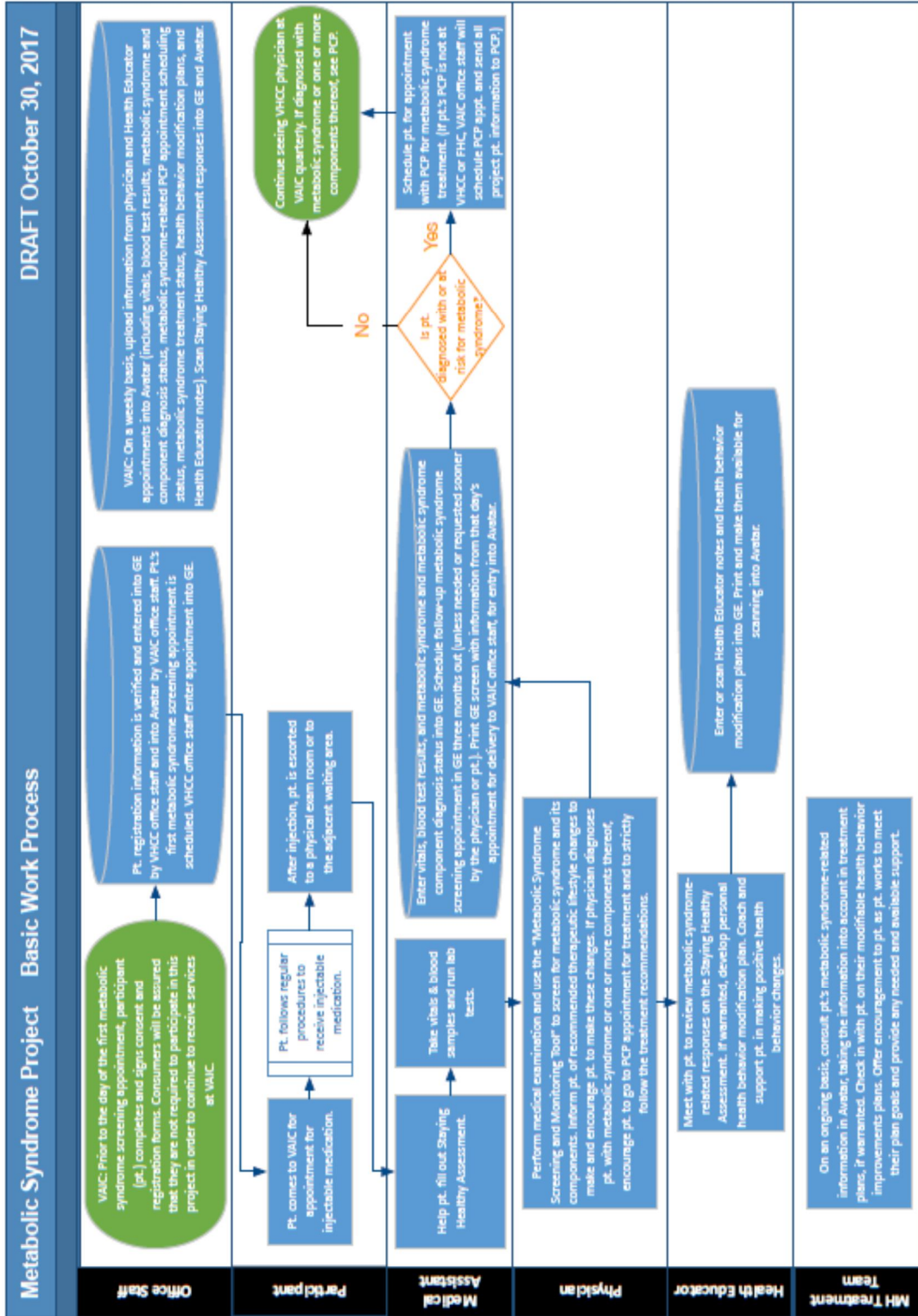
19	In the past year, have you had: <input type="checkbox"/> (men) 5 or more alcohol drinks in one day? <input type="checkbox"/> (women) 4 or more alcohol drinks in one day?	No	Yes	Skip	Sexual Issues
20	Do you use any drugs or medicines to help you sleep, relax, calm down, feel better, or lose weight?	No	Yes	Skip	
21	Do you think you or your partner could be pregnant?	No	Yes	Skip	
22	Do you think you or your partner could have a sexually transmitted infection (STI), such as Chlamydia, Gonorrhea, genital warts, etc.?	No	Yes	Skip	
23	Have you or your partner(s) had sex without using birth control in the past year?	No	Yes	Skip	
24	Have you or your partner(s) had sex with other people in the past year?	No	Yes	Skip	
25	Have you or your partner(s) had sex without a condom in the past year?	No	Yes	Skip	
26	Have you ever been forced or pressured to have sex?	No	Yes	Skip	Other Questions
27	Do you have other questions or concerns about your health?	No	Yes	Skip	

If yes, please describe:

Clinic Use Only	Counseled	Referred	Anticipatory Guidance	Follow-up Ordered	Comments:
<input type="checkbox"/> Nutrition	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/> Physical activity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/> Safety	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/> Dental Health	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/> Mental Health	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/> Alcohol, Tobacco, Drug Use	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/> Sexual Issues	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
					<input type="checkbox"/> Patient Declined the SHA
PCP's Signature:		Print Name:			Date:
SHA ANNUAL REVIEW					
PCP's Signature:		Print Name:			Date:
PCP's Signature:		Print Name:			Date:
PCP's Signature:		Print Name:			Date:
PCP's Signature:		Print Name:			Date:

INNOVATIVE PROJECT PLAN
Addressing Metabolic Syndrome Pilot Project – Tulare County

Attachment 2
 Basic Work Process



**INNOVATIVE PROJECT PLAN
Addressing Metabolic Syndrome Pilot Project – Tulare County**

Attachment 3

Health Behavior Improvement Plan form, English language version. (It is also available in Spanish.)

Attachment 3

**Tulare County Health and Human Services Agency
Metabolic Syndrome Modifiable Health Behavior Improvement Plan**

Name of Patient: _____ Date: _____
 Allergies: _____
 Physician: _____ Medical Diagnosis: _____
 Psychiatrist: _____ Diagnosis: _____

<input type="checkbox"/> Nutrition/Diet <input type="checkbox"/> Exercise <input type="checkbox"/> Tobacco Use <input type="checkbox"/> Alcohol Use	
SMART Goal - <i>Is it specific, measurable, achievable, realistic with in a time frame?</i>	
Plan Elements	Participant-Reported Actions
1.	1.
2.	2.
3.	3.
Outcome <input type="checkbox"/> Goal Met <input type="checkbox"/> Goal Not Met – Improvement noted <input type="checkbox"/> Goal Not Met – No Improvement	

<input type="checkbox"/> Nutrition/Diet <input type="checkbox"/> Exercise <input type="checkbox"/> Tobacco Use <input type="checkbox"/> Alcohol Use	
SMART Goal - <i>Is it specific, measurable, achievable, realistic with in a time frame?</i>	
Plan Elements	Participant-Reported Actions
1.	1.
2.	2.
3.	3.
Outcome <input type="checkbox"/> Goal Met <input type="checkbox"/> Goal Not Met – Improvement noted <input type="checkbox"/> Goal Not Met – No Improvement	

INNOVATIVE PROJECT PLAN
Addressing Metabolic Syndrome Pilot Project – Tulare County

Attachment 4

Metabolic Syndrome Pilot Project
Pre Survey for VAIC Physician Assistants, Nursing Staff,
Therapists, and Case Managers

(To be filled out online.)

Thank you for taking the time to fill out this very short survey. Your responses are CONFIDENTIAL, but not anonymous, so that we may track changes in individuals' responses over time. An identical survey will be administered in about three months from now.

1. Your first name: _____

2. Your last name: _____

Instruction: Please answer the following questions by choosing one response to each.

3. Which of the following best describes your position at VAIC?

- Physician Assistant
- Registered Nurse
- Licensed Vocational Nurse
- Mental Health Technician
- Psychiatric Technician
- Therapist
- Case Manager
- Other. Please specify: _____

4. Which of the following is a symptom of metabolic syndrome?

- a. Elevated spinal fluid pressure
- b. Elevated white blood cell count
- b. High body mass index
- c. Abnormal sensitivity to light

5. Which group or groups of psychiatric medications is most associated with metabolic syndrome?

- a. First-generation antipsychotics like Haldol
- b. Mood stabilizers like lithium
- c. Antidepressants like Zoloft
- d. Second-generation antipsychotics like Zyprexa (olanzapine)
- e. All of the above

INNOVATIVE PROJECT PLAN
Addressing Metabolic Syndrome Pilot Project – Tulare County

6. Which of the following is NOT a risk factor for metabolic syndrome?
- a. Excessive protein consumption
 - b. Excessive sugar consumption
 - c. Genetics
 - d. Use of injectable antipsychotic medications
7. Which of the following statements about metabolic syndrome is TRUE?
- a. Metabolic syndrome is more prevalent among non-Hispanic white women than non-Hispanic white men.
 - b. Metabolic syndrome is more prevalent among non-Hispanic black women than non-Hispanic black men.
 - c. Metabolic syndrome is more prevalent among Mexican-American men than Mexican-American women.
 - d. All of the above
8. Metabolic syndrome is associated with the development of which of the following diseases or conditions?
- a. Hematoma
 - b. Crohn's disease
 - c. Cardiovascular disease
 - d. Intestinal polyps
9. How much would you say you know about the risk metabolic syndrome poses for cardiovascular health?
- a. A great deal
 - b. Much
 - c. Some
 - d. Little
 - e. Nothing

INNOVATIVE PROJECT PLAN
Addressing Metabolic Syndrome Pilot Project – Tulare County

Attachment 5

Metabolic Syndrome Pilot Project
Pre Survey for Psychiatrists at VAIC

Thank you for taking the time to fill out this very short survey. Your responses are CONFIDENTIAL, but not anonymous, so that we may track changes in individuals' responses over time. An identical survey will be administered in about three months from now.

1. Your first name: _____

2. Your last name: _____

Instruction: Please respond to the following statement and questions by choosing one response to each.

3. "I feel confident diagnosing a patient with metabolic syndrome."
a. Strongly agree
b. Agree
c. Neither agree nor disagree
d. Disagree
e. Strongly disagree
4. For your patients on second-generation antipsychotics, how often do you consider metabolic syndrome in choosing a medication?
a. Always
b. Often
c. Sometimes
d. Seldom
e. Never
5. For your patients newly started on second-generation antipsychotics, how often do you do an initial screening for metabolic syndrome?
a. Always
b. Often
c. Sometimes
d. Seldom
e. Never

INNOVATIVE PROJECT PLAN
Addressing Metabolic Syndrome Pilot Project – Tulare County

6. For one of your patients on a second-generation antipsychotic, you receive a report from the patient's PCP that your patient has been diagnosed with metabolic syndrome. How often would this information influence your prescribing or refilling of an antipsychotic?
 - a. Always
 - b. Often
 - c. Sometimes
 - d. Seldom
 - e. Never

7. For your patients "permanently" on second-generation antipsychotics, how often do you generally screen for metabolic syndrome?
 - a. More often than monthly
 - b. Monthly
 - c. Quarterly
 - d. Annually
 - e. Never

8. How much would you say you know about the risk metabolic syndrome poses for cardiovascular health?
 - a. A great deal
 - b. Much
 - c. Some
 - d. Little
 - e. Nothing

INNOVATIVE PROJECT PLAN
Addressing Metabolic Syndrome Pilot Project – Tulare County

Attachment 6

Substantive Public Comments Regarding This Innovation Plan

“I believe the families should be included from the very beginning. They should be aware of the exercise regime and the diet suggested. There is a lot of support from families, but they can't help if they don't know.”

“Regarding a control group: Why not include those clients (following positive screening for meta) who elect not to participate in the defined treatment but are still able to fill out the survey(s)?”

**INNOVATIVE PROJECT PLAN
Addressing Metabolic Syndrome Pilot Project – Tulare County**

Attachment 7

**BEFORE THE BOARD OF SUPERVISORS
COUNTY OF TULARE, STATE OF CALIFORNIA**

IN THE MATTER OF SUBMISSION OF THE)
TULARE COUNTY MENTAL HEALTH) Resolution No. 2018-0374
SERVICES ACT, METABOLIC SYNDROME)
PROJECT, INNOVATION PLAN)

UPON MOTION OF SUPERVISOR VANDER POEL, SECONDED BY SUPERVISOR ENNIS, THE FOLLOWING WAS ADOPTED BY THE BOARD OF SUPERVISORS, AT AN OFFICIAL MEETING HELD MAY 22, 2018, BY THE FOLLOWING VOTE:

AYES: SUPERVISORS CROCKER, VANDER POEL, SHUKLIAN AND ENNIS
NOES: NONE
ABSTAIN: NONE
ABSENT: SUPERVISOR WORTHLEY



ATTEST: MICHAEL C. SPATA
COUNTY ADMINISTRATIVE OFFICER/
CLERK, BOARD OF SUPERVISORS

BY: Mary Ronello
Deputy Clerk

- *****
1. Approved the Mental Health Services Act, Metabolic Syndrome Project, Innovation Component Plan; and
 2. Authorized the Tulare County Director of Mental Health to sign the County Certification and submit the Mental Health Services Act, Metabolic Syndrome Project Innovation Component Plan to the Department of Health Care Services and Mental Health Services Oversight and Accountability Commission.

HHSA
HAR
05/22/2018

**INNOVATIVE PROJECT PLAN
Addressing Metabolic Syndrome Pilot Project – Tulare County**



**Health & Human Services
Agency
COUNTY OF TULARE
AGENDA ITEM**

BOARD OF SUPERVISORS

KUYLER CROCKER
District One
PETE VANDER POEL
District Two
AMY SHUKLIAN
District Three
J. STEVEN WORTHLEY
District Four
MIKE ENNIS
District Five

AGENDA DATE: May 22, 2018

Public Hearing Required	Yes <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Scheduled Public Hearing w/Clerk	Yes <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Published Notice Required	Yes <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Advertised Published Notice	Yes <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Meet & Confer Required	Yes <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Electronic file(s) has been sent	Yes <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
Budget Transfer (Aud 308) attached	Yes <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Personnel Resolution attached	Yes <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Agreements are attached and signature line for Chairman is marked with tab(s)/flag(s)	Yes <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>

CONTACT PERSON: Michele Cruz PHONE: 624-8000

SUBJECT: Submission of the Tulare County Mental Health Services Act, Metabolic Syndrome Project, Innovation Component Plan

REQUEST(S):
That the Board of Supervisors:

1. Approve the Tulare County Mental Health Services Act, Metabolic Syndrome Project, Innovation Component Plan; and
2. Authorize the Tulare County Director of Mental Health to sign the County Certification and submit the Mental Health Services Act, Metabolic Syndrome Project, Innovation Component Plan to the Department of Health Care Services and Mental Health Services Oversight and Accountability Commission.

SUMMARY:
California voters approved Proposition 63, the Mental Health Services Act (MHSA) in November 2004. MHSA provides the opportunity for the Department of Health Care Services (DHCS) and Mental Health Services Oversight and Accountability Commission (MHSOAC) to provide increased funding, personnel, and other resources to support county mental health programs and monitor progress toward statewide goals for children and youth, adults, older adults, and families. MHSA addresses a broad continuum of prevention, early intervention, and service needs and the necessary infrastructure, technology, and training elements that will effectively support the system.

The purpose of the innovation component of the MHSA is to increase access to underserved groups, improve the quality of services and promote interagency

INNOVATIVE PROJECT PLAN
Addressing Metabolic Syndrome Pilot Project – Tulare County

SUBJECT: Submission of the Tulare County Mental Health Services Act, Metabolic Syndrome Project, Innovation Component Plan
DATE: May 22, 2018

collaboration. Programs must be innovative as defined by the DHCS and MHSOAC including new and creative mental health practices that are expected to contribute to learning and which are developed within communities through a process that is inclusive and representative.

The Metabolic Syndrome Project will target Visalia Adult Integrated Clinic's (VAIC) mental health consumers with the highest risk, those on injectable antipsychotic medication, and integrate a physical health element to their treatment, serving approximately 120 consumers in this first pilot project. Research has shown that individuals with serious mental illness have shorter lifespans than the general population. This is primarily due to preventable chronic conditions, such as Metabolic Syndrome. After their medication appointments, consumers will be screened for behavioral risk factors and medical conditions associated with metabolic syndrome. VAIC medical staff and the consumer's primary care provider will develop a collaborative treatment plan. A community health educator will also provide intervention and ongoing assessments related to modifiable health behaviors associated with metabolic syndrome, such as nutrition, physical activity, tobacco use, etc. This innovation project seeks to decrease negative health factors and increase life expectancy in the target population, thus improving overall mental health. The integration between Mental Health and Public Health model will foster collaboration between the two systems and increase education across disciplines.

In accordance with the Welfare and Institutions Code §3300, there was a community planning process conducted. From over 800 surveys and 28 focus groups, the community planning process resulted in the following focus areas: homelessness, isolation, resources, substance abuse, suicide, poverty and untreated medical conditions. Based on input received, this project was drafted and posted for a thirty-day public review and comment period (December 8, 2017 through January 8, 2018) during which time the proposed project description was available to the public on the County's Health and Human Services website. A Public Hearing was held on January 9, 2018; there were three public comments. The Tulare County Mental Health Board approved the proposed project on January 9, 2018, and voted to move it forward to the Board of Supervisors requesting approval.

The Local Mental Health Director is required to certify that the MHSA Innovation funds will be used in compliance with Welfare and Institutions Code section 5891 and Title 9 of the California Code of Regulations section 3410, Non-Supplant. The MHSA County Compliance Certification is attached.

FISCAL IMPACT/FINANCING:

The Board approved the acceptance of the Fiscal Year 2017/2018 MHSA innovation component funds anticipated from the State Controller's Office through the adoption of the Mental Health Branch budgets submitted fiscal year 2017/2018 budget. There is no additional net cost to the County General Fund.

INNOVATIVE PROJECT PLAN
Addressing Metabolic Syndrome Pilot Project – Tulare County

SUBJECT: Submission of the Tulare County Mental Health Services Act, Metabolic Syndrome Project, Innovation Component Plan
DATE: May 22, 2018

The anticipated budget for the project is \$362,360 for the first year of implementation, which includes \$133,714 for initial start-up costs that are non-recurring. The project is anticipated to be a five year project, with funds allocated through MHSA innovation component funds. The total estimated project cost over the five year period is \$1,382,734.

LINKAGE TO THE COUNTY OF TULARE STRATEGIC BUSINESS PLAN:

The County's five-year plan includes the Quality of Life initiative to promote and encourage the provision of quality supportive services for individuals in Tulare County. The MHSA Metabolic Syndrome Project innovation program contributes to that initiative by providing mental health services to otherwise underserved and unserved individuals in Tulare County.

ADMINISTRATIVE SIGN-OFF:



Timothy Durick, Psy.D.
Director of Mental Health

cc: Auditor-Controller
County Counsel
County Administrative Office (2)

Attachment(s) Innovative Project Plan-Addressing Metabolic Syndrome Pilot Project-
Tulare County
MHSA County Compliance Certification

**INNOVATIVE PROJECT PLAN
Addressing Metabolic Syndrome Pilot Project – Tulare County**

Attachment 8

**TULARE COUNTY MENTAL HEALTH SERVICES ACT
FISCAL YEAR 2017/18 – 2019/20 THREE-YEAR
INTEGRATED PROGRAM AND EXPENDITURE PLAN
(CSS, PEI, WET, CFT, INN)**

COUNTY COMPLIANCE CERTIFICATION

County: Tulare

<p style="text-align: center;">County Mental Health Director Name: Timothy D. Durick, Psy.D. Telephone Number: 559-624-8000 E-mail: TDurick@tularehhsa.org</p>	<p style="text-align: center;">Project Lead Name: Michele Cruz Telephone Number: 559-624-8000 E-mail: MCruz2@tularehhsa.org</p>
<p>Mailing Address: Tulare County Health & Human Services Agency 5957 South Mooney Boulevard Visalia, CA 93277</p>	


I hereby certify that I am the official responsible for the administration of county/city mental health services in and for said county/city and that the County/City has complied with all pertinent regulations and guidelines, laws and statutes of the Mental Health Services Act in preparing and submitting this Three-Year Program and Expenditure Plan or Annual Update, including stakeholder participation and nonsupplantation requirements.

This Three-Year Program and Expenditure Plan or Annual Update has been developed with the participation of stakeholders, in accordance with Welfare and Institutions Code Section 5848 and Title 9 of the California Code of Regulations section 3300, Community Planning Process. The draft Three-Year Program and Expenditure Plan or Annual Update was circulated to representatives of stakeholder interests and any interested party for 30 days for review and comment and a public hearing was held by the local mental health board. All input has been considered with adjustments made, as appropriate. The annual update and expenditure plan, attached hereto, was adopted by the County Board of Supervisors on December 2017.

Mental Health Services Act funds are and will be used in compliance with Welfare and Institutions Code section 5891 and Title 9 of the California Code of Regulations section 3410, Non-Supplant. All documents in the attached annual update are true and correct.



Mental Health Director/Designee (PRINT)



Signature

2/14/18

Date

County: Tulare

Date: _____

INNOVATIVE PROJECT PLAN
Addressing Metabolic Syndrome Pilot Project – Tulare County

Attachment 9

MHSA COUNTY FISCAL ACCOUNTABILITY
CERTIFICATION

County: Tulare

Three-Year Program and Expenditure Plan

County Mental Health Director Name: Timothy D. Durick, Psy.D. Telephone Number: 559-624-8000 E-mail: <u>TDurick@tularehhsa.org</u>	County Auditor – Controller Name: Cass Cook Telephone Number: 559- 636-5200 E-mail: <u>CCook1@co.tulare.ca.us</u>
Mailing Address: Tulare County Health & Human Services Agency 5957 South Mooney Boulevard Visalia, CA 93277	

I hereby certify that the Three-Year Program and Expenditure Plan, Annual Update or Annual Revenue and Expenditure Report is true and correct and that the County has complied with all fiscal accountability requirements as required by law or as directed by the State Department of Health Care Services and the Mental Health Services Oversight and Accountability Commission, and that all expenditures are consistent with the requirements of the Mental Health Services Act (MHSA), including Welfare and Institutions Code (WIC) sections 5813.5, 5830, 5840, 5847, 5891, and 5892; and Title 9 of the California Code of Regulations sections 3400 and 3410. I further certify that all expenditures are consistent with an approved plan or update and that MHSA funds will only be used for programs specified in the Mental Health Services Act. Other than funds placed in a reserve in accordance with an approved plan, any funds allocated to a county which are not spent for their authorized purpose within the time period specified in WIC section 5892(h), shall revert to the state to be deposited into the fund and available for counties in future years.

I declare under penalty of perjury under the laws of this state that the foregoing and the attached update/revenue and expenditure report is true and correct to the best of my knowledge.

Timothy D. Durick Psy.D
Local Mental Health Director (PRINT)

[Signature] 2/14/18
Signature Date

I hereby certify that for the fiscal year ended June 30, 2017, the County/City has maintained an interest-bearing local Mental Health Services (MHS) Fund (WIC 5892(f)); and that the County's/City's financial statements are audited annually by an independent auditor and the most recent audit report is dated for the fiscal year ended June 30, 2016. I further certify that for the fiscal year ended June 30, 2016, the State MHSA distributions were recorded as revenues in the local MHS Fund; that County/City MHSA expenditures and transfers out were appropriated by the Board of Supervisors and recorded in compliance with such appropriations; and that the County/City has complied with WIC section 5891(a), in that local MHS funds may not be loaned to a county general fund or any other county fund.

I declare under penalty of perjury under the laws of this state that the foregoing, and if there is a revenue and expenditure report attached, is true and correct to the best of my knowledge.

Cass Cook
County Auditor Controller (PRINT)

[Signature] 2-20-18
Signature Date

Welfare and Institutions Code Sections 5847(b)(9) and 5899(a)
Three-Year Program and Expenditure Plan, Annual Update, and RER Certification (07/23/2013)