December 6, 2017

MENTAL HEALTH SERVICES ACT
INNOVATION PROJECT PLANS
CONNECTEDNESS 2 COMMUNITY, AND
METABOLIC SYNDROME PILOT
AVAILABLE FOR 30-DAY PUBLIC REVIEW

The Tulare County Health & Human Services Agency (HHSA), Mental Health Branch, as required under the Mental Health Services Act (MHSA), is opening a public review and comment period for the Innovation project plan, Connectedness 2 Community, as well as for the Innovation project plan, Metabolic Syndrome Pilot. These plans detail proposed projects under the MHSA Innovation (INN) component.

The 30-day public review and comment period will begin December 8, 2017, and expires January 8, 2018. At the January 9, 2018 Mental Health Board meeting, the two plans will be presented, including the public comments received and any revisions resulting from them. You can find further information as to the date, time, and location of the Mental Health Board meetings by contacting Diane Fisher at (559) 624-7447 or by email at DFisher@tularehhsa.org.

The two pdf documents under review will be posted on the County HHSA website at http://www.tchhsa.org/ under Media/Public Information/Public Notices. Any member of the public may request a hard copy of the document by contacting the Tulare County HHSA Mental Health Department at (559) 624-7445.

Public comments may be submitted via email to MHart@tularehhsa.org, or via mail to:
Tulare County HHSA, Michael Hart
Mental Health Dept
5957 S. Mooney Blvd.
Visalia, CA 93277

Thank you.

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, Svendsen, Singer, Foti, & Mauer, 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, Bobes, Cetkovichbakmas, Cohen, Asai, Detraux, Gautam, Möller, Ndetei, Newcomer, Uwakwe, & Leucht, 2011; De Hert, Dekker, Wood, Kahl, Holt, & Möller, 2009; Glasheen, Hedden, Forman-Hoffman, & Colpe, 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 (De Hert, Correll, et al., 2011). A recent large national medical survey in Australia found that 57.8% of people with psychosis had metabolic syndrome (Waterreus, Di Prinzio, Watts, Castle, Galletly, & Morgan, 2016).

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

Through a study conducted locally on metabolic syndrome among individuals who were admitted to a psychiatric hospital 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, Randhawa, Totten, Smith, & Raese, 2016).

A key reason for this high rate of metabolic syndrome among people with psychosis is that individuals who take antipsychotic medications are two to five times more likely to develop components of metabolic syndrome, including obesity, high blood pressure, and low HDL cholesterol levels (Lambert, 2011). Metabolic syndrome can lead to serious diseases, such as cardiovascular disease and type 2 diabetes (Kamkar, Sanagoo, Zargarani, Jouybari, & Marjani, 2016), which can both shorten people's lives and reduce their quality of life.

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. Recent 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, de Wit, Bouvy, Stijnen, Cuijpers, Penninx, & Zitman, 2010). Similarly, diabetes (in which blood sugar level is a core component, as it is in metabolic syndrome) has been demonstrated to be causally linked to depression (Reimer, Schmitt, Ehrmann, Kulzer, & Hermanns, 2017; Ehrmann, Kulzer, Haak, & Hermanns, 2015).

Furthermore, 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 and depression (Rosenbaum, Tiedemann, Stanton, Parker, Waterreus, Curtis, & Ward, 2016; Rosenbaum, Tiedemann, Sherrington, Curtis, & Ward, 2014). 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).

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).

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 consumption – 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 in their journey to wellness and recovery. Tulare County Health and Human Services Agency (HHSA), Mental Health Branch 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 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 his or her 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 related 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 health and mental health, developed the 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 continuation of our efforts to integrate physical health and mental health. The initial efforts which have continued to show success are the Older Adult Hopeless 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 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
>
> 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 by 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 consistently 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 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 medication at the health care center decreased by 53% due to the enhanced consultation and collaboration between Health and Mental Health.

The Addressing Metabolic Syndrome Pilot Project fits well into our view 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 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 review of the literature using PubMed and Google Scholar. In doing so, we found that the high prevalence of metabolic syndrome in individuals taking antipsychotic 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 of these is as comprehensive as the project we describe in this plan.

Table 1, which begins on page 7, displays the programs we found in our literature review. It shows in the third column, with shaded dark gray cells, whether the programs include screening for metabolic syndrome. Cells with light gray 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 that are 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/or tobacco use, in order to address metabolic syndrome or its components. All of the other programs only address exercise and/or nutrition. Studies show that both alcohol (Alkerwi, Boutsen, Vaillant, Barre, Lair, Albert, Guillaume, & Dramaix, 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 certainly 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).

[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).

Table 1

Programs That Addressed Metabolic Syndrome or Its Components in People with Mental Illness								
		Metabolic Syndrome		Help to Improve Modifiable Health Behaviors Connected to Metabolic Syndrome				Stat. Signif. Change
Studies of Programs	**Population**	**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.

Programs That Addressed Metabolic Syndrome or Its Components in People with Mental Illness								
		Metabolic Syndrome		Help to Improve Modifiable Health Behaviors Connected to Metabolic Syndrome				Stat. Signif. Change
Studies of Programs	**Population**	**Screening**	**Pharmacol. Treatment**	**Nutrition**	**Exercise**	**Alcohol**	**Tobacco**	
"Mind and Body": Jones, Benson, Griffiths, Berk, & Dodd (2009)	Adults taking second-generation antipsychotics	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 antipsychotics	Weight, girth, height, BMI						
Blouin, Binet, Bouchard, Després, & Alméreas (2009)	Adults taking second-generation antipsychotics	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, schizophreniform disorder, or	Weight, BMI						

Programs That Addressed Metabolic Syndrome or Its Components in People with Mental Illness								
		Metabolic Syndrome		Help to Improve Modifiable Health Behaviors Connected to Metabolic Syndrome				Stat. Signif. Change
Studies of Programs	**Population**	**Screening**	**Pharmacol. Treatment**	**Nutrition**	**Exercise**	**Alcohol**	**Tobacco**	
	schizoaffective disorder taking antipsychotics 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						

Programs That Addressed Metabolic Syndrome or Its Components in People with Mental Illness								
		Metabolic Syndrome		Help to Improve Modifiable Health Behaviors Connected to Metabolic Syndrome				Stat. Signif. Change
Studies of Programs	**Population**	**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							

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 individuals 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.

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.

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 VAIC medical staff 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 nutrition, physical activity, and alcohol and tobacco use.

4. Provide education and training for VAIC licensed psychiatric providers and other 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 State of Missouri's "*Metabolic Syndrome Screening and Monitoring Tool*" (Attachment 1). 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 ≥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)

(5) Impaired glycemia: Hemoglobin A1c ≥ 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

[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).

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.

Concurrently with their metabolic syndrome screening appointment with the VHCC licensed medical provider at VAIC, the participants will also complete the Department of Health Care Services' "*Staying Healthy Assessment*" (Attachment 2). This tool includes seven questions about modifiable health behaviors which as previously mentioned 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 quarterly 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 coaching and encouragement in order to help the participant succeed in making the needed changes.

The Nurse Health Educator will meet with the 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.

In addition to the quarterly 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.

Information related to this program such as screening results and personalized healthy behaviors plan will be included in the mental health electronic records for each of the participants. The consumer's VAIC mental health treatment team will be asked to check this information before or during their contacts with participants, and to speak to the participants about their progress toward their health goals, and to offer support. (See Attachment 3, the "Basic Work Process.")

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 approach that has been successful in non-mental health contexts or settings).

This project introduces a practice or approach that is new to the overall mental health system by providing targeted health care to mental health consumers as part of their mental health treatment based on research that have concluded that individuals with severe mental illness die, on average, due to chronic preventable diseases.
may be needed.

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 specific proposed interventions of disease screening, prevention, and treatment are anything but novel. Nor is assessment of modifiable health behaviors and the provision of coaching and referrals to services and supports to help people make changes to improve their health. These are time-tested methods in the fields of medicine and public health.

What is novel about this project is integrating the specific project elements outlined above into a cohesive project in a mental health clinic setting. This integration stems from a recognition that antipsychotic medications are causally linked to metabolic syndrome, and a realization that the mental health consumers who are or may be affected by it are more likely to receive prevention and treatment if it takes place, as much as possible, at the mental health clinic.

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?

Our project is innovative, because it includes as an integrated component of mental health care the prevention and treatment of a physical condition (metabolic syndrome), which can be caused by a common, state-of-the-art mental health treatment (antipsychotic medication), using a unique combination of project elements. Addressing these physical effects of mental health treatment will also promote improved mental health on the part of the project's participants.

As noted above, direct linkages have been established between physical conditions that are closely related to metabolic syndrome and mental illness. In addition, poor physical health can be a significant source of stress for mental health consumers. Those less burdened by physical health problems will be better able to focus on and succeed in their journey to wellness and recovery.

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.*

We intend to learn to what extent our innovative project will:

(1) Increase identification of the number of individuals taking antipsychotics who are diagnosed and treated for metabolic syndrome,

(2) Improve participants' medical indicators of metabolic syndrome,

(3) Improve participants' modifiable health behaviors related to metabolic syndrome, and

(4) Increase the degree to which mental health clinic staff take metabolic syndrome and/or health behaviors into account within treatment.

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. 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 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 those consumers at the Visalia Adult Integrated Clinic who receive injectable antipsychotic medications. There are currently approximately 120 individuals who do so. They will be asked if they would like to participate in this project being informed as to the purpose of this project. 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. Those who choose to participate in this program will complete a consent and release of information form.

We will collect data from the following sources:

(1) Participants' mental health and physical health information, 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

(2) Participants' State of Missouri's "*Metabolic Syndrome Screening and Monitoring Tool*" (Attachment 1) and Department of Health Care Services' "S*taying Healthy Assessment*" (Attachment 2)

(3) Participants' health improvement plans related to metabolic syndrome as developed collaboratively by the Health Education Nurse and participant, as well as the participants' self-reported progress in reaching their modifiable health behavior goals

(4) Providers and staff at the Visalia Adult Integrated Clinic will fill out brief surveys on a regular basis to measure changes in knowledge, attitude, and beliefs related to incorporation of consumer's health (for this project medical and health behaviors related to metabolic syndrome) within mental health treatment

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 the Visalia Adult Integrated Clinic) will be asked to fill out surveys related to metabolic syndrome. Psychiatric providers working at the Visalia Adult Integrated Clinic (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 indicators (Table 1), which enable us to gauge the extent to which the project is achieving its goal and objectives, and process indicators (Table 3), with which we will track to what degree the tasks are being performed

Table 1

Measurable	Outcome Indicators	Target	When to Collect	Source
1. Screen participants for metabolic syndrome	Percentage of participants screened for metabolic syndrome quarterly	Providing metabolic syndrome screening to 90% of participants	At enrollment and quarterly thereafter, unless otherwise clinically indicated	Metabolic Syndrome Screening and Monitoring Tool
2. Identification of metabolic syndrome or components of metabolic syndrome among participants	Number of participants meeting the criteria for or having components of metabolic syndrome	Undetermined; however, as previously mentioned a local study found 34.5% of individuals within their design setting of patients at a psychiatric hospital met the criteria for metabolic syndrome	At enrollment and quarterly thereafter, unless otherwise clinically indicated	Metabolic Syndrome Screening and Monitoring Tool
3. Provision of treatment for metabolic syndrome or component therein	Number of participants being treated for metabolic syndrome	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 PCPs who are treating outside county health center	GE, PCPs
4. Improved medical status among participants	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	Metabolic Syndrome Screening and Monitoring Tool
5. Improved health behaviors among participants	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

Measurable	Outcome Indicators	Target	When to Collect	Source
6. Increase knowledge of and consideration for metabolic syndrome and the components therein among VAIC psychiatric providers (psychiatrists, physician assistants, nurse practitioners, and nurses)	Number of times VAIC psychiatric providers mention metabolic syndrome or components therein – screening, diagnosis, or treatment – in their progress notes on participants, compared with the year before the start of the project	200% increase during the project, compared to the previous year	Quarterly monitoring for total improvement at conclusion of pilot	VAIC Avatar electronic health record system (Avatar)
7. Increase VAIC psychiatric providers' self-reported confidence in diagnosing metabolic syndrome, frequency of screening, consideration of metabolic syndrome in choosing a medication to prescribe	Pre/post survey indicators addressing each measurable	10% increase in positive mean responses	Prior to start of project and end of project	Pre/post survey
8. To increase awareness among VAIC psychiatric providers regarding metabolic syndrome as a risk factor for cardiovascular disease	Pre/post survey indicators addressing measurable	20% increase in awareness	Prior to start of project and end of project	Pre/post survey

Additional data will be collected for use in the outcome analysis (Table 2). These include the participants' demographic characteristics and medications taken over the course of the project, both psychiatric and medical, to address the components of metabolic syndrome.

Table 2

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

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

Table 3

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 personal health behavior modification plans written by the Nurse Health Educator	[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 by the PCP)	95%	Quarterly	GE or Primary Care Providers

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 1-3 above, 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 who are 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 medical provider, the Medical Assistant will record the participants' blood pressure, waist circumference, height, and weight. (Body mass index is calculated from height and weight.) A small sample of blood will be taken via finger skin puncture to run a blood test to collect the following information: hemoglobin A1c, total cholesterol, LDL cholesterol, HDL cholesterol, and triglyceride levels.

(4) 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 modification plans (in the areas of exercise, nutrition, and alcohol and tobacco use). At subsequent appointments, the participants will report on their progress toward meeting their goals. The plans can be modified, as needed.

(6) Psychiatric providers and other staff members at VAIC will fill out surveys on a regular basis. (Some Mental Health Plan licensed psychiatric providers who do not work at VAIC will also be surveyed.)

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. Clerical staff will upload the data regularly 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 data 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. Participants' health modification plans and their self-reported progress will be uploaded into the GE and Avatar electronic health records systems. Licensed psychiatric providers and other staff members will fill out surveys online on a regular basis.

To the extent possible, we will combine the data on our evaluation indicators in a single database, to facilitate process evaluation and data analysis as part of the outcome evaluation. The data will be input by clerical staff. In full compliance with confidentiality laws and regulations and HIPAA, the data will be provided to our External Evaluator for analysis. Participant health improvement plan information and progress as well as staff survey data will be provided separately. The data will be analyzed to determine whether targets were met. Statistical significance testing will be performed using methods most appropriate to the specific data. If the sample size is sufficient, additional analysis will be performed to determine the specific effects, if any, of the variables listed in Table 2.

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 program will not be contracted out as it is being piloted within the County-run Visalia Adult Integrated Health Clinic, we will contract out the evaluation to an evaluation firm under a professional service agreement. We have worked 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 make sure that expectations are met and that regulatory compliance is maintained. The amount of administrative time needed for oversight has been minimal. Evaluation staff has attended all relevant planning meetings for this project and collaborated with in the development of the evaluation plan.

I. Additional Information for Regulatory Requirements

Documentation that the source of INN funds is 5% of the County's PEI allocation and 5% of the CSS 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 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."

c) 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.

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 of Tulare County. 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 innovative project.

Subsequent meetings consisted of an Innovations 101 training to educate the stakeholders of the Innovation Project's purpose, process, and requirements 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.)

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 aim of this project to improve mental health consumers' mental health by addressing a physical health problem (metabolic syndrome), caused by antipsychotic medication, that can interfere with their journey toward mental health wellness and recovery.

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.

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.

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 the Visalia Adult Integrated Clinic for mental health who are taking injectable antipsychotic medication. We estimate that 50-75% will choose to participate in the project, for a total of 50-75 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 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 approximately to mirror the population of individuals receiving injectable antipsychotic medications at the Visalia Adult Integrated Clinic. We do not anticipate that any demographic characteristic will be correlated with the individuals' likelihood to consent to participate in the project.

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.

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.

The project serves consumers of mental health services in 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 and 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 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.

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 is dedicated to providing services, programs, and policies are 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 sta-

tus, 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 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 take place, 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 Branch. 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 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 a standing agenda item to be discussed monthly.

c) Client- and Family-Driven

This project is strongly client-driven. 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 their 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 treatment is driven by their choice.

Finally, a key element of the project involves the improvement of participants' modifiable health behaviors. The Modifiable 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 additional 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 individual plan. At each quarterly appointment with the Nurse Health Educator, the plan will be revisited, the consumer will report on progress in each of the areas, 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 element of the project.

Family members will be encouraged to participate in the project, as appropriate, and with the express permission of the participants. 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 modifiable health behaviors.

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 its 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 for "falling through the cracks" in more successfully linking with treatment such as those discharging from the psychiatric hospital, the Assertive Community Treatment (ACT) team who 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 is a lower-level of care from the ACT team but still provides frequent services to consumer experiencing engagement barriers but not as significant as those on 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 also 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 journey through the arts: https://www.facebook.com/myvoicemediacenter/ 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 degree, 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 cite 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

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 as well as 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 medical provider and medical assistant who are based at a physical health clinic see mental health consumers in physical exam rooms located 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. PCPs at the physical health clinic are also able to view their patients' mental health records.

(3) Having a public health nurse work with mental health consumers in a mental health clinic to develop modifiable physical health behavior plans, related to metabolic syndrome, in collaboration with them.

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 as previously mentioned related to the target population.

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 (CSS) 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 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 modifiable 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 Nurse Health Educator 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 primary care providers, 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.

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, modifiable health behavior 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 evaluation methodology and design will be discussed with our Mental Health Cultural Competency Committee (MHCCC), which meets on a monthly basis. Once the project is approved, this will be a standing agenda item to be discussed 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.

After the start of this project, the Project Team will continue 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. Each of these committees/Board include, but are not limited to, consumers, family members, community and agency partners. They will likewise provide invaluable stakeholder input on the project.

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 Project Team, 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. After the initial presentation, copies of the presentation will be available upon request. We will also share publicly our comprehensive project report, for stakeholders and community members interested in an in-depth review of the project.

We will also write an article on the project for submission to the newsletter written and published 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.

If the evaluation outcomes are sufficiently positive to warrant it, we will distribute our comprehensive 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. Shared experiences on the project's impacts on the lives of our community members will be welcomed and encouraged. Project participants will be invited to share in publications such as "The Trestle" and the NAMI Tulare County newsletter without revealing their identities, how the project benefitted them.

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
2. Tulare County
3. modifiable health behaviors
4. health integration
5. Innovation

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: January 2018
End Date: December 2023

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 about 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
- Beginning to enroll project participants on a voluntary basis. Participants sign release of information form

(2) Preparation Phase: September 2017 – December 2017

- 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
- 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
- Instructing clinic 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
- 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 to house project information, for process and outcome evaluation
- Conducting a operations test “walk-through” just prior to implementation, for final trouble-shooting

(3) Implementation Phase: January 2018 – December 2023

- 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.
- 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 set in their plans.
- Entry/uploading of data into the medical 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 program's level of cultural competence
- 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 the 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: January – June 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 project report by the External Evaluator. Development of summaries of varying lengths, to aid in dissemination.
- Dissemination of the comprehensive project report and summaries to local stakeholders, for as wide a distribution as possible, and to MHSA 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: March 2024

- 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 MHSA 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)

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.

Personnel

2017-2018 Salaries: **$123,240**

1. Primary Care Practitioner, 0.1 FTE, $16,725.20
2. Medical Assistant, 0.1 FTE, $3,455.40
3. Public Health Nurse, 0.1 FTE, $7,854.50
4. Mental Health Medical Director, 0.1 FTE, $29,359.80
5. Psychologist (Clinic Manager), 0.1 FTE, $9,947.10
6. Mental Health Specialist, 0.1 FTE, $5,854.60
7. Staff Services Analyst, 0.1 FTE, $6,083.10
8. Unit Manager, 0.1 FTE, $7,448..20
9. Lead Registered Nurse, 0.1 FTE, $8,255.00
10. Registered Nurse, 0.1 FTE, $7,447.20
11. Office Assistant IV, 0.1 FTE, $3,684.70

12. Psychologist II, 0.1 FTE, $9,747.00
13. Administrative Specialist, 0.1 FTE, $7,378.20
2017-2018 Personnel Costs(benefits/worker's comp): $**40,503**

2017-2018 Total Personnel Costs: $163,743

Five percent annual increase for personnel costs calculated for subsequent years:
2018-2019: $171,931
2019-2020: $180,527
2020-2021: $189,553
2021-2022: $199,031
Total Five Year Personnel Costs: $904,785

Operating Costs
Direct Costs: Consumable medical and office supplies
2017-2018: $21,758
2018-2019: $21,758
2019-2020: $21,758
2020-2021: $21,758
2021-2022: $21,758
Total Five Year Direct Operating Costs: $108,790

Indirect Costs: Program Oversight and administrative costs
2017-2018: $33,295
2018-2019: $35,900
2019-2020: $37,400
2020-2021: $39,000
2021-2022: $40,600
Total Five Year Indirect Operating Costs: $186,195

Non Recurring Costs: Purchase of equipment, furniture, technology, and remodel
2017-2018: $133,714
2018-2019: $0
2019-2020: $0
2020-2021: $0
2021-2022: $0
Total Five Year Non Recurring Costs: $133,714

Consultant Costs/Contracts: Evaluator
2017-2018: $9,850
2018-2019: $9,850
2019-2020: $9,850
2020-2021: $9,850
2021-2022: $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: $1,382,734

A. New Innovative Project Budget By FISCAL YEAR (FY)*							
EXPENDITURES							
PERSONNEL COSTS (salaries, wages, benefits)		**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 2022**	**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		**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 2022**	**Total**
5.	Direct Costs	$21,758	$21,758	$21,758	$21,758	$21,758	$108,790
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	**$294,985**

NON RECURRING COSTS (equipment, technology)		**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 2022**	**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)		**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 2022**	**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)	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 2022**	**Total**
16. Total Other expenditures						

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)	$21,758	$21,758	$21,758	$21,758	$21,758	**$108,790**
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	$362,360	$239,439	$249,535	$260,161	$271,239	**$1,382,734**

*For a complete definition of direct and indirect costs, please use DHCS Information Notice 14-033. This notice aligns with the federal definition for direct/indirect costs.

Attachments

1. "Metabolic Syndrome Screening and Monitoring Tool" from the State of Missouri's Department of Mental Health
2. "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.)
3. Basic Work Process

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