Substance Use Disorder QUERI

Strategic Plan

2011

VA Palo Alto Health Care System

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1. Executive Summary

The mission of the Substance Use Disorder (SUD) QUERI is to improve the detection and treatment of Veterans with hazardous substance use in partnership with the VA Office of Mental Health Services (OMHS), VA Office of Mental Health Operations (OMHO), VA Office of Public Health, National Center for Post-traumatic Stress Disorder (NCPTSD), Pain Research, Informatics, Medical Comorbidities, and Education Center (PRIME), and the Mental Health and Human Immunodeficiency Virus/Hepatitis C Virus (HIV/HCV) QUERI Centers.

In service of our mission, we recently undertook an extensive strategic planning process that identified a broad list of potential implementation targets and engaged over 67 operational, clinical, Veteran, and research stakeholders in a process of prioritization. Armed with these data, the SUD QUERI Executive Committee, in close collaboration with our partners, endorsed three overarching goals: **(1) Improve the accessibility, quality, effectiveness, and efficiency of SUD specialty treatment; (2) Improve the accessibility, quality, and efficiency of treatment of hazardous substance use within medical VA settings, especially primary care; and (3) Improve the integrated and/or co-located treatment of SUD and common co-morbidities (especially infectious diseases, PTSD, and pain).** Goal 1 recognizes that great variability exists in the more than 220 VA SUD specialty treatment programs in terms of access, value, Uniform Mental Services Handbook implementation, and the provision of effective treatment practices. Goal 2 acknowledges that two-thirds of the roughly 460,000 VA patients with SUD will not have any contact with the SUD specialty treatment system but need to have their SUD assessed and managed in the other settings where they seek care. Goal 3 highlights the importance of identifying and implementing evidence-based models of integrated and/or co-located treatment for SUD and these high-prevalence and high-impact co-occurring disorders. While pursuing these overarching goals, we also strive to contribute to implementation theory testing and development, and better understanding of implementation science principles, primarily through the application of the Promoting Action on Research Implementation in Health Services (PARIHS) and other organizational and diffusion of innovation frameworks. Economic analyses, patient-centered care, the creation of data resources and informatics tools, and attention to special populations (e.g., women, homeless, young and older veterans) are crosscutting themes that we will address within each of the major goals.

Highlights of Recent Accomplishments

The SUD QUERI has had many accomplishments in the last 3 years. SUD QUERI investigators developed the Brief Addiction Monitor (BAM) and have substantially contributed to the national BAM roll-out in conjunction with the Philadelphia Center of Excellence in Substance Abuse Treatment and Education (CESATE) and our OMHS partners. The adoption of reliable, systematic, and standardized symptom monitoring with the BAM and the use of those data to provide patient-centered, measurement-based care will represent a major improvement in SUD treatment practices compared to outdated models of service delivery based on standard program length or other one-size-fits-all approaches. Another accomplishment was a project that found little association between clinical outcomes and program or patient level average length of stay in Substance Abuse Residential Rehabilitation and Treatment Programs (SARRTPs). This study was motivated by one of our operational partners, Jamie Ploppert, Program Director of the Mental Health Residential Rehabilitation Programs, and results were used by him in efforts to rationalize lengths of stay in these oversubscribed and expensive treatment units.

Members of our Primary Care Workgroup have been central to the success of near universal (97%) annual screening for alcohol misuse with the AUDIT-C, working with the Office of Quality and Performance (OQP) to develop performance measures for brief intervention (BI) following positive screens, and identifying problems with the quality of screening and brief intervention (SBI) implementation including potential unintended consequences of the new performance measures. Among large integrated health care systems, the VA is unique in its success in implementing SBI, substantially due to the research program and partnerships developed by SUD QUERI investigators.

The Infectious Disease Workgroup trained SUD/gastroenterology teams from over 60 facilities in the Liver Health Initiative (LHI), designed to assist SUD clinics provide (a) universal testing for hepatitis A, B, and C, (b) comprehensive patient education on liver health, (c) immunization for hepatitis A and B, and (d) increased rates of successful referral to a hepatitis clinic for hepatitis C positive patients. The SUD QUERI Implementation Research Coordinator (IRC) Dr. Hildi Hagedorn also completed an RRP implementing rapid oral HIV testing in three VA SUD clinics. Participating sites successfully implemented rapid oral HIV testing in their SUD clinics and HIV testing rates for Veterans entering SUD treatment increased. Plans are underway to spread this initiative. The SUD and Depressive Disorders Workgroup developed, tested, and identified the

effectiveness of a depression collaborative care intervention for HIV clinics, including SBI for alcohol misuse developed for nurse care managers.

Key Features of Future Plans

Our future plans have been developed in close collaboration with our clinical and operational partners, Executive Committee, and SUD QUERI investigators. For each goal, we have finalized a prioritized list of implementation research targets. Regarding Goal 1, we will work toward 1) the implementation of reliable and systematic symptom monitoring using the Brief Addiction Monitor (BAM); 2) Improve quality and reduce undesirable variability in intensive specialty services (e.g., intensive outpatient, SARRTPs, detoxification) in terms of access, effectiveness, and especially successful transitions to the next level of care; 3) Increase implementation of evidence-based smoking treatments in SARRTPs; and 4) Improve active consideration and use of pharmacotherapy for alcohol and opioid dependence in SUD specialty settings.

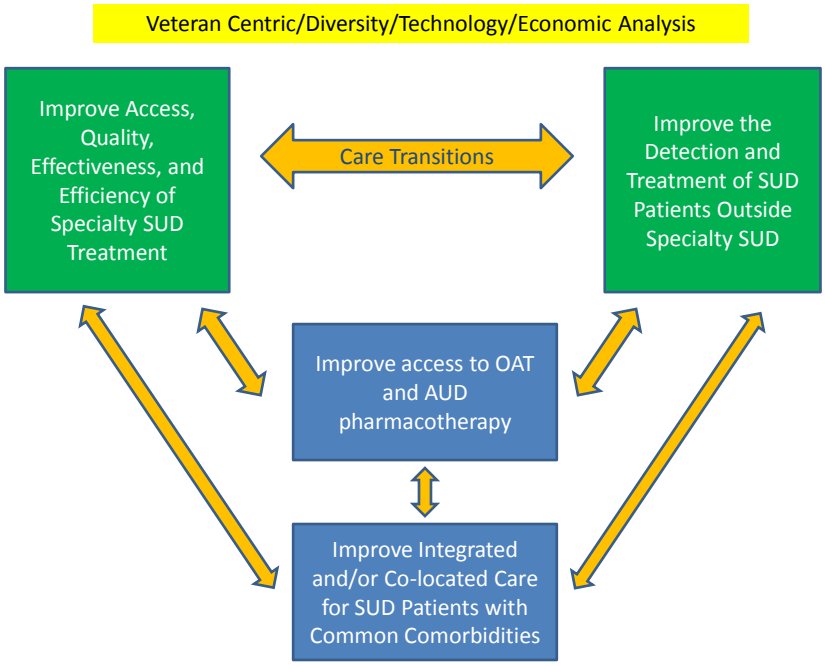
Regarding Goal 2, we will 1) Improve access to, and quality of, screening, brief interventions, and referral to treatment (SBIRT) for Veterans with unhealthy alcohol use; 2) Increase integration of hazardous substance use treatment with Patient Aligned Care Teams (PACTs); and 3) Improve access to and quality of pharmacotherapy for addiction treatment in VA clinical environments.

Regarding Goal 3, the Infectious Disease Workgroup plans to 1) Promote implementation of the nurse-based rapid oral HIV testing strategy within multiple VISNs with high HIV infection rates; 2) Assess sustainability of hepatitis related services implemented by programs that have previously attended Liver Health Initiative programs; 3) Develop an implementation strategy to engage “implementation resistant” programs; and 4) Evaluate new services models for SUD screening and intervention in hepatitis clinics. The SUD-PTSD Workgroup plans to 1) Define existing practice patterns of PTSD specialty programs in providing integrated, parallel, or sequenced care for co-occurring SUD and PTSD; and 2) Determine whether patients who have co-occurring substance use disorders face specific barriers to accessing PTSD specialty treatment. The Pain Workgroup plans to 1) Increase utilization of non-pharmacological, evidence-based pain management for pain in specialty SUD treatment settings; 2) Deimplement “worst practices” in pain medication prescribing to decrease the likelihood of adverse events (e.g., hospitalizations, overdoses) among those in SUD treatment also receiving treatment for pain; 3) Improve the understanding and measurement of opioid misuse in SUD specialty care and develop and implement effective interventions to reduce misuse; and 4) Identify and test

strategies to improve communication about pain management between primary care and SUD specialty care.

In addition, the SUD QUERI Coordinating Committee, Executive Committee and operational partners have established several cross-cutting themes that will be considered and, where appropriate, applied in projects within each of the three primary goals: economic analyses, patient-centered care, the creation of data resources and informatics tools, and consideration of special populations (e.g., women, homeless, young and older veterans).

Figure 1: SUD QUERI STRATEGIC VISION



2. Clinical Focus and Scope

2.1 Process for Selecting Clinical Focus and Scope

The SUD QUERI mission is to improve the detection and treatment of Veterans with hazardous substance use. In order to select the most valuable clinical scope and foci within that broader mission, SUD QUERI undertook an extensive, multi-step strategic planning process. First we developed a broad list of potential implementation targets by examining the relevant literature and culling relevant policy documents such as the Improving Veterans Mental Health Operating

Plan (IVMH Plan), clinical practice guidelines (CPGs) relevant to our patient population, and the VA Office of Mental Health Services Uniform Mental Health Services Handbook[1] (UMHS Handbook). Then SUD QUERI investigators, as well as operational and clinical partners, were asked to add to the list of candidate targets. This final list contained over 70 possible targets which were then condensed into 19 major themes, each with sub-targets.

We then conducted an online survey (see Appendix A) that asked participants to consider the following when rating 19 potential target areas into priority quartiles: alignment with priorities and goals of relevant operational and clinical partners (e.g., OMHS, OMHO), policy support (e.g., the UMHS Handbook, the IVMH Plan), prevalence and incidence of target disorder (e.g., alcohol misuse vs. methamphetamine use), health burden in Veterans, costs to VA, current practice and variations in practice, potential to improve practice, and potential impact on health outcomes or costs. Survey instructions also emphasized that SUD QUERI has the goal of producing tangible improvements in the health care system, therefore our main targets should have a solid evidence base (something to implement), and/or add value and knowledge to existing operational implementation initiatives, as well as be practical given the organizational context.

Sixty-seven SUD QUERI stakeholders completed the priority survey. Participants included VA Central Office (VACO) leaders from OMHO (Mary Schohn, Jodie Trafton), OMHS (Sonja Batten, Dan Kivlahan, John Paul Allen, David Carroll, Ken Weingardt, Bradley Karlin, Susan McCutcheon), and Public Health (Kim Hamlett-Berry, Maggie Chartier), almost all non-VACO members of the SUD QUERI Executive Committee (EC), over 50% of the VISN SUD representatives, and many SUD QUERI investigators. Interestingly, but perhaps not surprisingly, priority ratings differed across these groups of respondents. Therefore, we calculated overall priority scores, as well as scores stratified by group (e.g., VACO, non-VACO EC, VISN SUD representatives). These priority data, as well as data on other criteria (e.g., prevalence, policy relevance, partner engagement, strength of evidence) were then used during the in-person EC meeting to review, discuss, and prioritize each of the 19 themes and sub-targets.

Weighting of the priority survey data was not uniform in that the ranking of VACO partners and clinical partners counted more than investigator rankings. Also, the rankings of VACO partners with particular program responsibilities were very influential in evaluating related candidate targets. For example, the idea of conducting implementation research and evaluation around

the existing SUD evidence-based psychotherapy (EBPT) implementation activities of OMHS could only have received high priority with the enthusiastic endorsement of the relevant OMHS program leaders, which it did not. Smoking initiatives with the strong endorsement of our Public Health partners received high priority, even without more general endorsement. The rationale behind this strategy is that implementation and system-wide impact is more likely if system leaders help shape our implementation agenda, as they are the natural customers for the resultant knowledge and products.

Having established overarching goals and a rough draft of high-priority projects, we then modified our workgroup and taskgroup structure and leadership (described in more detail below). Each workgroup leader again reached out to key partners, investigators, and stakeholders to finalize a short list of prioritized high-value agendas and projects. We discussed the results of this process with Antoinette Zeiss and Sonja Batten, Chief and Deputy Chief Consultants in the Office of Mental Health Services during our new quarterly briefing call as well as with the Executive Committee (which now includes Mary Schohn, Director of Mental Health Operations and Kim Hamlett-Berry, Director of Public Health Policy and Prevention) to finalize our strategic focus and the plan presented here.

2.2 Specific Clinical Focus (Conditions, Patients, and Settings Included): The result of the strategic planning process described above was the adoption of three overarching goals that will best serve our mission of improving the detection and treatment of Veterans with hazardous substance use: **(1) Improve the accessibility, quality, effectiveness, and efficiency of SUD specialty treatment; (2) Improve the accessibility, quality, and efficiency of treatment of hazardous substance use within medical VA settings, especially primary care; and (3) Improve the integrated and/or co-located treatment of SUD and common comorbidities (especially infectious diseases, PTSD, and pain).** These goals, and related priorities within each goal, are described in more detail in Section 7, but here we define key terms.

Hazardous substance use is defined here to include the sub-diagnostic, but nonetheless risky, use of substances, as well as use and consequences that meet diagnostic criteria for abuse or dependence. Substances in our purview include alcohol, illegal drugs, tobacco, and prescription drugs (particularly pain and anti-anxiety medications) taken in a manner inconsistent with clinical practice guidelines. We are focused on improving access to and quality of care directly aimed at reducing hazardous substance use. Such treatment occurs in diverse settings but we will focus mostly on specialty SUD programs, specialty mental health programs, and primary

care. We also are concerned with treatment that addresses substance use as a complicating or co-morbid factor in the treatment of another health problem, such as hepatitis C, HIV, PTSD, and chronic pain.

Overlap with Other QUERI Centers: Our clinical focus overlaps with both the Mental Health QUERI and HIV/HCV QUERI. Our focus on improving the integrated and/or co-located treatment of SUD and PTSD is the strongest area of overlap with the Mental Health QUERI. We have recently connected our efforts in this area to maximize synergy. Specifically, the SUD QUERI has joined the NC-PTSD/Mental Health QUERI / eHealth (E-QUERI) coalition with the goal of supporting the improvement of VA PTSD treatment, novel technology-based strategies, and other projects that emerge. Dr. Craig Rosen now leads the SUD QUERI SUD-PTSD Workgroup and his position in the National Center for PTSD and his ongoing collaborations with the Mental Health QUERI will ensure that our efforts are coordinated and synergistic. The SUD and Mental Health QUERI Centers also share several Executive Committee members (e.g., Geoff Curran, Dan Kivlahan, and Tom Berger) who often act as conduits of coordination. The SUD and Mental Health QUERI Centers also have begun sharing and coordinating consultation duties on emerging projects where our priorities overlap. Also, the leadership groups of both QUERI Centers will have quarterly conference calls to facilitate collaboration and consultation. Dr. Alex Sox-Harris will also travel to the Mental Health QUERI coordinating center in Little Rock in the Spring of 2012 so each Center can learn more about the projects and priorities of the other. This new and greatly enhanced level of communication and coordination between the SUD and Mental Health QUERIs will greatly benefit both centers and increase our impacts on the system.

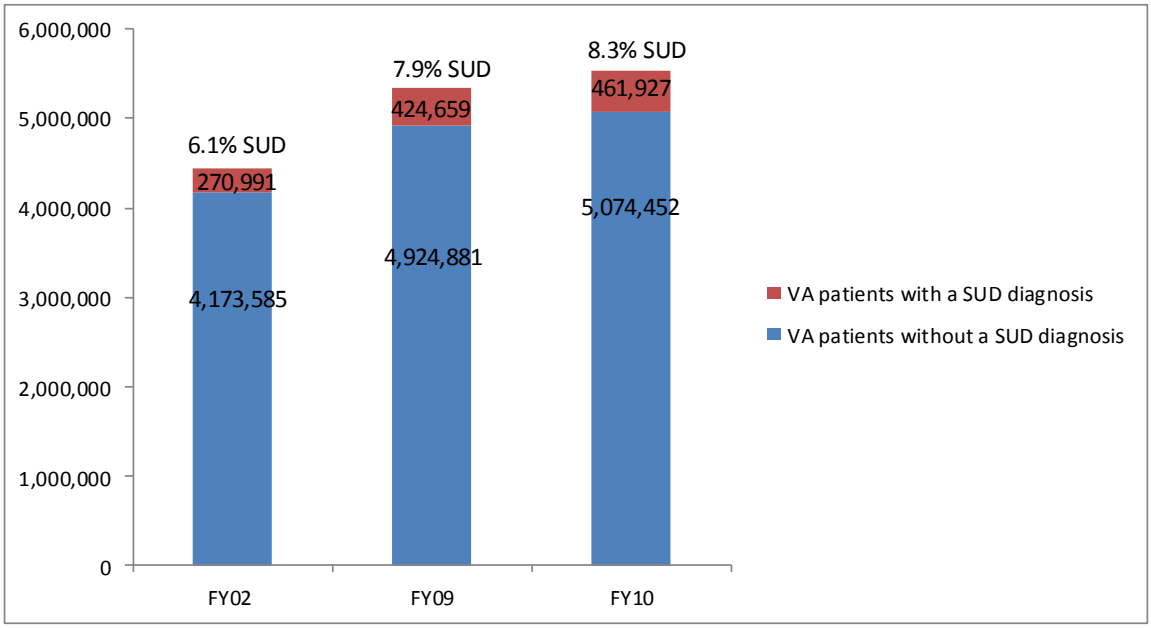
The SUD QUERI Infectious Disease Workgroup also overlaps in clinical focus with the HIV/HCV QUERI. Dr. Hagedorn, the SUD QUERI IRC, has led implementation research related to the Liver Health Initiative to improve screening and referral for HCV in SUD programs. She and HIV/HCV QUERI investigators are now pursuing research on the implementation of rapid oral HIV testing in SUD clinics with endorsement from both Centers. Several other SUD QUERI investigators are planning to implement and evaluate strategies for addressing alcohol misuse and other SUDs in patients treated in HCV or HIV clinics. Projects such as these which overlap with the priorities of the respective Centers are developed with input from our common partner (the VA Office of Public Health) and reviewed by the coordinating committees of each QUERI. The partial co-location of our centers in Palo Alto makes coordination much easier.

3. Significance and Consequences: Epidemiology, Morbidity/Mortality, Quality of Life and Costs

3.1 Alcohol and Illicit Drugs

Hazardous substance use is a leading cause of mortality and morbidity among Veterans and increases costs and the risk of poor outcomes across virtually all components of the VA health care system.[2] Veterans with substance use disorders also impose substantial health care costs and suffering on their families (e.g., through violence and infectious disease transmission) and the broader society (e.g., through crime, accidents and unemployment). The population of Veterans with non-tobacco substance use disorder (SUD) is increasing in both absolute terms and as a percent of the overall VA patient population, from 270,991 (6.1% of VA patients) in FY02 to 424,659 (7.9% of VA patients) in FY09 to 461,927 (8.3% of VA patients) in FY10 (Figure 2).[3]

Figure 2: Number of patients with and without a SUD diagnosis in FY02, FY09, and FY10 (Source: VA Program Evaluation and Resource Center [PERC] "Yellow Book"[3]).

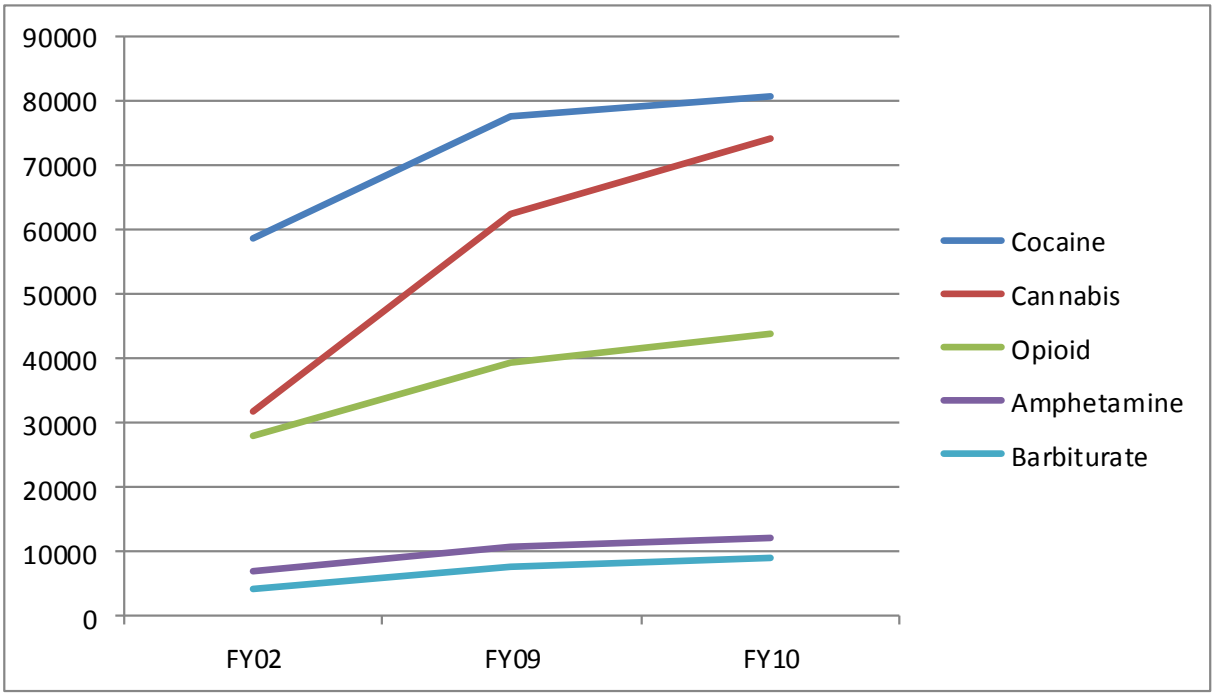


In FY10, only 34% (112,850) of VA patients with a SUD diagnosis was seen in SUD specialty treatment settings. The remaining 66% had their SUD documented in other settings, such as mental health clinics, primary care, or inpatient medical units where clinicians often struggle - due to time, resources, knowledge, or institutional barriers - to address SUD effectively. These

figures do not include Veterans who use alcohol or illicit substances in ways that are sub-diagnostic, but nonetheless risky in terms of acute or chronic effects.

Approximately 13% of VA patients misuse alcohol (>4 AUDIT-C sore). The medical consequences of alcohol misuse are well known and include, but are not limited to, increased risk of trauma, gastrointestinal disorders and hospitalization, surgical complications, and premature death. [4-7] Between FY02 and FY10, there were large increases in the number of VA patients diagnosed with cocaine use disorders and cannabis use disorders.[3] Between FY09 and FY10, the number of patients diagnosed with cocaine use disorders stabilized at roughly 80,000, while the number of patients diagnosed with cannabis use disorders continued to increase sharply to roughly 75,000 (Figure3).

Figure 3: Number of patients with drug use disorders by substance in FY02, FY09 and FY10 (Source: PERC "Yellow Book"[3]).



Not only are cocaine use disorders debilitating behaviorally and socially, they are associated with significant negative medical consequences, including acute myocardial infarction, cardiac arrhythmias, central nervous system complications, intestinal ischemia, and death.[8, 9] Beyond the negative effects of acute intoxication and dependence, cannabis use also has been shown to be both cross-sectionally and prospectively positively associated with psychotic-spectrum

disorders, such as schizophrenia , depressive symptoms or problems, and anxiety symptoms and disorders, including panic disorder. [10, 11] In addition, anxiety and posttraumatic stress have been linked to frequent cannabis use.[12, 13] Furthermore, daily cannabis use has been associated with increased risk of severe medical disorders (e.g., chronic bronchitis), increased risk taking behavior, and clinically significant life impairment .[14]

The number of VA patients with opioid dependence also continues to increase, now over 40,000. In the United States, opioid abuse and dependence have been estimated to have a total societal cost of $55.7 billion, with $25 billion (45%) of those costs being related to health care.[15] The cost of substance abuse treatment accounted for approximately $1.1 billion of this amount. Using administrative data of privately insured individuals from 1998 to 2002, it was estimated that health care costs are 8 times higher for opioid abusers ($15,884) than for matched non-abusers ($1,830).[16] McAdam-Marx and colleagues obtained a somewhat similar estimate of health care costs ($14,537) for Medicaid, opioid abuse/dependent patients (from 2002 to 2003); the discrepancy between opioid abusers and matched controls was not as pronounced, as the latter estimated health care costs were $8,663.[17]

3.2 Tobacco

Tobacco use disorders are clearly prevalent among VA patients (19.7% of new Veteran enrollees), and even more so among patients with other SUDs. Veterans and non-Veterans with an SUD are 3 to 4 times more likely to have concurrent nicotine dependence than individuals without another SUD [18, 19] and a recent survey conducted by the VA Program Evaluation and Resource Center (PERC) indicates that over 70% of Veterans in SUD specialty care programs are dependent on nicotine. Furthermore, tobacco use disorder results in significantly more mortality and morbidity than alcohol and illicit substances combined (US Department of Health and Human Services, 2000; Centers for Disease Control and Prevention, 2008). Yet many in the SUD recovery community have held mistaken beliefs about tobacco use. For example, tobacco was historically thought to be less lethal than other addictive substances, and smoking cessation thought to impede recovery from other SUDs. Not only is tobacco more lethal than alcohol and illicit substances, [20] but evidence suggests that tobacco use can impede recovery from other SUDs[21] and is related to more frequent use of opioids.[22]

3.3 SUD, HCV, and HIV Comorbidity

Hepatitis C (HCV) is the most common chronic blood borne infection in the United States and the leading cause of chronic liver disease. Roughly 4 million people in the US (1.8% of the population) are infected with HCV, 2.7 million of these individuals suffer from chronic infection, and there are 30,000 new cases annually. SUD is highly co-morbid with HCV. Injection illicit drug use currently accounts for nearly 60% of HCV transmissions in the US. Although the overall rate of infection in the US is lower than 2%, individuals who inject drugs have rates of infection reported to be between 50% and 90%.[23] Also, individuals who do not inject drugs but have other SUDs, especially those who are treatment seeking, have been found to have much higher rates of HCV infection (12-24%).[23] Not only are SUD patients at greater risk of contracting HCV, but SUDs, especially alcohol, act as a significant barrier to receipt and compliance with HCV treatment.[24] Over 1.1 million people are infected with the human immunodeficiency virus (HIV) in the United States and there are about 40,000 new infections per year.[25] The VA treats more than 24,000 HIV infected Veterans making it the largest single provider of HIV/AIDS care in the United States. As with HCV, HIV is highly co-morbid with SUD and injection drug use is a major source of transmission.

3.4 SUD-PTSD Comorbidity

Approximately one-third of Veterans seeking treatment for substance use disorders (SUD) meet criteria for co-morbid post-traumatic stress disorder (PTSD). SUD patients with co-morbid PTSD (SUD-PTSD) present with greater drug abuse severity,[26] demonstrate greater trauma and drug cue-elicited drug craving [27], and have poorer SUD treatment outcomes [28] than SUD patients without PTSD. Overdoses and liver disease related to substance use are significant causes of premature mortality among VA patients with chronic PTSD. [29] Receipt of PTSD treatment is associated with improved SUD outcomes among VA PTSD-SUD patients [30], although simply receiving SUD treatment (the usual practice) is not as associated with PTSD improvement .

3.5 Pain and Pain Medication Misuse Among Patients with Other SUDs

Up to 50% of male and 75% of female VA primary care patients report chronic pain.[31] Pain is among the most expensive disorder we treat, with over 2 billion dollars in attributable cost for low back pain alone in fiscal year 1999, a cost which has grown steadily ever since. [32] Because of mutually reinforcing dynamics, the prevalence of pain in patients with SUD is even higher. Pain also is highly co-morbid with PTSD, which of course is highly co-morbid with SUD. [33]

In FY10, there were over 1 million prescriptions for opioids written in VHA. Over the last 15 years, opioid prescribing has increased dramatically, as has the potential for misuse, abuse, and opioid-related problems. From 1999 to 2006, a greater than three-fold increase in opioid-related poisoning deaths in the United States was observed.[34] The number of Americans using prescription pain relievers for nonmedical purposes went up from 11 million in 2002 to 12.5 million in 2005, with approximately 1.7 million of the latter individuals meeting the DSM-IV criteria for abuse or dependence. The use of chronic opioid therapy is also growing rapidly in patients with a SUD diagnosis, [35] who are at an increased risk for opioid misuse. A recent analysis of national VA data sets revealed that approximately 12% (156,027) of VA patients prescribed an opioid in FY 2010 had a SUD diagnosis not in remission. Studies examining VA and non-VA patients prescribed opioids have found an increased risk for opioid abuse in those with a history of a SUD diagnosis [36], indicating that patients with a SUD history are 3 to 6 times more likely to misuse opioids than those without a SUD history. [37]

Taken together, the hazardous use of alcohol, illicit drugs, pain medications, and tobacco are highly prevalent in VA patients and results in substantial decrements to health and quality of life, as well as significant direct and indirect health care costs.

4. Treatment/Management Evidence Base

The aspirational goals and consensus standards of care for SUD are well defined in the influential documents that guided our review and synthesis of the relevant treatment literatures, most notably the VA/DoD Clinical Practice Guidelines for the Management of Substance Use Disorders[38], VA/DoD Clinical Practice Guidelines for the Management of Tobacco Use and Dependence, VA/DoD Clinical Practice Guidelines for the Management of Post Traumatic Stress Disorders[39], and VA/DoD Clinical Practice Guidelines for the Management of Opioid Therapy for Chronic Pain. Even more importantly, through the Undersecretary of Health and Secretary Shinseki-endorsed Uniform Mental Health Services Handbook, [1] VA has committed to provide the most extensive, coordinated and evidence-based array of services to patients with substance use disorders of any health care system in the United States. The Handbook goes beyond clinical practice guidelines, specifying the types and arrangements of care required at every facility and laying out how care will be organized and integrated. Implementation of this package of services is the number one priority of the VA Offices of Mental Health Services and

Operations (OMHS/OMHO). Further, the plan is strongly backed and closely monitored by Congress, which allocates over $6 billion a year for VA mental health services.

In engaging our partners in dialogue regarding how SUD QUERI can be most helpful, we received this advice: Select goals and targets that address known and anticipated problems in UMHS Handbook implementation and that do not replicate or interfere with existing implementation initiatives. For example, there is substantial evidence that contingency management and motivational enhancement therapy are effective treatments for SUD. However, national rollouts of these therapies, as well as the evaluation of the rollouts, are occurring under the direction of OMHS. Although we are constantly vigilant for opportunities to contribute to these OMHS initiatives, we have been encouraged by our partners to initially focus our attention on solving other problems. Therefore, we will not summarize all clinical evidence related to SUD, but rather focus on the evidence relevant to our Handbook-focused targets identified with our operational partners.

4.1 Routine Symptom Monitoring

SUD is increasingly conceptualized for many as a chronic disease with a high relapse rate that is characterized by periods of functional impairment alternating with periods of remission. It is impossible to manage any chronic disease without systematically monitoring the patient's symptoms while s/he is in treatment as well as periodically thereafter. The treatment plan needs to include the schedule and methods for monitoring symptoms, as well as other therapeutic benefits and adverse effects of care, and milestones for reevaluation of interventions. Also, the programs should actively reach out and monitor patients who have missed sessions or appear to have dropped out in order to support reengagement in treatment or recovery in other ways.

The implementation of symptom monitoring is specified in the UMHS Handbook, the FY11-13 Mental Health Initiative Operating Plan, and the VA/DoD Clinical Practice Guidelines. This general approach also is consistent with the Institute of Medicine, which has explicitly recommended the development and routine use of patient monitoring systems in SUD treatment.[40] Although the monitoring of symptoms itself is not an evidence-based practice, in that it alone is not sufficient to improve patient outcomes, it is a necessary component of effective care management. Unless symptoms are monitored, it is impossible to know if treatment is working or if adjustments might be necessary. Imagine trying to treat hypertension

without periodically taking and documenting a blood pressure reading. That was the current state of addiction treatment until recently. Now, VA is in the process of implementing routine and standardized symptom monitoring with the Brief Addiction Monitor (BAM). The ultimate goal of these data is to provide measurement-based, patient-centered care. However, we know from the lessons learned during implementation of annual screening for alcohol misuse with the AUDIT-C that every step in the process is challenging.

4.2 Intensive SUD Treatment: Access, Quality, and Care Transitions

The VA Uniform Mental Health Services Handbook describes the aspirational goals and requirements of VA intensive SUD treatment. In addition to intensive outpatient programs, intensive substance use treatment is provided in over 80 SUD-specific residential programs nationwide. These programs take three forms: designated Substance Abuse Residential Rehabilitation Treatment Programs (SARRTPs), Substance Abuse Domiciliaries (SA-DOMs), and substance use disorder program tracks within other Mental Health Residential Rehabilitation Treatment Programs (MHRRTPs). All of these are designed to provide a stable, supervised, abstinent recovery environment for the treatment and rehabilitation of Veterans with SUDs. For ease of reference we describe them all as SARRTPs. VA intensive treatment programs, especially the SARRTPs, are intended to treat Veterans with multiple and severe deficits and symptoms. The Handbook emphasizes these priorities with respect to SARRTPs: timely access, equal access for women, clinical contact and monitoring if the wait for admission exceeds 2 weeks, and discharge planning and follow-up. “Facilities must ensure that discharge planning, including an aftercare plan, occurs for all veterans leaving an MH RRTP and that these veterans are provided services based on a plan of care addressing clinical needs at time of discharge”.[1]

Ample evidence exists that intensive addiction-related services, such as residential or intensive outpatient treatment, should be rapidly followed by treatment and monitoring in a less intensive setting, such as regular outpatient specialty, primary care, and mutual help groups.[41] Care received after intensive treatment is often called “continuing care” or “after care”. SUD QUERI researchers recently published a review of research on the effects and nature of effective continuing care.[42] Although the evidence is varied and somewhat nuanced, some general principles emerge: better outcomes are associated with continuing care that is longer (at least a year), involves ongoing symptom monitoring, that actively engages and links patients to formal and informal treatment and recovery resources, and uses systematic behavioral incentives.

Relatively simple and low-cost interventions (incentives and active follow-up after dropout or discharge) have been shown to improve engagement in continuing care and outcomes. [42] The VA Uniform Mental Health Services Handbook and the VA/DoD Clinical Practice Guidelines emphasize the importance of linking patients to less intensive services after intensive treatment episodes. The OMHO now monitors access to and the timely follow-up of patients discharging from SARRTPs.

SUD Treatment Follow-up after Detoxification

In VHA each year, approximately 25,000 Veterans receive medically supervised withdrawal, often described as detoxification (or detox) for substance use disorders (SUDs). Detox is not an SUD treatment; rather, it is the medical management of withdrawal to prevent complications, such as seizures or delirium tremens, which may be fatal. When detox is not followed by SUD treatment, the rate of relapse to substance use within six months is over 80%. This failure rate is even worse than it appears, because decreased substance tolerance following detox places some Veterans at increased risk of overdose with a relapse. Therefore, detox not followed by treatment is, in some cases, more harmful than no care at all. Also consistent with the VA UMHS Handbook and VA/DoD Clinical Practice Guidelines, the VA Office of Mental Health Operations now monitors the timely (within one week) follow-up of patients after detox services.

4.3 Evidence and Standards of Care for Smoking Cessation Treatment in SUD Patients and Programs.

The VA/DOD Evidence-Based Practice Workgroup has adopted a comprehensive, evidence-based tobacco use screening and cessation program, entitled Treating Tobacco Use and Dependence Clinical Practice Guidelines. VA Policy requires that services for tobacco-related disorders need to be provided to those who need them in a manner that is consistent with these guidelines, which were based on a comprehensive systematic review of the scientific literature including more than 50 meta-analyses. For brevity, we do not summarize the evidence-base for the recommendation here, but refer those interested to the guidelines and their rationale (see link below).

(**http://www.healthquality.va.gov/Management_of_Tobacco_Use_MTU.asp**)

The Uniform Mental Health Services (UMHS) handbook specifies that guideline-concordant tobacco screening and services be available to all tobacco-using Veterans in mental health programs.[1] Indeed, the mortality rate for tobacco users with other substance use problems is

nearly 4 times higher than for non-tobacco users (21% versus 6%). [43] Furthermore, evidence suggests that tobacco use can impede recovery from other SUDs.[21] Among other potential mechanisms, nicotine enhances cue conditioning[44], and the cues associated with smoking can become cues for alcohol or other substances. [45, 46] A growing body of evidence indicates that tobacco use cessation (TUC) is suitable and efficacious for patients in recovery from substance use disorders. In fact, quitting smoking may improve SUD treatment outcomes. [47-50]

Although the implementation of these guidelines in all patients who use tobacco is a goal of SUD QUERI, we have decided in collaboration with our operational partners in VA Office of Public Health to focus our efforts on implementing evidenced-based treatment for tobacco use disorders in VA SUD programs, especially the SARRTP's, where the prevalence of smoking and the access to treatment resources are very high.

4.4 Evidence for Consideration of Pharmacotherapy for Alcohol and Opioid Dependence

The Food and Drug Administration (FDA) has approved four medications for alcohol dependence - acamprosate, oral naltrexone, long-acting injectable naltrexone, and disulfiram- and three medications for opioid dependence - methadone, buprenorphine and long-acting injectable naltrexone. The medications with the highest consensus ratings and recommendations based on their strong evidence are naltrexone and acamprosate for alcohol dependence and methadone and buprenorphine for opioid dependence.[1, 38] In the past 15 to 20 years, researchers have conducted over 60 randomized placebo-controlled trials testing the efficacy and safety of acamprosate and naltrexone, and several meta-analyses have synthesized these findings e.g., [51, 52, 53]. Overall, both medications have shown small to moderate but significant effects in improving drinking outcomes compared to placebo. Meta-analytic results indicate that naltrexone shows mixed effects in promoting abstinence, but it is particularly effective at reducing relapse to heavy drinking (often defined as more than 5 drinks per day). Acamprosate often demonstrates the opposite pattern – efficacy in maintaining abstinence, but less beneficial effects on relapse to heavy drinking. Interpreting results from previous studies suggests that the number needed to treat (NNT) to achieve good clinical outcomes for naltrexone and acamprosate is generally between 7 and 10.

Based on this evidence, the availability and consideration of FDA-approved medications for alcohol and opioid dependence are now endorsed in consensus standards for evidence-based SUD treatment, approved by the National Quality Forum, adopted as a performance measure by the American Psychiatric Association Physician Consortium for Performance Improvement

and National Committee for Quality Assurance, and mandated at all VA facilities.[1, 54] The VA UMHS Handbook stipulates these requirements: “Pharmacotherapy with an evidence-based treatment for alcohol dependence is to be offered and available to all adult patients diagnosed with alcohol dependence and without medical contraindications. Pharmacotherapy, if prescribed, must be provided in addition to, and directly linked with, psychosocial treatment and support.” “Pharmacotherapy with approved, appropriately- regulated opioid agonists (e.g., buprenorphine or methadone) must be available to all patients diagnosed with opioid dependence for whom it is indicated and for whom there are no medical contraindications. It needs to be considered in developing treatment plans for all such patients.”

These requirements make clear that not every patient with alcohol or opioid dependence necessarily needs to receive these medications, but that these treatment options should be available and offered to all patients. As made clear in Section 5.4 below, the availability and consideration of these medications is highly variable across facilities in the VA system.

4.5 Evidence and Standards of Care for Screening and Brief Intervention and Referral (SBIRT)

SBIRT is a set of clinical strategies widely recommended for improving the identification and management of unhealthy alcohol use. Screening determines the extent of alcohol use and signals the need for additional assessment and interventions. Routine alcohol screening to identify patients with alcohol misuse is recommended (as an antecedent to brief alcohol counseling), because many patients with alcohol misuse are not identified by primary care or mental health providers in the absence of routine screening. Although VA has implemented routine alcohol screening, implementation of routine brief alcohol counseling has proven challenging, in part because there is no well-defined, efficient method for measuring performance of brief alcohol counseling. Brief Intervention (BI) is a non-confrontational, patient-centered approach to unhealthy alcohol use which involves a five- to fifteen-minute, semi-structured, motivational discussion raising awareness of alcohol-related consequences and motivating a patient toward behavior change. Brief alcohol counseling may be delivered by non-specialists (e.g., primary care providers), and a meta-analysis by the former Research Coordinator of the SUD QUERI [55] and a recent Cochrane review [56], have concluded that brief alcohol counseling results in decreased drinking.

Routine brief alcohol counseling with patients who screen positive for alcohol misuse is

recommended in the VA/DoD Substance Use Disorders Guideline [38] and by the U.S. Preventive Services Task Force.[57] Brief alcohol counseling was designated the 3rd highest US prevention priority for adults based on the societal burden of alcohol misuse and its efficacy and cost-effectiveness.[58] [59] A recent report demonstrated the efficacy of brief alcohol counseling by telephone.[60]

4.6 Evidence and Standards of Care for Integrated SUD-Infectious Disease Treatment

In the UMHS Handbook, patients with hepatitis C and HIV are specifically mentioned as populations that may need SUD treatment that is tailored or adapted to their specific needs. Alcohol use can directly affect health outcomes, due to the compromised liver function of hepatitis C patients, and both alcohol and other substances (e.g., cannabis) can negatively impact treatment initiation, adherence, and retention. With the advent of new protease inhibitors to treat genotype-1 hepatitis C, which accounts for 80% of hepatitis C cases in the US, it has become even more critical to screen for and address (through referral or integrated care) hepatitis C in SUD treatment settings. Further, screening and addressing SUD in medical specialty clinics treating patients with hepatitis C (e.g., gastroenterology, infectious disease) is a high priority of our partners in the VA Office of Public Health and the HIV/HCV QUERI, with special efforts to develop, test, and implement co-located and/or integrated models of SUD and other mental health services in these specialty medical care settings.

Management of patients with SUDs and co-morbid HIV is a target of ongoing collaboration between the SUD and the HIV/HCV QUERIs in partnership with the VA Office of Public Health. The VA National HIV/AIDS Strategy Operational Plan (2011) has the following goals:

- Work with VA's Mental Health and SUD programs to ensure that HIV positive Veterans are linked to support programs as needed.
- Continue to encourage HIV providers to work with mental health and SUD treatment providers to ensure quality comprehensive health care is being provided for Veterans with HIV.
- Develop models of care that promote HIV screening in SUD treatment programs and mental health clinics.
- Encourage VA mental health and SUD clinics to offer voluntary, routine HIV screening to all Veterans in health care.

The joint SUD-HIV/HCV Task Group found that only 19.6% of a national sample of VA patients with histories of SUD had received HIV education and testing, and then only if specifically requested, highlighting the needs of Veterans with these common comorbidities. Dr. Hagedorn and Dr. Henry Anaya (HIV/HCV QUERI Investigator) have established a working group to develop a line of implementation research to promote rapid oral HIV testing in SUD clinics. In FY2008, Drs. Anaya, Hagedorn and Randal received RRP funding for a developmental, formative evaluation of three VA SUD clinics. Using the PARIHS implementation framework as a guide, the evaluation included: 1) semi-structured interviews with key management and staff to assess current HIV testing practice and site specific barriers and facilitators to implementation of rapid HIV testing; and 2) a survey of staff regarding the perceived utility of implementation of rapid oral HIV testing, the strength of evidence for implementation of rapid oral HIV testing, and organizational context factors known to impact implementation of new and innovative practices.

4.7 Evidence and Standards of Care for Integrated SUD-PTSD Treatment

Review of VA diagnoses for FY 2008 indicates that 22% of Veterans with PTSD have a co-occurring SUD diagnosis and 25% of Veterans with a SUD have a co-occurring PTSD diagnosis. The number of Veterans who are presenting to VA clinicians with co-occurring diagnoses of substance use disorder and PTSD has increased in recent years. Patients diagnosed with both disorders tend to have poorer long-term prognoses for each condition than singly diagnosed patients. The overall high rates of co-occurrence between SUD and PTSD have resulted in specific recommendations for the provision of services to best meet the needs of these individuals, with OMHS convening an expert panel to develop these recommendations in FY09. Most importantly, the VA UMHS Handbook requires that VA Medical Centers and Clinics provide coordinated, and, where possible, concurrent treatment of SUD and other co-occurring conditions, and specifically requires that PTSD programs have the ability to address the needs of Veterans with co-occurring PTSD and SUD. This requirement for coordinated and concurrent treatment exists even in the absence of well-established treatment approaches or models of care for achieving this goal, meaning “there is insufficient evidence to recommend for or against any specific psychosocial approach to addressing PTSD that is co-morbid with SUD.”

In order to fill this gap, the newly updated VA/DoD CPG for PTSD makes the following recommendations regarding the management and treatment of co-occurring PTSD and SUD:

- Patients with SUD and PTSD should be educated about the relationships between PTSD and substance abuse. The patient's prior treatment experience and preference should be considered, since no single intervention approach for the co-morbidity has yet emerged as the treatment of choice.

- Treat other concurrent substance use disorders consistent with VA/DoD clinical practice guidelines, including concurrent pharmacotherapy. If indicated, addiction-focused pharmacotherapy should be discussed, considered, available and offered for all patients with alcohol dependence and/or opioid dependence. Once initiated, addiction-focused pharmacotherapy should be monitored for adherence and treatment response.

- Provide multiple services in the most accessible setting to promote engagement and coordination of care for both conditions.

- Reassess response to treatment for SUD periodically and systematically, using standardized and valid self-report instrument(s) and laboratory tests. Indicators of SUD treatment response include ongoing substance use, craving, side effects of medication, emerging symptoms, etc.

4.8 Evidence and Standards of Care for Integrated SUD-Pain Treatment

A recent analysis of national VA data sets revealed that approximately 12% (156,027) of VA patients prescribed an opioid in FY 2010 had a SUD diagnosis not in remission. The increasingly common co-occurrence of pain and SUD raises two overlapping questions: How do we manage pain in patients who have problems managing addictive substances? And how do we recognize and address the misuse of pain medications generally and specifically in patients with current or previous SUD?

Regarding the first question, clinicians are challenged to select the safest and most effective balance between pharmacological and non-pharmacological approaches. This is due to the lack of specific guidance regarding the use of opioid pain medications in patients in SUD treatment, psychological interventions for the management of pain, such as Cognitive-Behavioral Therapy (CBT) [61] and acceptance-based interventions,[62, 63] all of which represent promising methods for treating chronic pain in patients with SUDs. Cognitive-behavioral interventions have been well-studied in other patient populations, and evidence indicates that they can significantly improve

pain and physical functioning in patients suffering from pain-related problems. [64-66] A comprehensive meta-analysis of 25 trials indicates that CBT interventions for pain can produce significant reductions in pain and negative affect compared to wait-list and attention control conditions. [66] Emerging evidence supports the efficacy of acceptance-based cognitive behavioral interventions in improving pain-related functioning in individuals with chronic pain.[62, 67-69] Additionally, acceptance-based and other CBT interventions for pain have a substantial conceptual overlap with CBT interventions for SUDs which are also widely used and have solid efficacy. [70-72] Despite the demonstrated efficacy of CBT in reducing pain and improving functioning in persons with pain-related conditions, this form of treatment has not been well-studied in those with co-occurring SUDs. In fact, most studies have explicitly excluded individuals with co-occurring alcohol or drug dependence. It is unknown whether CBT for pain management will work differently in those with SUDs, given their potential reliance and/or focus on substance misuse as a method to cope with pain. [73] However, several trials of CBT for pain in SUD patients are now underway. If these trials demonstrate that CBT is effective for the management of pain in SUD patients, SUD QUERI will work toward its implementation.

Regarding the second question, how to reduce the misuse of pain medications in patients with active or inactive SUD, the VA/DoD recently revised the clinical CPG for the management of chronic opioid therapy.[74 75] This latest revision is based in part on guidelines developed by Chou and colleagues [76]. These guidelines identify a few medical conditions or patient populations for which opioids are strictly contraindicated, but focus largely on processes of care to improve safety and efficacy of opioid therapy. As examples, the guideline encourages clinicians to proactively address side effects and drug combinations that may increase risk of adverse effects, integrate adjunctive non-opioid treatment options, and use urine drug screening protocols to discourage and detect medication misuse and diversion. Use of recommended care practices is considered essential for minimizing negative consequences of opioid prescribing without reversing gains made in improving pain management in clinical settings.[76] While a CPG is not enough to ensure change in clinical practice, this CPG provides a starting point from which to identify gaps in the quality of prescribing and delivery of clinical pain management across health care settings. Evidence suggests that patients with pain-related conditions and a co-morbid SUD diagnosis are at greater risk for medication misuse, such as early renewal of pain medication and obtaining pain medication from a friend or family member. [77]

5. Current Practices and Quality/Outcome Gaps

5.1 Gaps in Routine Symptom Monitoring

Members of the SUD QUERI Specialty Care Workgroup, in collaboration with the Philadelphia CESATE, have played key roles in developing and implementing routine symptom monitoring with the Brief Addiction Monitor (BAM). By the end of FY11, 97 of 230 VA specialty addiction treatment programs were administering the BAM. Several barriers have been identified to wider implementation of the BAM for on-going symptom monitoring, the most important being the limitation on data collection venues. Because there are no kiosks for veteran self-administration of the BAM, providers must enter BAM data manually into CPRS. The upcoming release of the VistA Mental Health Assistant patch for the BAM should reduce this barrier, allow VACO to monitor the implementation of the BAM nationally with data from the VA Corporate Data Warehouse (CDW), and use those data to set national performance standards. Many questions remain and will emerge as this system-wide implementation moves forward, especially regarding the quality and timeliness of administration and the optimal clinical use of the data. SUD QUERI plans to assist with this important implementation effort (specifics are more fully described under Goal 1 [p. 33] of the QUERI Center Goals).

5.2 Gaps in Intensive SUD Treatment: Access, Quality, and Care Transitions

Although there are several potential care transitions on which to focus our attention, the VA Offices of Mental Health Services and Operations are actively targeted on two specialty care transitions of particular vulnerability: Access to and follow-up after discharge from SARRTPs and Detoxification services. (The follow-up from a positive alcohol misuse screen in primary care is another process/transition that we address separately in Goal 2 [p.43] of the QUERI Center Goals). Significant facility-level variability exists in the proportion of patients who receive intensive outpatient SUD treatment and residential SUD treatment, the practices implemented in these programs, average program lengths of stay, and timely and reliable transitions to a less intense level of care.

This variability is evident in utilization of all SUD intensive care services. The facility-level average percent of patients with a SUD diagnosis who receive any SUD specialty care is 29.6%, with a range of 8% to 56%. The facility-level average percent of patients with a SUD diagnosis who receive any intensive outpatient SUD specialty care is 9.2%, with a range of 0% to 39.6%. The facility-level average length of intensive outpatient SUD specialty care is 3.3 weeks, with a range of 1 to 11.3 weeks. The facility-level average percent of patients with a SUD diagnosis who receive any intensive residential SUD specialty care is 5.8%, with a range

of 0% to 34.7%. The facility-level average length of intensive residential SUD specialty care is 9.4 weeks, with a range of 2.4 to 29 weeks.

Of the roughly 25,000 patients who received detox services in FY10, only about 40% received outpatient SUD treatment services in the following week, with a facility-level range of 15% to 76%. There is also tremendous variability in access to detox services, with the proportion of alcohol or opioid dependent patients receiving detox services ranging from near 0% to over 20%.

The tremendous variability in each of these metrics is poorly understood in terms of causes or potential remedies. Often, problems in these processes are linked. Patients lack access to post-discharge treatment or housing, causing longer lengths of stay, which causes access problems for patients on the waiting list. Several of our operational partners have requested more detailed information about the organizational and structural features of these programs ("looking in the black box") and an assessment of potential remedies to these documented problems in access and follow-up.

5. 3 Gaps in Smoking Cessation Treatment in VA SUD-Specific Residential Programs. Alcohol use disorder (AUD) is the single strongest predictor of nicotine dependence diagnosis in VA.[19] Intensive residential SUD treatment provides a unique opportunity to support recovery from nicotine addiction.[49] Patients are in a structured and protected environment focused on recovery with readily available staff and peer support. Patients may also be more motivated to initiate tobacco use cessation (TUC) while in a residential treatment environment. Integrating tobacco treatment into SARRTPs capitalizes on these environmental and motivational opportunities. SUD QUERI Clinical Coordinator Elizabeth Gifford recently conducted foundational analysis describing the landscape of TUC identification, treatment, and barriers to best practices in VA SARRTPs. The results of that work are summarized below.

The two most comprehensive data sources that describe implementation of evidence-based treatment for nicotine use disorders in VA SUD-specific residential programs are: 1) the Drug and Alcohol Program Survey (DAPS) conducted by the VA Program Evaluation and Resource Center, and 2) the VA Decision Support System (DSS) and National Patient Care Databases (NPCD). According to the 2010 DAPS, 73% of patients in SUD residential care meet criteria for nicotine dependence. This is consistent with previous findings that 75% of individuals in the U.S.

who received any alcohol or other drug treatment in the past year smoked cigarettes. According to the VHA NCPD, approximately 66% of patients who received SUD residential care had a nicotine diagnosis in FY10, indicating that current efforts to promote identification of nicotine dependence throughout the system have been relatively successful. When including all FY10 SUD residential treatment patients who were identified as smokers in FY09 and FY10, either through nicotine diagnosis or tobacco treatment, this number increases to 79%.

However, only 26% of VHA SARRTP patients in FY10 were diagnosed with nicotine dependence while in residential SUD care. Slightly more patients in SARRTPs received TUC pharmacotherapy than were diagnosed (4,052 received services while 3,940 were diagnosed). Although the numbers of those treated and those diagnosed in SARRTP were similar, only 9% were both diagnosed and treated, i.e., one-third of those diagnosed were also treated and only one-third of those treated were also diagnosed. In spite of regional variability, this pattern of under-diagnosis and treatment is consistent across the country. There is, however, substantial local variation at the VISN level in the proportion of SARRTP patients diagnosed with nicotine dependence, ranging from 3% to 57%, and in the proportion treated with nicotine replacement therapy (NRT), ranging from 9% to 37%.

Approximately one in three Veterans with nicotine dependence is diagnosed or treated (and far more rarely both) while in SARRTP. Although treatment may be refused by patients, the presence of a large group of undiagnosed patients indicates substantial opportunities to identify and track patients to whom treatment should be offered. Currently, programs are missing critical opportunities to provide brief advice, motivational interventions, repeated assessment, pharmacotherapy and integrated tobacco cessation counseling, and supportive follow-up with nicotine-dependent patients.

5.4 Gaps in Consideration of Pharmacotherapy for Alcohol and Opioid Dependence

Despite the evidence supporting naltrexone and acamprosate, these medications have been underutilized in the United States.[78] While it was estimated that over 11 million individuals in the United States were alcohol dependent in 2006, only an estimated 674,000 prescriptions were filled for AUD medications. [78] To put this in perspective, while the 12-month prevalence of major depression was only 1.5 times that of alcohol dependence (5.8% vs. 3.8%, respectively) in 2006, there were 336 times as many prescriptions written for antidepressants as for AUD medications in the United States (226,886,000 vs. 674,000), with 241 times more sales volume

($15,064,827,000 vs. $62,383,000). [78] This level of difference is not readily explained by better efficacy or side effect profiles of antidepressant medications compared to AUD medications.

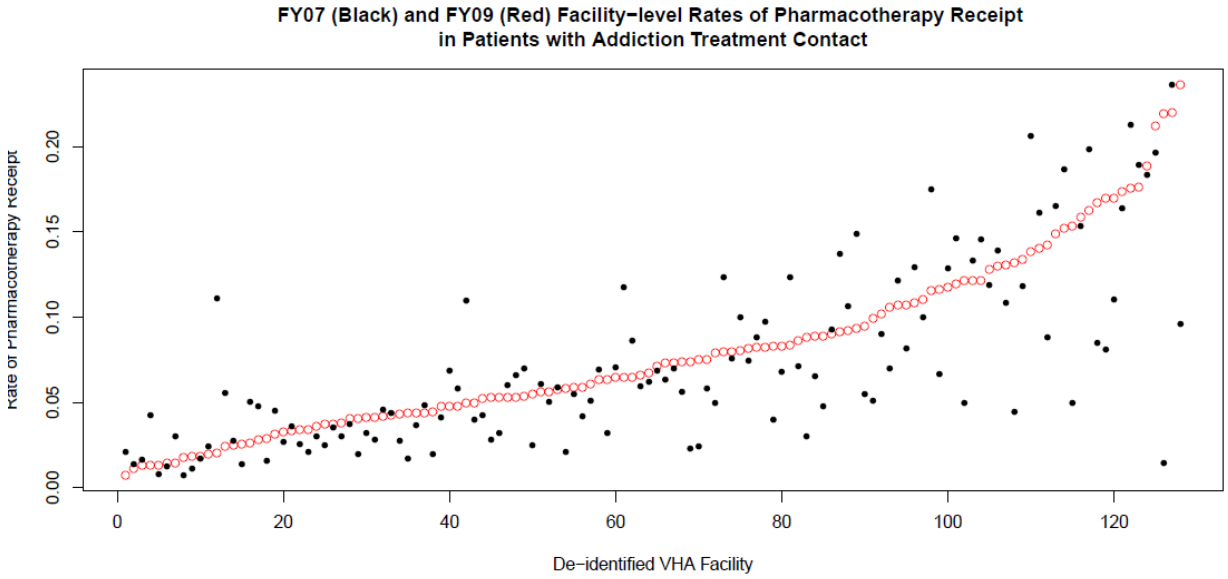
Similarly, use of these medications has been low in VA. In FY10, 15,062 (4.1%) of the 363,319 patients with alcohol use disorder received at least one FDA-approved medication, an increase from 3.0% in FY07. The facility-level rates ranged from 0% to 9.9%. Although rates of receipt are somewhat higher for patients with an alcohol dependence diagnosis, the general trends were the same. For patients with alcohol use disorder and contact with addiction specialty treatment during the fiscal year, the national rate of pharmacotherapy receipt was 9.6% in FY09, up from 6.4% in FY07, with a facility-level range of 0% to 21.8%. Figure 4 presents these rates by facility for FY07 and FY09, making clear not only the vast between-facility differences, but also the fact that great (and unexplained) changes occur within facilities over this short time frame. For patients without contact with addiction specialty treatment, the national rate was 1.2% in FY09, the same as in FY07, with a facility-level range of 0% to 4.3%.

While there is no consensus standard for the ideal proportion of patients with AUD that should be prescribed an AUD medication, investigating prescribing rates serves as a proxy for *access to and routine consideration of* AUD pharmacotherapy, which is the guideline recommended standard of care but much harder to measure. Extremely low prescribing rates and significant variation across facilities suggest that significant gaps exist in access to these medications.

Barriers to Wider Implementation. In an effort to understand the low and variable rates for AUD pharmacotherapy within VA, Dr. Sox-Harris recently completed an RRP in which clinicians, managers, and pharmacists from VHA facilities with the 30 highest and 30 lowest rates of AUD pharmacotherapy were asked to participate in a survey and interview regarding their attitudes towards and decision-making regarding AUD pharmacotherapy. High- and low-adopting facilities were compared on these domains, as well as on their perceptions of barriers and supports for AUD pharmacotherapy. Fifty-nine key informants from 19 high- and 11 low-adopting facilities responded to the survey. Twenty-three of the informants also completed an extensive interview. Findings indicated that the top four barriers to consideration of AUD pharmacotherapy were generally consistent across high and low adopting facilities and included: (1) low patient demand; (2) pharmacy or formulary restrictions; (3) lack of skills or knowledge on the part of the provider; and (4) lack of provider confidence in the effectiveness of the medications. The top three strategies rated across high- and low-adopting facilities as most effective for increasing consideration and use of AUD pharmacotherapy were: (1) more

education to prescribing providers about existing medications; (2) more education to patients about existing medications; and (3) increased involvement of physicians in AUD treatment.

Figure 4

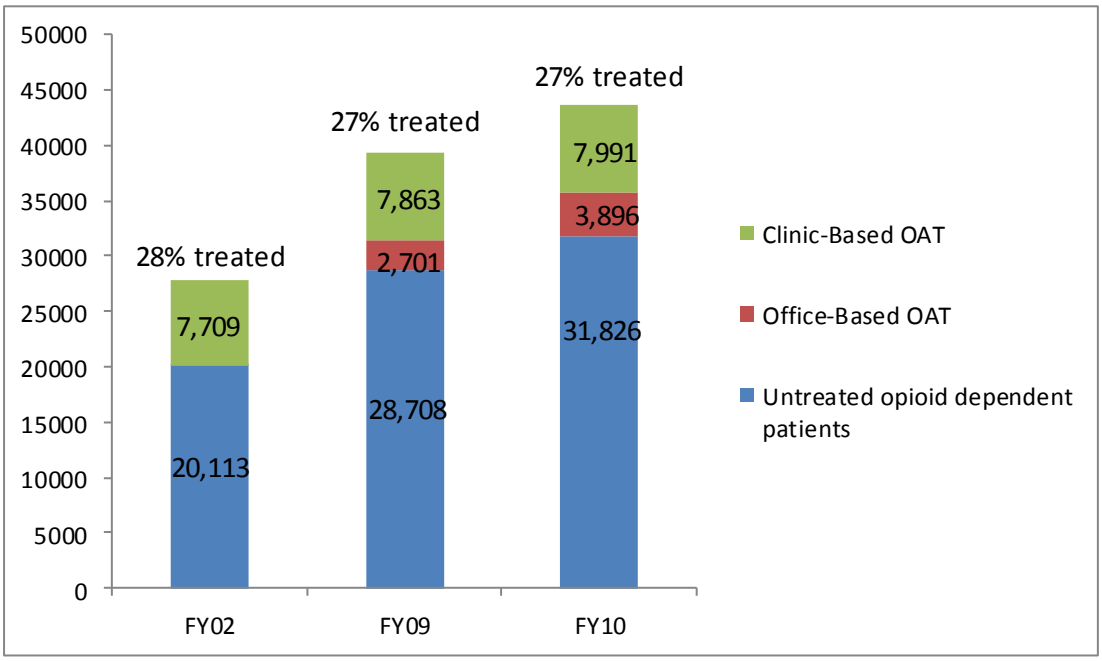


The effort to increase implementation of Opioid Agonist Therapy (OAT) for opioid dependence is more mature, but still far from ideal. In FY10, among 35,240 Veteran patients diagnosed with opioid dependence, 27.3% received either clinic- or office-based OAT with methadone or buprenorphine, with substantial variability in facility-level rates of VHA OAT utilization ranging from 0% to 66%, and 44% of facilities having a rate of ≤5% (see Figure 5).

In an effort to understand this tremendous variability, particularly in buprenorphine implementation, a QUERI-funded RRP “barriers and facilitators” study was conducted in which 62 VHA staff (67% physicians) volunteered to be interviewed at 17 VHA facilities. For low-adopting sites, patient-level barriers cited most often were perceived lack of need and negative public perceptions of opioid-dependent patients. At facilities where implementation was modest or good, there was more concern about with diversion of buprenorphine. Staff attitudes toward Veterans with opioid dependence were similar across sites. Provider barriers at low-adopting sites included lack of staff interest, no leader for buprenorphine, little buprenorphine knowledge/education, and “abstinence-based” philosophies. System-level barriers, common across all sites, included lack of support, time, staff, and coverage, and continuity of care/integration issues. All sites noted "resistance to change." Prominent facilitators at early-adopting sites were established need and perceived reduced stigma (patient-level), having

buprenorphine-waivered physicians, integrated and coordinated care (provider-level), and having administrative and pharmacy support (system-level). A champion/role-model of buprenorphine care and the endorsement of OAT in non-traditional settings greatly facilitated the adoption of buprenorphine.

Figure 5: Opioid agonist therapy (OAT) rates among patients diagnosed with opioid dependence in FY02, FY09 and FY10*



*NOTE: In FY02, 18 patients received office-based OAT. (Source: PERC "Yellow Book"

Thus, having documented serious and undesirable variability in pharmacotherapy for alcohol and opioid dependence, and having described the barriers and facilitators for greater implementation, the SUD QUERI is poised to develop and evaluate strategies for increasing implementation.

5.5 Gaps in Screening and Brief Intervention and Referral (SBIRT)

VA continues to achieve high rates of alcohol screening (> 95%) and increasing reported rates of brief alcohol interventions with patients who screen positive, far exceeding other US health care systems. However, clinical screening in VA fails to detect alcohol misuse in many patients. Among patients who had clinical alcohol screening with the AUDIT-C documented in VA clinical settings and who completed the AUDIT-C on mailed patient satisfaction surveys within 90 days:

61% who screened positive on mailed surveys had not screened positive when screened clinically.[79] Furthermore, the quality of the screening process has been found to be highly variable. The SUD QUERI Alcohol Misuse Workgroup evaluated this variability and found multiple barriers to high-quality screening for alcohol misuse, including stigma and lack of "shared meaning" on the purpose and rationale of alcohol screening.

Beyond the quality of initial screening, another critical gap is the low reliability and quality of brief interventions (BI) in response to positive screens. Currently, BI is monitored by Office of Quality and Performance (OQP) External Peer Review Program (EPRP) medical record review. Work by Lapham, Bradley and colleagues found that among patients who (a) screened positive for alcohol misuse based on medical record review, (b) had documented BI, and (c) completed the Survey of Health Care Experiences of Patients (SHEP), 68% reported receipt of brief alcohol advice on SHEP (compared to 45% who screened positive, but did not have BI documented). Furthermore, the EPRP performance metric actually deincentivized the identification of alcohol misuse in that there was a surprising decrease in the frequency of positive screens after the requirement for follow-up was instituted. These results highlight the limitations of relying on EPRP abstracts of clinically documented BI as the basis for performance measurement or assessing the degree of implementation. The Alcohol Misuse Workgroup has been working closely with OQP to develop alternative process quality metrics. Once the method for characterizing BI is settled, then system-wide variability can be better described and remedied. Several innovative models of screening and brief intervention (SBI) are currently being evaluated that, if found to be successful, might be implemented to increase the reach and quality of SBI.

5.6 Gaps in the Conformance with Clinical Practice Guidelines for Pain Management and Medications, Especially Among Patients with SUD

As opioid prescribing has increased dramatically in recent years [80], so has the population prevalence of opioid-related problems. Patients often are on multiple medications, [81] and risky (potentially lethal) co-prescribing with sedative hypnotics is alarmingly high in some settings. [82] Other problems associated with opioid pain medications include misuse, diversion, and overdose. [83, 84] Misuse can include abuse, addiction, potentially harmful use patterns, and problematic non-use, each of which have medical, social, and functional consequences.

In FY10, there were over 1 million prescriptions for opioids written in the VHA setting. Funded by a QUERI RRP, Dr. Trafton and colleagues operationalized a suite of metrics to monitor conformance with the VA/DoD Clinical Practice Guidelines for Opioid Pain Medication. The initial results suggest some serious problems and many opportunities for improvement. For example, patients receiving short-acting opioids should receive a urinary drug test (UDT) to monitor for dangerous interactions, and overdose, and abuse risk. However, only 17% (172,760) of such VA patients received at least one UDT within the fiscal year (FY) for morphine-related opioids, 9% for non-morphine opioids, and 19% for other substances of abuse. Potentially dangerous co-prescribing of opioids and benzodiazepines is also surprisingly common and represents a major opportunity for de-implementation.

A recent analysis of national VA data sets revealed that approximately 12% (156,027) of VA patients prescribed an opioid in FY 2010 had a SUD diagnosis not in remission. In this subgroup of opioid patients most were not receiving guideline-concordant care. Only about 34% received some type of specialty care treatment and approximately 34% received urine drug screens every 90 days. The average number of serious adverse events (i.e., sedative or opioid overdose, suicide attempt) related to opioid use was approximately 4.5% of VA patients with a SUD diagnosis not in remission. Twenty-one percent of VA patients with a SUD diagnosis not in remission with an opioid prescription were co-prescribed a sedative.

6. Significant Influences on Current Practice and Outcomes

6.1 National Policies and Directives

The organizing policy for VA SUD treatment is the Uniform Mental Services Handbook,[1] which outlines the elements of care that should be available to all patients with mental health and substance use disorders. As previously mentioned, implementation of the Handbook elements is the number one priority of our major operational partners at OMHS and OMHO, is central to the Improving Veterans Mental Health operating plan, and is being watched closely by the Secretary and Congress. To monitor and facilitate the implementation of the SUD-related handbook elements, OMHO and the Program Evaluation and Resource Center (PERC) have operationalized a suite of metrics that are now calculated quarterly and available through the new Mental Health Information System Dashboard. The availability of real time Handbook performance data makes the detection of problems and the impact of improvement efforts much more transparent. Much of SUD QUERI's efforts over the next three years will be directed at

helping to understand and address aspects of the Mental Health Handbook implementation including identifying best practices to be implemented at other sites. In many cases these are structures or basic processes of care (e.g., routine symptom monitoring, reliable follow-up to intensive treatments) rather than empirically supported treatment per se. Other important guiding documents are the Mental Health Initiative Operating Plan, the 2011 National HIV/AIDS Strategy Operational Plan, and the clinical practice guidelines cited in Sections 4 and 5.

6.2 National Initiatives.

The President has established a series of initiatives designed to transform VA into a person-centered, results-driven, and forward-looking organization for the 21st century. As described in the Department of Veterans Affairs Strategic Plan, FY20102-FY2014, one of these initiatives is to "design a Veteran-centric health care model and infrastructure to help Veterans navigate the health care delivery system and receive coordinated care." A key component of this initiative is the patient-centered primary care medical home, using the collaborative PACT model to coordinate communication among providers, and improve access, quality and safety. Primary care mental health integration is an integral component of this model, as we address in Goal 2.

Another major presidential initiative aims to "Improve Veterans' Mental Health." The specific priorities currently operating to achieve this goal are in the Mental Health Initiative Operating Plan for FY2011-FY2013 (MH OpPlan). As noted above, improving Veteran mental health is focused on implementation of the UMHS Handbook. IVMH highlights three objectives based on continuing the implementation of the UMHS Handbook and building an infrastructure that sustains transformation with the capacity to:

- Monitor clinical programs and provide feedback and assistance to address problems

- Ensure clinical services in medical centers and clinics are patient-centered and recovery oriented, and address mental health needs that emerge in all medical care settings

- Offer patients meaningful choices between alternative treatments known to be effective, and expand traditional service delivery to include prevention and behavioral medicine interventions

These priorities and related goals direct the work of VHA mental health operational leaders. Relevant deliverables include development of the OMHO Mental Health Information System, national implementation of the DSS Treatment Planning Software, national trainings for evidence-based psychotherapy for SUD (including motivational enhancement therapy, contingency management, behavioral couples therapy, cognitive behavioral therapy for SUD), developing public health oriented clinical services such as clinical content for MyHealtheVet, and developing training plans for mental health providers in primary care. Other related initiatives led by VA Office of Public Health combine public health and clinical objectives, integrating tobacco treatment in mental health and SUD settings and mental health/SUD treatment in HIV/HCV medical care.

We continually educate ourselves on the priorities of our operational partners (up to and including observing OMHS and OMHO leaders testify before the U.S. Senate Committee on Veteran Affairs) in order to understand the forces driving change in the health care system. This provides a foundation for planning and conducting high impact implementation research to improve the health and well being of Veterans and their families.

7. QUERI Center Goals

Goal 1: Improve the Accessibility, Quality, Effectiveness, and Efficiency of SUD Specialty Treatment

The SUD QUERI Specialty Care Workgroup (SCWG) works to improve the quality of VA SUD specialty care, including treatment access, effectiveness, and efficiency. To maximize our impact, we plan to focus on the following high-priority areas identified in collaboration with our partners: 1) implementing reliable and systematic symptom monitoring using the Brief Addiction Monitor (BAM), and the use of these data in providing patient-centered, measurement-based treatment; 2) quality of care and care transitions in intensive treatment, with a special focus on SUD residential programs; 3) integrating evidence-based tobacco treatment in SUD programs; and 4) Implementing evidence-based practices, such as pharmacotherapy for alcohol and opioid dependence.

Plan for Achieving Goal

Objective 1: Improve Symptom Monitoring and Measurement-based Care. This implementation target was given the highest priority by our partners during our strategic planning process. Our ongoing goal is to conduct projects that will facilitate national initiatives aimed at implementing reliable, systematic, and standardized symptom monitoring in all VHA

addiction treatment programs. Consistent with the VA\DoD Clinical Practice Guideline for the Management of SUD (CPG-SUD), the FY11-13 Mental Health Initiative Operating Plan requires all outpatient SUD programs to implement symptom monitoring using the BAM. Beginning in FY09, SCWG members identified barriers and facilitators to BAM implementation, developing and piloting implementation strategies and tools (QUERI steps 4a – 4c). In collaboration with the CESATE, which provides BAM training and dissemination, these materials and methods have supported implementation in 97 SUD outpatient programs to date.

As the BAM becomes available in the Mental Health Assistant, and symptom monitoring with the BAM becomes mandatory and monitored in a new performance measure, we plan to use the Alcohol Misuse Workgroup's highly successful work on AUDIT-C implementation for alcohol misuse screening and brief intervention as a template. Specifically, meeting a performance measure for symptom monitoring does not mean the process is done with fidelity or quality. Nor does it mean that the data gathered are used in a reasonable way. We will conduct research to identify gaps in the clinical chain, and test strategies to improve the quality and reliability of BAM administration and the use of those data for patient-centered, measurement-based care.

To investigate national BAM implementation strategies and their impact on outcomes (QUERI Step 5), we will (a) evaluate BAM implementation at the facility and individual provider level, paying particular attention to contextual factors predicting the degree of implementation, (b) identify relationships between the timing of therapeutic symptom monitoring and clinical outcomes, such as subsequent detoxification episodes and SUD-related hospital admissions, and (c) evaluate the quality of BAM implementation, including quantitative assessments of variation in quality across practitioners and facilities and more intensive qualitative research, such as human factors analyses, to describe and explain these variations. Our close partnerships with Executive Committee members Dr. Kivlahan of OMHS and Dr. Schohn of OMHO ensure that the knowledge we produce will directly influence national BAM implementation policy and practice.

Anticipated Key Impacts

- Improve the reliability and extent of symptom monitoring.
- Identify the characteristics of high quality symptom monitoring and describe variations in practice to support quality improvement.
- Identify relationships between symptom monitoring and more distal clinical outcomes.

Primary Partners

Our partners include Dr. Kivlahan, former SUD QUERI Clinical Coordinator and current National Mental Health Program Director for Addictive Disorders and Dr. James McKay, who is a developer of the BAM and Director of the Philadelphia CESATE. Both Drs. Kivlahan and McKay are active members of the SCWG. Dr. Schohn, Director of OMHO, is very committed to promoting systematic symptom monitoring.

Objective 2: Improve Care Transitions and Quality of Intensive SUD Treatment. The VA provides intensive substance use treatment at over 80 SUD-specific residential programs nationwide. For ease of reference we describe them all as SARRTPs. The recent Office of the Inspector General's (OIG) follow-up review of VHA Mental Health Residential Rehabilitation Treatment Programs (MH RRTP) showed that MH RRTPs have made significant improvements in the last two years, but that there remain opportunities for improvement particularly during periods of care transition.

The SCWG has a long tradition of investigating methods to promote effective continuity of care practices to address problems in transitions to aftercare. Our workgroup's research, in combination with our partnerships, has informed the development of national continuity of care priorities. For example, Dr. Kivlahan (then SUD QUERI Clinical Coordinator) and Dr. Sox-Harris evaluated relationships between the OQP continuity of care performance measure and outcomes at the patient and facility levels. The SCWG also has a history of collaborating with the National Director for MHRRTP, Jamie Ploppert, most recently to provide clinical and economic outcomes data to inform OMHS policy on SARRTP average length of stay.

Our plan is to support OMHS and OMHO efforts to understand and improve the quality of intensive SUD treatment, focusing on the care delivered in SARRTPs. Based on priorities identified by the Director and Deputy Director of OMHS, the Director and Deputy Director of MHRRTP for OMHS, and the Director of OMHO, we will work to promote implementation of VA\DoD clinical practice guidelines and implementation of both the UMHS Handbook and the MH RRTP in SARRTPs, focusing on effective transitions between intensive treatment and other levels of care as well as consistency of services across programs. During the recent follow-up review of the MH RRTPs by the Office of the Inspector General (OIG; June 2011), it was recommended that VHA focus attention specifically on the transition period from screening to

admission to residential treatment. As in our previous work on SARRTP length of stay, we will assess clinical processes and clinical and economic outcomes wherever possible (QUERI steps 4 and 5/6), and work toward the implementation of the structures and processes that are most strongly linked to positive outcomes.

Another critically important transition is follow-up in outpatient SUD treatment within one week after an inpatient or ambulatory medically supervised withdrawal or detoxification episode. The UMHS Handbook requires that detoxification includes initiation of SUD treatment and this is actively monitored by OMHO. Several HSR&D investigators are developing and testing clinical strategies to improve the reliability of this transition. If these strategies are found to be effective, SUD QUERI will work toward implementing them, especially in facilities that have quality gaps in this area.

Lastly, in line with Commission on Accreditation of Rehabilitation Facilities (CARF) accreditation requirements and VHA transformational initiatives, patient-centered and recovery-oriented care facilitates self-direction by helping patients establish and achieve goals in treatment and daily life. It is expected that implementing MyGoals may help programs (a) provide patient-centered programming, (b) offer structured peer-supported activities for residents on the weekend and after hours, and (c) increase understanding about patient-facing technology and clinical care. Executive Committee and workgroup member Dr. Ken Weingardt, OMHS Director of Web Services, is partnering on this project, which aims to improve understanding about methods to promote implementation of patient-facing technology in SUD clinical care settings.

Anticipated Key Impacts

- Improve implementation of continuity of care practices, including appropriate transitions between levels of care (especially after SARRTP discharge and detoxification)
- Reduce rates of readmission to SARRTP or acute hospital settings.
- Develop products and processes to enhance implementation of patient-centered, recovery oriented, and evidence-based programming, e.g., MyHealtheVet modules to promote patient goal setting and self-direction.

Primary Partners

Dr. Jennifer Burden, who is a SUD QUERI investigator and former VISN 6 SUD Services Coordinator, recently became Deputy Director of MHRRTP. Mr. Ploppert and Dr. Burden have

included ongoing collaboration between their office and SUD QUERI into their office strategic plan. Dr. Ken Weingardt is collaborating on a pilot project to explore implementation of MyGoals, and Dr. Kivlahan (along with Drs. Zeiss and Batten, Director and Deputy Director of OMHS) and Dr. Schohn have identified improving the quality and efficiency of SARRTP care as high priority. Dr. Kivlahan collaborated closely with Dr. Sox-Harris on the SUD QUERI supported SARRTP length of stay research.

Objective 3: Implement Integrated Smoking Treatment in Mental Health Specialty Care.

As noted previously, Veterans with SUD are disproportionately likely to smoke and to die from smoking related causes. Intensive VHA SUD residential specialty care offers an important opportunity to treat Veterans suffering from nicotine dependence in a structured and supportive setting. With FY11 funds provided by Dr. Hamlett-Berry, we conducted a mixed methods study described earlier to evaluate implementation of integrated tobacco use treatment (TUT) in SARRTPs, and to identify barriers and facilitators to integrated care (QUERI steps 3A-4A). Integrated TUT occurs at low rates across regions and VISNS, with 26% of tobacco users in FY10 diagnosed or treated while in SARRTPs and only 9% receiving both a diagnosis and medication. As described previously, staff interviews indicate that programs do not emphasize tobacco cessation as an important part of treatment or recovery from SUD. In spite of the fact that tobacco use assessment and advice to quit is the minimum intervention recommended in the VA/DoD CPG, and is included in the annual clinical reminder in CPRS, providers express concerns that advising Veterans to quit smoking is “too much to ask them to give up.”

Implementing integrated tobacco treatment will involve changing the culture of these largely milieu-based residential treatment programs. One current project is using social marketing and material development experts to identify data-based social marketing message frameworks to encourage SARRTP staff to implement integrated tobacco treatment (QUERI step 4b).These messages will be tested in focus groups and provider interviews, and integrated in a toolkit of materials to support implementation of TUT among SARRTP providers to be piloted as part of a multidimensional implementation strategy. The toolkit is being developed in collaboration with the Cincinnati Tobacco Cessation Clinical Resource Center (TCCRC), which provides training in TUT to SUD treatment providers and administrators. Social marketing has rarely been applied to health care system employees. If this social marketing strategy helps promote implementation, it will encourage further research into staff marketing efforts that could help overcome attitudinal barriers to evidence-based practice implementation.

A number of actionable opportunities exist for improvement in TUC, including developing local champion teams, developing and testing metrics and metric feedback, and providing staff with training, consultation, and facilitation. Appropriate implementation targets include repeated assessment and motivational intervention for patients who are actively using tobacco, integrating tobacco treatment into SUD treatment group and individual sessions, increasing availability of pharmacotherapy, and appropriate documentation and tracking of tobacco use throughout treatment. We plan to evaluate a provider toolkit in a pilot test of a multidimensional implementation program beginning in FY12 (QUERI Step 4c), incorporating systematic performance feedback and other strategies. If successful, this pilot may become the basis for a national program (QUERI Steps 5 & 6).

Anticipated Key Impacts

- Develop, deploy, and evaluate implementation strategies to increase integrated tobacco treatment in SARRTPs.
- Develop products to facilitate ongoing implementation efforts, including a provider toolkit based on formative evaluation of social marketing methods, and metrics for ongoing assessment of program performance on key indicators such as rates of nicotine dependence diagnosis and TUT pharmacotherapy.
- Increase appropriate nicotine diagnosis and evidence-based TUT for Veterans in SUD residential treatment.

Primary Partners

Our work in this area is a collaboration with the Office of Public Health Policy and Prevention, led by Dr. Hamlett-Berry, and the Cincinnati Tobacco Cessation Clinical Resource Center (Cincinnati TCCRC) funded by her office. Other important collaborators include the Director and Deputy Director of MHRRTP for OMHS, Mr. Ploppert and Dr. Burden.

Objective 4: Increase Implementation of Pharmacotherapy for Alcohol Dependence. The SCWG works to improve implementation of evidence-based practices in SUD specialty care settings. AUD pharmacotherapy is a high priority for evidence-based practice, in line with VA/DoD CPG-SUD and UMHS Handbook specifications and supported by the conclusions of the recent RAND/Altarum evaluation. This implementation target, as well as pharmacotherapy for opioid dependence (see Goal 3), is shared and coordinated with the Primary Care

Workgroup. An locally initiated project (LIP) conducted by SCWG member Dr. Sox-Harris found extremely low rates of AUD implementation in specialty care settings (QUERI Steps 3a-3c). In an effort to understand the low and variable rates for AUD pharmacotherapy in VHA, Dr. Sox-Harris completed a QUERI Rapid Response Project (RRP) which is described in more detail in Section 5. Findings indicated that the top four barriers to consideration of AUD pharmacotherapy were: 1) low patient demand; 2) pharmacy or formulary restrictions; 3) lack of skills or knowledge on the part of the provider; and 4) lack of provider confidence in the effectiveness of the medications. The top three strategies rated across high and low adopting facilities as most effective for increasing consideration and use of AUD pharmacotherapy were: 1) more education to prescribing providers about existing medications; 2) more education to patients about existing medications; and 3) increased involvement of physicians in AUD treatment (QUERI Steps 3d & 4a).

Drs. Hagedorn, Sox-Harris and colleagues plan to continue this productive line of research by developing and pilot testing a multidimensional implementation strategy to promote AUD implementation in specialty care and other settings. The planned strategy incorporates 1) educating substance use disorders (SUD) specialty care prescribers and primary care mental health integration (PCMHI) providers (or if not available at a particular facility, Health Behavior Coordinators) to serve as internal clinical champions for AUD pharmacotherapy; 2) providing educational materials to primary care prescribers and making consultation services available to them; and 3) educating and activating Veterans regarding pharmacologic options for alcohol dependence treatment.

If the implementation methods used in this intervention prove effective, OMHO may use it as a model of implementation and quality improvement planning for other inconsistently implemented interventions. The project team will brief members of the OMHO office on project status and preliminary outcomes during the study period and at the end of the study so that evaluation findings made during the study can be disseminated and used promptly. Additionally, the project team will write and disseminate briefs on the following findings to service chiefs in OMHO, the Office of Mental Health Services, and the Office of Quality and Performance: 1) findings of focus groups and implications for improving patient education, communication and engagement in SUD care; 2) facilitators and barriers identified by providers in interviews, workshops and conference calls following early implementation efforts; 3) design and effectiveness of the web-based system for assisting primary care physicians in identifying appropriate patients to target

with interventions; and 4) intervention outcomes. Table 1 provides a sample of current and planned projects related to the objectives in Goal 1.

Table 1. Sample of Current and Planned Projects for Goal 1

Project ID	Title Description	Status		
		Current	Planned	Timeline
Goal 1: Improve the Accessibility, Quality, Effectiveness, and Efficiency of SUD Specialty Treatment				
Objective 1: Improve Symptom Monitoring and Measurement-based Care				
RRP	Understanding Variation in BAM Administrative & Measurement-based Care		x	TBS 2012
SDP	Improving the Quality of Measurement-based Care for Addictions		x	TBS 2013
Objective 2: Improve Care Transitions and Quality of Intensive SUD Treatment				
RRP	Barriers and Facilitators to Engagement in SUD Specialty Care After Medical Detox		x	TBS 2012
R01 DA301050	First Longitudinal Study of Missed Tx Opportunities Using DOD and VA Data	x		7/15/10 - 6/30/12
R01AA008689 (METAALC)	Meta-Analysis of Alcoholism Treatment Outcome Research	x		8/1/09 - 4/30/12
RRP 10-192 (Cannabis TX)	CUD Treatment Barriers and Supports Among Those with PTSD	x		9/1/11 - 8/31/12
RRP	Barriers and Facilitators to Engagement in SUD Specialty Care After SARRTP		x	TBS 2012
SDP	Discharge Intervention to Improve Engagement with Outpatient Care Among Veterans with SUDs		x	TBS 2013
RRP	Barriers and Facilitators to Engagement of Veteran Women Drinkers in Alcohol Tx		x	Submitted
Objective 3: Implement Integrated Smoking Treatment in Mental Health Specialty Care				
QLP 59-004 (SMOKESMI)	Contingency Management for Smoking Cessation Among Veterans with Schizophrenia or Other Psychoses	x		6/1/07 - 12/31/12
SDP	Integrated Tobacco Treatment in SARRTP		x	TBS 2012
IAB 05-303 (SMOKRACE)	Proactive Tobacco Treatment for Diverse Veteran Smokers	x		7/1/08 - 6/30/12
Objective 4: Increase Implementation of Pharmacotherapy for Alcohol Dependence				
SDP	A Multi-Faceted Intervention to Improve Alcohol Dependence Pharmacotherapy Access		x	Submitted
RRP	Are Perceptions of Low Patient Demand for Alcohol Dependence Pharmacotherapy Accurate?		x	TBS 2013

TBS = To Be Submitted

Anticipated Key Impacts

- Develop, deploy, and evaluate a multidimensional implementation strategy to increase AUD pharmacotherapy implementation in SUD specialty care settings

- Develop products to facilitate on-going implementation efforts, including: 1) a web-based data system using a generic design that could be used for other disorders by linking to other similarly structured patient databases and made available for use in dissemination efforts modeled off this intervention; and 2) a video of the workshop and, following project completion, training made available to non-intervention sites interested in improving use of AUD pharmacotherapy.

Primary Partners

As noted above, strong partnerships are already in place with OMHO and OMHS, and these partners would facilitate spread of the implementation intervention to other facilities if the study is successful. OMHO is designing and implementing technical assistance and implementation strategies to facilitate UMHS Handbook adherent clinical care. Under the direction of Dr. Schohn, the Program Evaluation and Resource Center (PERC) within OMHO focuses on improving access and quality of care for SUDs and is interested in developing methods to increase use of AUD pharmacotherapy. If this intervention proves successful, PERC will assist with expanding implementation efforts to reach control and non-randomized sites.

SCWG Implementation Science Contribution

SCWG has focused on the PARIHS model, including the Organizational Readiness to Change Assessment (ORCA), in a number of previous implementation studies. We will continue to focus on evidence, context and facilitation, with a particular emphasis on contextual elements that predict variation in implementation. To address individual behavior change, in particular barriers to change of individual clinical providers, our developing social marketing methods are informed by the Theory of Planned Behavior, which hypothesizes that intention to act is driven by one's attitude toward the behavior, one's subjective perception of peer norms related to the behavior, and one's perceived behavioral control or ability to perform the behavior. Understanding contextual influences on implementation helps guide selection and adaptation of strategies; it is, however, the interaction of context with provider behavior change that is the critical fulcrum. Integrating the PARIHS model with individual behavior change models such as the Theory of Planned Behavior may provide a more powerful multilevel theoretical foundation that describes how contextual factors influence providers to implement new practices.

SCWG Disparities

To identify potential disparities, we consistently evaluate race and gender as predictors of treatment receipt. Our evaluation of tobacco treatment implementation, for example, found that Caucasian ethnicity was a predictor of receipt of NRT (the most common form of TUT) in SARRTPs. We will continue to investigate potential disparities in SARRTP treatment more broadly, and in integrated smoking cessation, AUD pharmacotherapy, and measurement-based care more specifically. For example, members of Congress recently submitted inquiries about availability of SUD and MH treatment for homeless women with children, to which the Clinical Coordinator contributed.

Dr. Sox-Harris is mentoring Dr. Katherine J. Hoggatt, who recently was awarded a CDA to explore gender-based disparities in SUD specialty care and to identify opportunities to improve the delivery of SUD care to women Veterans. The specific aims of her CDA are 1) describe the patterns and determinants of women's SUD treatment involvement (initiation, engagement, and pharmacotherapy) and patient outcomes across VA facilities; document the patterns of treatment involvement for women using the most recently available data on the structure of SUD care and women's health care and to determine how treatment involvement varies by treatment setting and medical specialty across patient subgroups; determine the impact of facility-, program-, and patient-level characteristics on patient-level SUD treatment involvement (initiation, engagement, and AUD pharmacotherapy) and to determine the impact of patient-level SUD treatment initiation and engagement on health outcomes known to be related to SUD; 2) explore manager and provider qualitative experiences of women's VA SUD care; determine the organizational structures and processes of women's VA SUD care; determine the impact of women's SUD treatment structure on women Veterans' treatment involvement and patient outcomes; and 3) explore patient experiences with VA SUD care and their perceptions of treatment barriers, preferences, and needs. The research proposed to address the first of these aims fits within the early stages of the QUERI cycle. In this work, Dr. Hoggatt will describe the variability in current care practices across VA facilities and determine which aspects of care, as it is currently delivered, impact women's treatment involvement and outcome. The work addressing all three aims has the potential to build toward other QUERI-relevant pre-implementation and implementation projects. Dr. Sox-Harris will work closely with Dr. Hoggatt to guide her in developing a high-impact implementation research program with direct relevance to SUD QUERI goals for ensuring gender-appropriate care for women Veterans.

SCWG Data Development, Implementation, and Evaluation

As part of our new strategic plan and consolidation of the SUD QUERI Coordinating Center in Palo Alto, we plan to hire a core data analyst who, under the supervision of Dr. Sox-Harris, will develop and maintain several new longitudinal SUD patient registries, including a national MH screening database (from CDW), a SUD pharmacotherapy registry, a SARRTP registry, a detoxification registry, and a SUD outpatient treatment registry. These data resources will be available to SUD QUERI researchers working on approved projects. The purpose of these registries is to save QUERI researchers time and money in the execution of projects, by standardizing common variable definitions and obviating the need to hire data analysts and train them in the short time available in most RRP's. The data analyst will be available for custom data runs for SUD QUERI researchers with approved projects, as brokered by the Research Director.

For example, using the TUT in SARRTP database developed by Dr. Gifford in FY11, we are developing metrics to provide quarterly feedback to SARRTP program managers about rates of nicotine diagnosis and tobacco treatment in their programs. We plan to evaluate the implementation impact of providing this feedback to sites in combination with other implementation strategies (see above).

Health Information Technology (HIT) Development, Implementation, and Evaluation

We will monitor practice variation in implementation of BAM symptom monitoring in SUD specialty care programs. We also plan to conduct a human factors study to observe clinician use of the CPRS clinical reminders for BAM symptom monitoring. This will help us identify and implement best practices for use of the reminders and therapeutic symptom monitoring.

Goal 2: Improve the Accessibility, Quality, and Efficiency of Treatment of Hazardous Substance Use Within Medical VA Settings, Especially Primary Care

The goal of the SUD QUERI Primary Care Workgroup (PCWG) is to improve the access, quality of care, and patient-, provider-, and system-level outcomes of treatment for hazardous substance use within primary care environments, and secondarily within other medical outpatient and inpatient specialty settings. To achieve this broad goal, the PCWG will strengthen ongoing and develop new implementation research and/or clinical initiatives in the following three areas: 1) Enhancing access and quality of Screening, Brief Intervention, and Referral to Treatment (SBIRT); 2) Enhancing integration of addiction treatment into Patient

Aligned Care Teams, or PACTs]; and 3) Increasing implementation of addiction pharmacotherapy in non-addiction specialty care clinical environments.

To achieve this goal and to increase our ability to develop and conduct implementation research and clinical initiatives in this area, the PCWG has convened a core group of investigators and stakeholders who will lead the PCWG. Stephen Maisto (Co-Leader, psychologist, Syracuse), Adam Gordon (Co-Leader, internal medicine physician, Pittsburgh), Kathy Bradley, (internal medicine physician, investigator, Washington), Deborah Finnel (nurse, investigator, Buffalo), Lauren Broyles (nurse, investigator, Pittsburgh), Mary Schohn (Director, Office of Mental Health Operation) and SUD-QUERI leadership (Sox-Harris, Gifford) will meet monthly. These individuals understand the VA healthcare system well and have clinical and research expertise in the area of integration of SUD-related case identification and intervention in primary care and other non-specialty care treatment.

In addition to this core group, the PCWG Core will meet quarterly with the PCWG Implementation Team consisting of investigators and stakeholders who are developing, implementing, or maintaining implementation research relevant to our objectives. Twenty-two initial members of this team have been identified; these members include, among others, Carol Achtmeyer and Emily Williams from the previous SUD-QUERI Alcohol Misuse Workgroup and Jodie Trafton and Dan Kivlahan from the Buprenorphine Workgroup. In addition to the clinical and operational partners listed below, the PCWG will also continue to expand and fortify relationships with existing HSR&D Centers of Excellence, MIRECCs, CESATEs, and emerging COIN centers that are developing research and implementation programs related to the PCWG mission.

Plan for Achieving Goal

Objective 1: Enhance Access and Quality of SBIRT.

A major initiative both within and outside the VA is to enhance the access and quality of clinical strategies known as SBIRT. The VA/DoD Clinical Practice Guidelines for the Management of SUD (CPG-SUD) endorses SBIRT, and the Uniform Mental Health Services Handbook advocates for availability of SBIRT for all Veterans in a myriad of clinical environments. SBIRT has been advocated to encourage screening and improve care coordination between general and specialty addiction services. Yet, despite evidence for the effectiveness of SBIRT in primary and emergency/trauma care settings for reducing hazardous alcohol use and its related harms,

SBIRT uptake and implementation have been notoriously slow. An emerging body of literature suggests that SBIRT implementation can be facilitated through interdisciplinary SBIRT planning and implementation teams. Additional calls have been made for the involvement of other health care professionals in SBIRT practices. The PCWG will seek to enhance the quality of SBIRT implementation in VA Patient Aligned Care Teams (PACT) and in other non-specialty care clinical environments, focusing on the following areas:

Screening. Members of the PCWG have a long tradition of investigating and implementing alcohol screening in VA environments. For example, ongoing work of the former Alcohol Misuse Work Group (AMWG), in conjunction with VACO partners and led by Dr. Kathy Bradley, has been instrumental in implementing universal alcohol screening annually in primary care environments using the three-item Alcohol Use Disorders Identification Test- Consumption (AUDIT-C). Ongoing research includes efforts to establish predictors of clinical outcomes based on results of screening, examining facility-level factors that influence the quality of screening, and examining the influence of varying the time intervals of screening on outcomes.

Brief Intervention. Although there is ample evidence that Veterans have access to screening through primary care environments, data also suggest opportunities for improving the reliability and quality of brief interventions (BIs) or treatments following a positive screen. Brief Interventions are time-limited discussions between providers and patients that seek to reduce unhealthy behaviors, in this case unhealthy alcohol use. The broad application of brief interventions (BIs) is important; not all patients with unhealthy alcohol use require or agree to specialty addiction treatment services. BIs have the promise of improving point-of-care treatment for Veterans engaging in alcohol misuse and national initiatives both within and outside the VA continue to promote utilization of BIs. Therefore, one of the main objectives of the PCWG is to conduct implementation research to enhance access to and quality of BIs for Veterans who screen positive for hazardous alcohol use.

To improve access to, and the quality of SBIRT for Veterans with unhealthy alcohol use, we plan to maintain and expand the research initiatives of the former AMWG, examine the quality of screening for alcohol use related to clinical and system-level outcomes, and develop implementation research designed to expand access and quality of BIs for Veteran patients with unhealthy alcohol use. More specifically, Table 2 summarizes a sample of current and planned project relevant to achieving this and other objectives within Goal 2.

Table 2. Sample Current and Planned Projects for Goal 2

Project ID	Title Description	Status		
		Current	Planned	Timeline
Goal 2: Improve the Accessibility, Quality, and Efficiency of Treatment of Hazardous Substance Use Within Medical VA Settings, Especially Primary Care				
Objective 1: Enhance Access and Quality of SBIRT				
RRP 11-021	Identifying VA Outpatients Who Might Not Need Annual Alcohol Screening	x		4/1/2011 – 3/31/2012
R21 Quality BI Measures	Evaluation of Quality Measures for Brief Alcohol Interventions		x	Resubmitted
IIR 08-314 (Monitoring Outcomes with AUDIT-C)	Using the AUDIT-C to Monitor Outcomes in Patients with Alcohol Misuse	x		4/1/2010 - 9/29/2012
RRP 11-286	Effectiveness of Brief Alcohol Counseling		x	Approved for funding
Objective 2: Enhance Integration of Treatment for Unhealthy Substance Use Into PACTs				
SDP	Implementation and Clinical Effectiveness of a PACT-based, Nurse-driven Model of Alcohol Screening, Brief Intervention and Referral to Treatment		x	Concept paper submitted
R01AA018702	Collaborative Care for Primary Care Patients with Alcohol Use Disorders	x		9/25/2010 - 8/31/2015
RRP	An Online Evidence-Based Intervention to Help Veterans with Unhealthy Alcohol Use		x	TBS 2012
RRP	Supplement to Addiction Triage for Homeless: Enhancing VA Medical Homes: VA Pittsburgh's ANTHEM Program		x	TBS 2012
Objective 3: Increase Implementation of Addiction Pharmacotherapy				
R01-NIDA application	Opioid Agonist Treatment Expansion to Medicaid: The Role of Buprenorphine		x	Proposal resubmitted
RRP	Perceptions of Buprenorphine Care in the VA – Provider and Patient Impressions		x	TBS 2013
SDP	Increasing Buprenorphine Care in the VA		x	TBS 2013

TBS = To Be Submitted

Anticipated Key Impacts

- Improve the quality and impact of screening for unhealthy alcohol use
- Improve access to and quality of brief interventions for unhealthy alcohol use
- Examine how access to quality screening and brief interventions for unhealthy alcohol use influences patient-, provider-, and system-level outcomes

Primary Partners

Our partners include Dr. Kivlahan, former SUD QUERI Clinical Coordinator and current National Mental Health Program Director for Addictive Disorders, and clinical lead for implementation of the VA/DoD SUD CPG and Dr. Schohn, Director of OMHO, and member of our PCWG Core. The PCWG also will interact with leadership of the VA Patient Aligned Care Teams (PACTs) to help implement SBIRT modalities nationally, as discussed below.

Objective 2: Enhance Integration of Treatment for Unhealthy Substance Use Into PACTs.

A high priority initiative within VA is to redesign health care delivery through implementation of the Patient Aligned Care Teams (PACTs). The goal of the PACTs is to provide patient-centric care that is team-based, comprehensive, accessible, and highly coordinated. Comprehensive, coordinated primary care includes the effective evaluation and management of common mental and behavioral health conditions, including alcohol, tobacco, and other substance use. To address these mental and behavioral health needs, VA also has undertaken the systematic integration of primary care and mental health care (Primary Care Mental Health Integration; PC-MHI). The two key features of PC-MHI are case management and co-located collaborative care. PACT is intended to allow patients to assume a more active role in their health care delivery, therefore improving patient satisfaction and the quality of health care delivered, while decreasing costs due to fewer hospital visits and re-admissions. For all of these reasons, PACTs also have the promise of improving access and quality of addiction treatment for Veterans.

The primary care PACT team consists of the Veteran patient along with all the staff, clinical and administrative, that is necessary to promote the well-being of the Veteran patient. The team can be described as consisting of two parts: the core team and the expanded team. The core team includes the Veteran patient, his/her provider, a RN care manager, a clinical staff assistant, and an administrative staff member who are responsible for the central functions of a medical home model. Expanded team members are on-site, seeing patients episodically, while consultants may work remotely from the core team and provide consultation as necessary.

Unfortunately, it is unclear how PACTs will embrace or implement SBIRT for unhealthy alcohol use or drug use. For example, it is unclear what responsibilities individual members of PACTs will have regarding identification, coordination, treatment and/or referral of patients who use alcohol, tobacco, or other drugs. Therefore, we will study and describe the characteristics of

successful and unsuccessful PACT models in terms of the effectiveness of addiction treatment integration and outcomes. Our overarching goal is to examine, develop, and test strategies for the greater integration of treatment for unhealthy substance use into various PACT models.

Improving hazardous substance use treatment for homeless Veterans in the PACT: An example and template for work under Objective 2. Major initiatives are underway to integrate care for medically underserved patients into PACTs. For example, the VA National Center of Homelessness is examining implementation of care for homeless Veterans through service delivery projects involving three distinct PACT models of care: 1) co-location, integration approaches; 2) enhanced homeless case management approaches; and 3) community resource, referral center outreach from PACT approaches. Developing and testing alternative strategies for implementing treatment for hazardous substance use within these PACT models needs to be examined. Through the VA National Center of Homelessness, Dr. Gordon's recently funded "Addiction Triage for Homeless Veterans: Enhancing VA Medical Homes" (ANTHEM Program) is an example of how implementation models could approach integration of addiction treatment into PACTs. This proposed PACT team model with homeless case management support dually focuses on 1) providing dedicated case management for homeless Veterans within an existing PACT program, and 2) improving the care of alcohol and substance use within the homeless and near-homeless population. Lessons learned from this and other currently proposed projects will suggest implementation targets and strategies for improving integration of treatment for hazardous substance use within the PACT models for homeless and other populations. For example, a current SUD-QUERI-sponsored SDP proposal will examine how to implement SBIRT for unhealthy alcohol use within PACTs. The PCWG will also promote projects involving the recognition and treatment of tobacco use and opioid misuse within PACTs.

Care transitions. A foundation of the PACT model in all of its forms is excellent communication and coordination with other treatment units, including SUD specialty treatment and other settings that identify and manage unhealthy substance use. For example, unhealthy substance use might be detected during an unrelated inpatient stay due to SBIRT initiatives. Addressing this issue becomes an important part of the discharge plan and must be targeted during follow-up in primary care. As the hub for treatment coordination, primary care must provide continuing care and monitoring and/or facilitate the provision of care in specialty settings. Historically, each of these transitions has been a time of great vulnerability in terms of losing the clinical thread.

As PACT models develop and are evaluated, it will be important to diagnose and implement remedies for problems in these and similar care transitions.

Anticipated Key Impacts

- Develop and test models of identification, assessment, treatment, and referral to treatment for alcohol, tobacco, and other drug use within PACTs.
- Improve identification, treatment, and outcomes of unhealthy alcohol, tobacco, and other drug use in VA PACTs.

Primary Partners

Our partners in these endeavors will include Edward Post, MD, who has been instrumental in integrating mental health services in PACTs, and Thomas O'Toole, MD, Director, National Homeless Veterans PACT Program.

Objective 3: Increase Implementation of Addiction Pharmacotherapy

This objective is shared and will be coordinated with the SCWG. Plans for better implementation of pharmacotherapy for alcohol dependence were described in Goal 1- Objective 4. Here we describe our current and planned effort related to greater implementation of opioid agonist treatment (OAT) for opioid dependence. Meta-analyses have synthesized randomized trials of methadone and buprenorphine for opioid dependence. Both medications are considered the "gold standard" treatment for opioid dependence with an extensive literature examining their effects with ongoing non-pharmacologic treatment on patients with opioid dependence. Despite evidence of efficacy and consensus that these medications should be available and considered for all patients, rates of utilization are low and variable.

Increasing access to opioid agonist treatment for opioid-dependent Veterans has been an ongoing priority for the OMHS and OMHO, and several active implementation efforts have occurred. One OMHS strategic initiative has been to ensure that all VA facilities have physicians trained, accredited and privileged for the provision of buprenorphine. The UMHS Handbook mandates that "pharmacotherapy with approved, appropriately- regulated opioid agonists (e.g., buprenorphine or methadone) must be available to all patients diagnosed with opioid dependence for whom it is indicated and for whom there are no medical contraindications." The revised 2009 VA/DoD Clinical Practice Guideline for Management of Substance Use Disorders (SUD)" provided evidence and guidance for clinicians for opioid agonist treatment.

The SUD Buprenorphine Task Group led by Dr. Gordon has been instrumental in improving access to buprenorphine treatment in the VA. This taskgroup has successfully implemented monthly newsletters, regular webinars, phone/email consultations, on-site certification trainings, and collaboration with a variety of key stakeholders (e.g., OMHS, VACO, VA Pharmacy Benefits Management (PBM) Services).). Several recent prominent presentations and publications related to implementation of buprenorphine in the VA have resulted. Task Group members evaluated utilization of opioid agonist treatment (OAT: buprenorphine and methadone) across VHA facilities and found 44% of facilities utilizing OAT for ≤ 5% of eligible patients. However, rates of buprenorphine use progressively increased in part as a response to efforts of the Buprenorphine Task Group. After a 16-fold increase in patients prescribed buprenorphine from FY04 to FY09, in FY10 unique patients increased 27% and points of access increased 23% to 233 medical centers or -Based Outpatient Clinics (CBOCs). During FY11, 805 physicians prescribed buprenorphine to 7401 Veterans. The PCWG will continue to support the efforts initiated by the Buprenorphine Task Group.

The PCWG will explore the quality of buprenorphine care provided by VA clinicians and improve availability of opioid agonist treatment in non-specialty addiction VA settings, especially in previously “implementations resistant” facilities.

The PCWG and SCWG will establish a Pharmacotherapy Task Group that will include members of the Buprenorphine Work Group and alcohol investigators who are studying implementation of pharmacotherapy in the VA. This task group will have a charge to examine the access to pharmacotherapy in the VA, improve access to addiction pharmacotherapy for Veterans, and examine implementation models to improve the quality of pharmacotherapy treatment for Veterans with alcohol and other drug use conditions.

Anticipated Key Impacts

- Develop, test, and implement models to improve access to addiction pharmacotherapy in VA.
- Evaluate the effects of implementation of pharmacotherapy on patient-, provider-, and system-level outcomes in VA environments.

Primary Partners

Our partners include Dr. Kivlahan, former SUD QUERI Clinical Coordinator and current National Mental Health Program Director for Addictive Disorders, and clinical lead for implementation of the VA/DoD SUD CPG. We will partner with key liaisons of the Medical Advisory Panel (MAP) of the PBM Services in the VA, including Chester (Bernie) Good, MD, Chair MAP, PBM and Francine Goodman, PharmD, the main contact for addiction pharmacotherapy for PBM.

Goal 3: Improve the Integrated and/or Co-located Treatment of SUD and Common Co-morbidities (especially infectious diseases, PTSD, and pain).

This goal will be addressed by three workgroups, each with its own leadership, membership, partners, and agenda. Each workgroup developed its agenda by engaging key operational and clinical partners to identify targets and set priorities:

The **Infectious Disease Workgroup (IDWG)** is led by the SUD QUERI IRC, Dr. Hildi Hagedorn at the Minneapolis VA. The goal of the IDWG is to improve identification of and services for infectious disease (specifically, HIV and HCV) among Veterans with SUDs.

The **PTSD Workgroup (PTSD WG)** is led by Dr. Craig Rosen at the Palo Alto VA. The PTSD WG has two related objectives: 1) improve detection and treatment of substance use problems among Veterans treated in PTSD specialty programs; and 2) reduce barriers to PTSD treatment entry for Veterans with co-occurring SUD.

The **Pain and Pain Medication Misuse Workgroup (PAIN WG)** is led by Dr. Mark Ilgen at the Ann Arbor VA. The overarching aims of the PAIN WG are to better understand and improve the clinical management of pain in patients with SUDs, and to study ways to minimize the incidence and reduce the prevalence and consequences of the misuse of prescription opioids among Veterans.

Infectious Disease Workgroup Plan for Achieving Goal

The Infectious Disease Workgroup has pursued improvements in services for Veterans with SUD and HCV primarily through the Liver Health Initiative training program which has trained teams from 61 facilities to integrate hepatitis screening, education, prevention, and referral services into SUD clinics. The Liver Health Initiative program has been primarily funded through collaboration with the Minneapolis Hepatitis C Resource Center. As the funding for the HCRCs

will end in 2012 and it is unclear whether a new type of Hepatitis center will replace them, it is likely that the Liver Health Initiative implementation research program will have to rely more on QUERI funds than previously. The next planned phase of the Liver Health Initiative will include: 1) completion of an evaluation of the 61 trained teams to determine sustainability of improvements in hepatitis services documented six months after training, 2) analysis of administrative data to assess implementation of recommended services at the patient level (e.g., screening rates, vaccination rates) at trained sites pre- and post- training in order to confirm practice improvements self-reported by training teams, and 3) completion of a survey of sites that have never volunteered to attend a Liver Health Initiative training program to determine the barriers to attendance and what types of interventions may better serve the training and implementation needs of those sites. A revised training strategy will be developed based on the information collected from items 1-3 above and this revised strategy will be piloted with four SUD clinics that have never participated in the Liver Health Initiative.

IDWG's current work in improving services for Veterans with SUD and HIV focuses on implementation of nurse-based, rapid oral HIV testing in SUD clinics in collaboration with the HIV/HCV QUERI. This goal has been pursued through a series of RRPs, including a developmental evaluation of barriers and facilitators to implementation which resulted in the design of an implementation strategy that was piloted at three SUD clinics resulting in successful uptake of the rapid oral HIV testing technology. The next planned phase of this work is to complete a regional rolled-out of nurse-based rapid oral HIV testing in the four VISNS with the highest rates of HIV infection in the country. This project will be submitted as an SDP in January, 2012. Currently, we have 11 VA facilities signed on to participate in this project and are aiming to recruit four more. Table 3 presents a sample of current and planned projects relevant to this and other objectives in Goal 3.

Infectious Disease Workgroup Anticipated Key Impacts

HCV: The Liver Health Initiative training program has been demonstrated to lead to sustained adoption of new services related to hepatitis screening, education, prevention, and referral at sites that voluntarily send teams to the training program. Anticipated impacts of future work are to demonstrate the sustainability of these new services, to demonstrate through administrative data that new services self-reported by clinic teams correlate with increased services at the patient level (e.g., increased screening and vaccinations), and to develop and test revised

implementation approaches that will successfully engage facilities which do not volunteer to participate.

Table 3. Sample of Current and Planned Projects for Goal 3

Project ID	Title Description	Status		
		Current	Planned	Timeline
Goal 3: Improve the Integrated and/or Co-located Treatment of SUD and Common Co-morbidities (especially infectious diseases, PTSD, and pain).				
Objective 1: Improve Identification of and Services for Infectious Disease (specifically HIV and HCV) among Veterans with SUDs				
SDP	Implementing HIV Screening in SUD Clinics		x	Submitted
RRP	Feasibility of Implementing a 3-Step SUD Mutual Help Referral Method in HCV Clinics		x	TBS 2012
RRP	Sustainment of Liver Health Initiative Implementation		x	TBS 2012
RRP	Barriers and Facilitators of Liver Health Initiative Implementation in Uninterested Facilities		x	TBS 2013
Objective 2: Improve Identification of and Services for Co-occurring PTSD and SUD				
SPLA06-S09	Pilot Study of an Integrated Exposure-Based Model for PTSD and SUD	x		7/1/2011-6/30/2013
RRP/LIP	Role of SUD Coordinators and Perceived Barriers to Improving SUD Care		x	TBS 2012
RRP	Profile Existing Practice Patterns in Providing Integrated, Parallel, or Sequenced Care for Co-occurring SUD and PTSD		x	TBS 2012
Objective 3: Improve the Identification and Management of Pain and Pain Medication Misuse in SUD Patients				
RRP	Pain Treatment Patterns Associated with Overdose Among SUD Patients with Pain		x	TBS 2012
RRP	De-implementing Worst Practices in Pain Management for SUD patients		x	TBS 2012
SDP	Developing Clinical Practice Guideline for Pain Management in Patients with SUD		x	TBS 2013
NIDA R03	Concurrent Alcohol-Medication Use and Health Outcomes Among Older Veterans	x		7/1/2011-6/30/2012

TBS = To Be Submitted

HIV: Rapid oral HIV testing eliminates the need for a laboratory visit and a return appointment to receive test results, appointments which patients often miss. By eliminating these two major barriers to testing and timely receipt of results, the anticipated key impacts of the proposed regional implementation of nurse-based rapid oral HIV testing will be to: 1) increase rates of HIV testing for Veterans entering SUD clinics at the participating facilities, 2) increase timely receipt of HIV test results for patients who are tested, and 3) increase timely connection to HIV care for patients who test positive.

Infectious Disease Workgroup Primary Partners: Minneapolis HCRC; HIV/HEP C QUERI; Public Health Strategic Health Care Group: Janet Durfee, Deputy Chief Consultant; Maggie Czarnogorski, Deputy Director, Clinical Public Health Programs; Maggie Chartier, National Psychology Program Coordinator for the Behavioral Management of HIV and HCV

Infectious Disease Workgroup Cross-QUERI Collaboration: The continued progress on implementation of HIV rapid oral testing in SUD clinics has been made possible through a strong collaboration with the HIV/HCV QUERI. Dr. Hagedorn is a co-investigator and has contributed Liver Health Initiative data to Dr. Christian Helfrich's ongoing IIR, "Predicting implementation from organizational readiness", which is evaluating the psychometric properties of the Organizational Readiness to Change Assessment by combining data from four implementation projects, including projects from the MH, Spinal Cord Injury (SCI), and SUD QUERIs.

Infectious Disease Workgroup Health Information Technology (HIT) Development, Implementation, and Evaluation: As part of the implementation strategy for nurse-based rapid oral HIV testing in SUD clinics, a clinical reminder was developed that is activated for specific providers (generally nurses, but for the regional roll-out some clinics do not have nurses available, so this will be social work or addiction therapy staff) in the SUD clinics. The reminder is triggered when a patient has not had an HIV test in the past year. The reminder opens a template progress note that allows for entry of the test result. The template progress note is linked to a lab order for an HIV Rapid Test. This order alerts the laboratory service that a rapid test has been performed and signals a laboratory technician that the result of that test needs to be entered into the lab package. In the event of a "preliminary positive" reading, an order for the Western Blot HIV test, CD4 cell count, HIV viral load and consultation to the HIV or infectious disease clinic is automatically generated. This reminder will be used and evaluated as part of the regional roll-out project.

Infectious Disease Workgroup Implementation Science Contribution: See “SUD QUERI Implementation Science Contribution Across All Goals” on pages 57-58.

PTSD Workgroup Plan for Achieving Goal

Although patients with co-occurring PTSD and SUD are seen in a variety of treatment settings, the PTSD WG will focus on PTSD specialty treatment programs as they have been the targets of UMHS Handbook mandates and additional resources (SUD-PTSD Coordinators) to improve

coordinated SUD-PTSD care. In the absence of clear evidence for specific best practices for how SUD-PTSD should be configured, there is local variation (natural experiments) in how PTSD specialty programs currently address co-occurring SUDs. Thus, our three immediate objectives focus on better assessing current practices and barriers to integrated/coordinated care. These objective are: 1) Complete a qualitative study of SUD Coordinators and PTSD team leaders regarding the role of SUD Coordinators and perceived barriers to improving SUD care for Veterans in PTSD specialty programs; 2) Conduct a national survey of staff in PTSD specialty programs to profile existing practice patterns in providing integrated, parallel, or sequenced care for co-occurring SUD and PTSD. Supplemental analyses of administrative data will be conducted to assess convergent validity of self-reported practice patterns; and 3) Analyze administrative data to determine whether co-occurring substance use disorders are associated with lower likelihood of beginning or completing PTSD specialty treatment. These short-term initiatives will inform longer-term project planning for additional PTSD WG projects that move into implementation.

PTSD Workgroup Anticipated Key Impacts: The proposed work will provide important data to better understand and improve current implementation initiatives and help identify the nature of current practices that should be further implemented or de-implemented.

PTSD Workgroup Primary Partners: National Center for PTSD; Sonja Batten (OMHS); Mary Schohn (OMHO); Dan Kivlahan (OMHS); Mental Health QUERI.

PTSD Workgroup Cross QUERI Collaboration: SUD QUERI has joined the NC-PTSD/Mental Health QUERI /eHealth QUERI coalition with the goal of supporting the improvement of VA PTSD treatment, novel technology-based strategies, and other projects that emerge. This coalition and our collaboration with the MH QUERI are described in more detail in Section 2.2. In particular, we will work together on our joint goals of improving treatment for co-occurring SUD and PTSD, and specific targets such as maximizing the utility of the SUD-PTSD specialists and deimplementing benzodiazepine use in PTSD patients.

PTSD Workgroup Implementation Science Contribution: See “SUD QUERI Implementation Science Contribution Across All Goals” on pages 57-58.

Pain Workgroup Plan for Achieving Goals

Although the problems associated with pain, SUDs, and prescription opioid misuse have far-reaching consequences that impact care within most, if not all, VHA treatment settings, the Pain Workgroup will primarily focus on SUD specialty treatment. Currently, although many SUD patients suffer with pain, little is known about how pain is treated within SUD treatment programs, pathways to specialty SUD treatment for patients who misuse opioids, and how risk of adverse pain- and pain medication-related outcomes can be reduced for SUD patients. By focusing on the detection and management of pain and pain medication misuse in SUD treatment programs, the goals of this workgroup will target a setting in which many at-risk patients are seen, as well as where the treatment of co-morbid chronic pain and SUDs is likely to be most challenging.

The Pain Workgroup has identified four main goals as targets for key implementation-oriented projects designed to have a high impact on the quality of care provided within the VA Below is a list of these goals in order of priority and a brief rationale for each, as well as sample research question(s) to be addressed within these goals:

1) Deimplement "worst practices" to decrease the likelihood of adverse events (e.g., avoidable hospitalizations, overdoses) among Veterans in SUD treatment also receiving treatment for pain. Many VHA patients with SUDs currently receive pharmacological treatments for pain that could be potentially harmful, such as high-dose opioids and concurrent opioids and benzodiazepines. The goal will be to examine the acceptability and effectiveness of strategies to changes prescription patterns to reduce the risks associated with certain pharmacological treatments for pain.

2) Increase utilization of non-pharmacological, evidence-based pain management for pain in specialty SUD treatment settings. Several non-pharmacological approaches (e.g., cognitive behavioral therapy [CBT]) have been shown to be effective; however evidence indicates that these interventions are not widely utilized within SUD specialty care. A proposed VACO initiative to train VHA mental health and SUD treatment providers in the delivery of CBT for pain could help to increase provision of these services within SUD specialty care. The Pain Workgroup will initiate a project to assess implementation of CBT for pain in specialty SUD treatment and changes in patient outcomes before and after the new VACO initiative. Also, several efficacy trials are underway testing pain interventions for SUD patients. We will monitor these studies and plan subsequent implementation studies, if warranted.

3) Improve the understanding and measurement of opioid misuse in SUD specialty care and develop, test, and implement interventions designed to reduce misuse. Because of the clear risk for medication misuse among patients with SUDs, it is important to develop methods to identify misuse and risk for opioid misuse among patients seen within SUD treatment. We will evaluate the effectiveness of strategies designed to reduce opioid misuse in SUD patients. We will examine the patient- and setting-related factors that are associated with greater likelihood of medication misuse. Also, future projects could develop a measure of opioid misuse specifically for use in SUD treatment settings. Subsequent projects under this aim will develop and evaluate an intervention to address prescription opioid misuse among patients with SUDs and pain, or assess an existing intervention (e.g., medication contracts) using secondary data analysis or data collection.

4) Identify and test strategies to improve communication about pain management between primary care and SUD specialty care. Input from key clinical stakeholders indicates that communication is difficult between primary care and specialty care regarding the treatment of patients with pain and SUDs. There is a pressing need to understand factors that serve as barriers or facilitate clear communication between primary care and SUD treatment and to develop strategies to improve communication related to the treatment of SUD patients with pain. To address this goal, a project will survey (a) SUD specialty care clinicians to understand pain management practices and strategies to assess and treat opioid misuse, and (b) primary care physicians to describe potential situations in which communication between providers could be improved. Subsequent projects will evaluate the effectiveness of intervention strategies designed to improve communication between the many providers who treat patients with both pain and SUDs. In addition, future projects will develop and evaluate a SUD-specific "Dashboard" to assess and monitor performance on pain-related services at VA facilities with specialty SUD treatment services.

Pain Workgroup Anticipated Key Impacts: 1) Reduction of potentially harmful pain medication practices among patients with co-occurring SUD and pain. 2) Increase the wide-spread utilization of potentially effective behavioral interventions for those with pain and SUDs; 2) Highlight key patient and provider characteristics linked to adverse outcomes. Over time, an understanding of these factors could lead to improved intervention strategies and decreased rates of adverse outcomes at the facility or national level; 3) Improve how risk of opioid medications is conceptualized and measured within SUD specialty care patients. In addition,

the development and/or evaluation of strategies designed to decrease misuse of opioids could improve the clinical management of SUD patients at risk for opioid misuse; 4) Develop strategies to improve communication and coordination between primary care and specialty SUD providers.

Pain Workgroup Primary Partners: VA National Program Director for Pain Management; National Mental Health Director, Psychotherapy and Psychogeriatrics; Office of Mental Health Operations; Associate National Mental Health Director for Addictive Disorders, Office of Mental Health Operations; VA Pharmacy Benefits Management Services.

Pain Workgroup Implementation Science Contribution: See "SUD QUERI Implementation Science Contribution Across All Goals" on pages 57-58.

Pain Workgroup Cross-QUERI Contribution: Because of the link between psychiatric conditions and increased risk for intentional and unintentional overdose with opioid pain medications, we will partner with the Mental Health QUERI.

SUD QUERI Implementation Science Contribution Across All Goals

Dr. Hagedorn is a member of the newly established Consolidated Framework for Implementation Research (CFIR) Development Initiative (CDI) Workgroup, led by Laura Damschroder and Dr. Julie Lowery of the Diabetes Mellitus (DM) QUERI. The purpose of the workgroup is to build a repository of measures and methods related to implementation using the CFIR as an organizing framework. The initial steps toward this goal are available for review at www.wiki.cfirwiki.net. As part of this effort, the DM QUERI has developed methods for assigning ratings to CFIR constructs based on available qualitative and quantitative formative evaluation data. These ratings can then be assessed for their relationship to implementation outcomes. One of the goals of the CDI workgroup is to encourage and assist researchers in using this rating system in order to facilitate cross-project synthesis of formative evaluation results. Process evaluation data from Dr. Hagedorn's recently completed Hybrid Type 1 study, "Effectiveness of Contingency Management in VA Addictions Treatment " will be analyzed using this method with consultation from the CDI workgroup. In addition, she will include the use of these methods for CFIR construct ratings in her future proposals, encourage the use of these methods by other SUD QUERI investigators, and serve as a mentor to those who chose to do so. In this way, the SUD QUERI can substantially contribute to the overall goal of the CDI

Workgroup to establish a repository of findings across studies which can be used to build sufficient sample size to summarize implementation findings across studies.

Management Plan

Based in SUD QUERI's new Coordinating Center at the Center for Health Care Evaluation, VA Palo Alto, Dr. Sox-Harris is the new Director and Research Coordinator, Dr. Elizabeth Gifford will continue as Clinical Coordinator, and Janet Ekstrom is the new Administrative Coordinator. Dr. Hagedorn, based in Minneapolis, will continue as Implementation Research Coordinator. Dr. Sox-Harris is responsible for leading the strategic planning process and implementing the strategic plan. Because the SUD QUERI goals are diverse, specific strategic agenda are partially delegated to workgroup leaders, who are tasked to work with stakeholders and operational partners to develop and execute an implementation science agenda in their area of focus. Dr. Sox-Harris manages the workgroup leaders to ensure that efforts are aligned with strategic plans, that key stakeholders and investigators are involved, and that concrete progress towards goals is being achieved. Importantly, Dr. Sox-Harris works closely with workgroup leaders and investigators to shape research proposals that are strategically targeted and scientifically sound. As Director, Dr. Sox-Harris also supervises the staff at the Coordinating Center, including the Administrative Coordinator and a to-be-hired, full-time data analyst.

In addition to participation in the Coordinating Committee, our Implementation Research Coordinator, Dr. Hildi Hagedorn, is responsible for helping workgroup leaders develop implementation science goals, helping individual investigators shape the implementation science aspect of their proposals, and lending hands-on implementation research expertise to funded projects. She is an active member of the IRC intellectual community, a frequent presenter and lecturer on implementation science methods, and an active cross-QUERI collaborator. Dr. Hagedorn also leads the Infectious Disease Workgroup. Our Clinical Coordinator, Dr. Elizabeth Gifford, works closely with our clinical and operational clinical partners to identify and implement evidence-based practices for specialty addiction treatment.

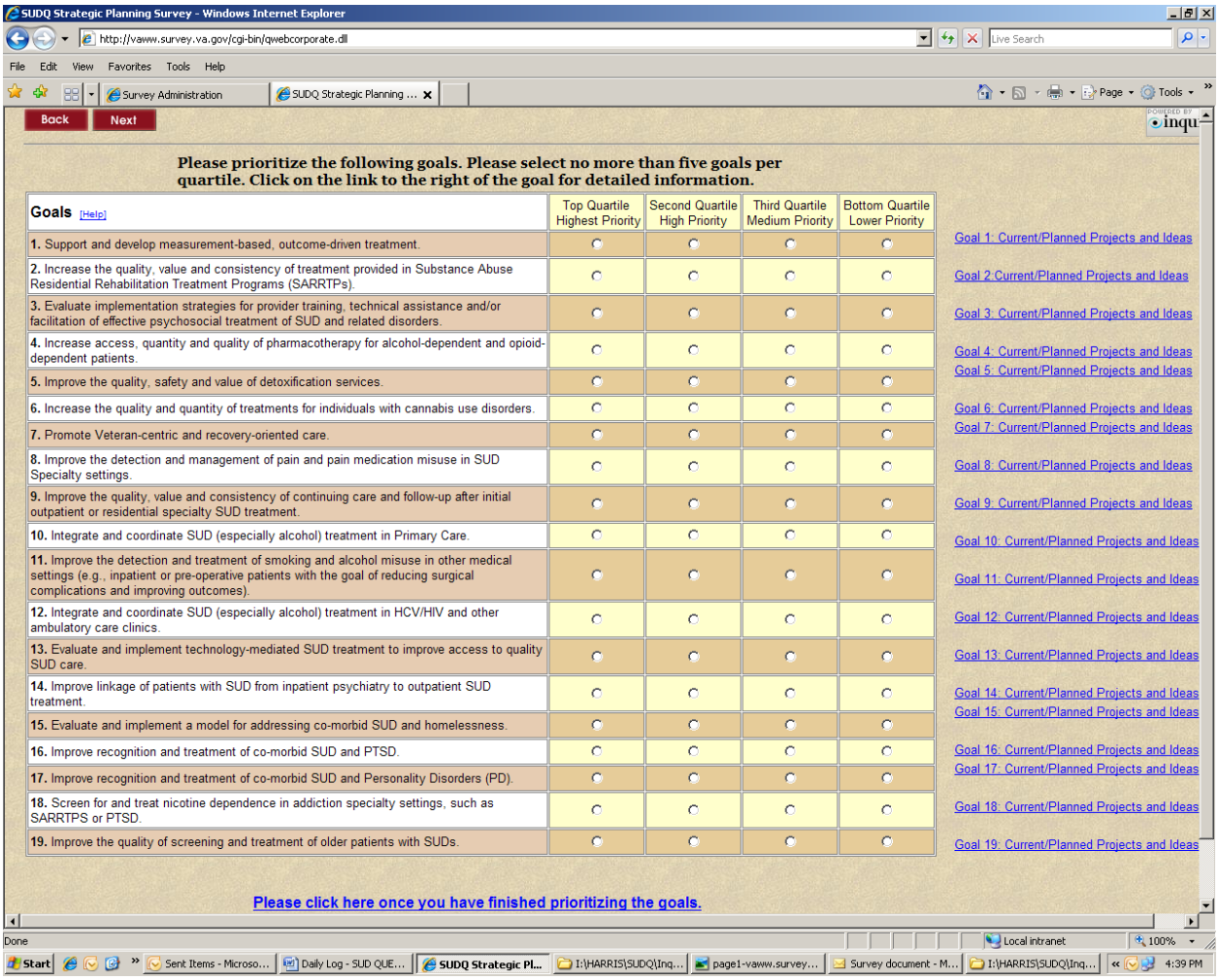
The Core Coordinating Committee has bi-weekly meetings to discuss logistics, strategy, and policy; review proposal abstracts; discuss progress on the strategic plan; and other business. Also joining these calls in a consulting capacity are Dr. John Finney (former SUD QUERI Research Coordinator, current EC member) and Dr. Dan Kivlahan (former Clinical Coordinator, current EC member and Acting National Mental Health Program Director for Addictive Disorders

in the Office of Mental Health Services). These bi-weekly calls ensure coordination and tight collaboration between the Palo Alto and Minneapolis sites, as well as with larger VA initiatives. Every other call is joined by the other workgroup leaders (Adam Gordon, Steve Maisto, Craig Rosen, Mark Ilgen) in order to discuss workgroup-specific agenda and business, progress on the strategic plan, and other issues.

Our Administrative Coordinator facilitates communications among the Research Director, Palo Alto collaborators, Clinical Coordinator's Office, IRC, and Executive Committee. She provides oversight for the general day-to-day administrative operations of the SUD-QUERI group and ensures fiscal and budgetary adherence across all SUD QUERI sites. Additionally, she coordinates the hiring of Center staff, facilitates completion of the SUD QUERI Annual Report and related budgets, and facilitates the planning and execution of the annual SUD QUERI Executive Committee Meeting. She also participates in various SUD research and implementation protocols, manuscript preparation and submission, and liaisons with community stakeholders, other research groups, and other SUD QUERI sites as a means of facilitating ongoing, undisrupted SUD-QUERI activities.

Appendix A

Strategic Planning Priority Survey



Goal 1: Improve the accessibility, quality, effectiveness, and efficiency of SUD specialty care treatment (SCWG)				
Objectives	**Scope**	**Project**	**Metric Data Source**	**Timeline**
A. Increase measurement-based care and other effective practices to improve SUD specialty care quality, access, and efficiency.				
Center Activities/Project Outcomes				
1. Develop performance metrics for assessing tobacco control implementation on key indicators such as rates of nicotine dependence diagnosis and pharmacotherapy.	National	LIP	DSS	FY2012
2. Develop, deploy, and evaluate a multidimensional implementation strategy to increase AUD pharmacotherapy implementation.	Two sites	Planned SDP Project	DSS	FY2012-2014
3. Identify sources of variation in BAM administration and measurement based care in SUD specialty care programs.	National	Planned RRP	DSS/CDW /EPRP	FY2012-2014
Clinical Process Outcomes				
1. Increase initial and repeat BAM implementation in SUD specialty care	National	Planned RRP	DSS	FY2012-2014
2. Improve continuity of care practices in SUD residential treatment.	Three sites	Planned SDP	DSS/qualitative interviews	FY2012-2013
3. Increase appropriate nicotine diagnosis and evidence based tobacco treatment for Veterans in SUD residential programs (baseline = 26%).	National	LIP	DSS	FY2013-2014
4. Increase alcohol use disorders pharmacotherapy in SUD specialty care (baseline = 6%).	National	Planned SDP	DSS	FY2013-2014
Clinical Outcomes				
1. Reduce rates of readmission to SARRTP/rehospitalization and associated costs.	National	Planned SDP	DSS	FY2013-2015
Goal 2: To improve the access, quality of care, and outcomes of hazardous substance use within non-addiction				

specialty care environments.				
Objectives	**Scope**	**Project**	**Metric Data Source**	**Timeline**
A. Increase interventions to identify and address hazardous substance use outside specialty addictions treatment setting.				
Center Activities/Project Outcomes				
1. Integrate homeless case management support to provide dedicated case management for homeless Veterans, improving the care of alcohol and substance use within the homeless and near-homeless population in an existing PACT program.	One Site	Funded RRP	Trial data	FY2012
2. Develop an online evidence-based intervention to help Veterans with unhealthy alcohol use.	National	Planned RRP	Trial data	FY2012
Clinical Process Outcomes				
1. Increase buprenorphine care in the VA.	National	Planned SDP	DSS	FY2013
2. Increase the percent of all screened patients who have documented brief alcohol counseling.	National	Core Funds	EPRP 2011	FY2012
3. Increase Implementation and demonstrate clinical effectiveness of a PACT-based, nurse-driven model of alcohol screening, brief intervention and referral to treatment.	6 facilities	SDP Concept Paper Submitted	Trial data	FY2012-2014
Clinical Outcomes				
1. Increase resolution of alcohol misuse after brief alcohol counseling.	National	Funded RRP	CDW	FY2012
Goal 3: Implement Evidenced-based Practices for the Integrated and/or Co-Located Treatment of SUD and Common Comorbidities (especially PTSD, Pain, and Infectious Diseases)				
Objectives	**Scope**	**Project**	**Metric Data Source**	**Timeline**
A. Improve identification of and services for HCV and HIV among Veterans with SUD				
Center Activities/Project Outcomes				
1. Evaluate and validate sustainability in past Liver Health Initiative (LHI) participants.	61 facilities	Planned RRP	DSS	FY2013

2. Conduct regional roll out of nurse-based rapid oral HIV testing in SUD clinics.	4 VISNS	Planned SDP	DSS/Trial data	FY2015
Clinical Process Outcomes				
1. Establish routine nurse-based oral rapid HIV testing in SUD clinics.	4 VISNS	Planned SDP	DSS	FY2015
2. Increase number of Veterans with SUD tested for HIV.	4 VISNS	Planned SDP	DSS	FY2015
Clinical Process Outcomes				
1. Increase rates of HAV and HBV vaccination among Veterans in SUD specialty care to reduce infection rates.	4 VAMCs	Planned RRP	DSS	FY2015
B. Improve identification of and services for co-occurring PTSD and SUD				
Center Activities/Project Outcomes				
1. Evaluate the role of SUD Coordinators and perceived barriers to improving SUD care in PTSD clinics.	National	Planned RRP/LIP	Trial data	FY2012-2013
C. Improve the identification and management of pain and pain medication misuse in SUD patients				
Center Activities/Project Outcomes				
1. Identify pain treatment patterns associated with overdose among SUD patients with pain.	National	Planned RRP	DSS	FY2012-2013
Clinical Process Outcomes				
1. Increase the utilization of behavioral interventions for those with pain and SUDs.	Two sites	Planned RRP	Trial data/DSS	FY2013-2014
3. Assess implementation of CBT for pain in specialty SUD treatment and before and after national training of VHA mental health and SUD treatment providers in CBT for pain.	Three sites	Planned RRP	Trial data	FY2013-2014
Clinical Process Outcomes				
1. Reduce risks of high dose opioids and concurrent opioid and benzodiazapine use in Veterans with SUD.	National	SDP	DSS/Trial data	FY2013-2015

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