SPECIAL ARTICLES

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Dissemination of CBTI to the Non-Sleep Specialist: Protocol Development and Training Issues

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Strong evidence supports the efficacy of cognitive behavioral therapy for insomnia (CBTI). A significant barrier to wide dissemination of CBTI is the lack of qualified practitioners. We describe challenges and decisions made when developing a CBTI dissemination program in the Veterans Health Administration (VHA). The program targets mental health clinicians from different disciplines (psychiatry, psychology, social work, and nursing) with varying familiarity and experience with general principles of cognitive behavioral therapies (CBT). We explain the scope of training (how much to teach about the science of sleep, comorbid sleep disorders, other medical and mental health comorbidities, and hypnotic-dependent insomnia), discuss adaptation of CBTI to address the unique challenges posed by comorbid insomnia, and describe decisions made about the strategy of training (principles, structure and materials developed/recommended). Among these decisions is the question of how to balance the structure and flexibility of the treatment protocol. We developed a case conceptualization-driven approach and provide a general session-by-session outline. Training licensed therapists who already have many professional obligations required that the training be completed in a relatively short time with minimal disruptions to training participants' routine work responsibilities. These "real-life" constraints shaped the development of this competency-based, yet pragmatic training program. We conclude with a description of preliminary lessons learned from the initial wave of training and propose future directions for research and dissemination.

Keywords: Dissemination, insomnia, cognitive behavioral therapy

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Strong evidence supports the efficacy of cognitive behavioral therapy for insomnia (CBTI). The evidence is based on studies that compared CBTI to a control therapy[1,2] and to delayed treatment controls.[3] Direct comparisons with hypnotic medications have shown CBTI and hypnotics, such as temazepam,[4] zolpidem,[5] and zopiclone[6] produce comparable sleep improvements after several weeks of treatment, and that the effects of CBTI are durable following discontinuation of provider contact.[4,6] The weight of evidence supporting CBTI led to its recognition as a first-line treatment for insomnia by the National Institutes of Health (NIH) Consensus Statement[7] and the British Association of Psychopharmacology.[8] As a leading sleep researcher recently stated: "In an ideal health care system, one would expect behavioral treatment for insomnia to be widely disseminated because of the data showing efficacy, the cost savings that would accrue from reduced pharmacy costs, and reduced morbidity from sedative hypnotic-related falls and injuries."[9]

A commentary on this article appears in this issue on page 219.

A significant barrier to wide dissemination of CBTI is the lack of qualified practitioners. Graduate and postdoctoral fellowships are excellent vehicles to train behavioral sleep medicine specialists, who usually practice within or in association with a sleep center. However, there remains a need for shorter yet effective training of licensed clinicians to deliver CBTI within a broad array of clinical settings, where many insomnia patients seek care. Mental health providers who work in a variety of settings, including mental health and primary care services, are ideally suited to deliver CBTI.[10] Difficulties initiating and/or maintaining sleep usually do not resolve with general psychotherapy,[10] and untreated insomnia among patients with comorbid psychiatric and medical conditions contributes to illness severity and hinders response to treatment,[11-13] underscoring the need to train mental health providers to deliver CBTI. Fortunately several clinical trials have indicated that CBTI is effective in patients with depression,[2,14,15] posttraumatic stress disorder (PTSD),[16,17] and pain.[18-22] The task is therefore to train mental health clinicians from different disciplines (psychology, social work, and nursing) with varying familiarity and experience with general

principles of cognitive behavioral therapies (CBT) to deliver CBT for insomnia (CBTI).

Successful, competency-based training of psychotherapists requires both didactic content (course work and/or a workshop) and ongoing expert consultation and feedback training (usually closely supervised delivery of treatment until competency is reached).[23] The latter has been found to be particularly important.[24-26] We describe a CBTI dissemination project that encompasses both elements, focusing on the challenges we met in developing the training content. The dissemination project targets mental health clinicians in the Veterans Health Administration (VHA)—the health care component of the U.S. Department of Veterans Affairs (VA) and the largest integrated health care system in the United States. It is part of a series of dissemination efforts designed to translate evidence-based psychotherapies into clinical practice within the VHA system.[23,26] The didactic portion of the training requires attendance at a clinical workshop that provides ample opportunity for experiential learning and extensive modeling of therapeutic techniques. It also provides a comprehensive treatment manual to be used as a reference resource and supporting materials designed to help therapists implement the treatment. The consultation training component is anchored in the review and ratings of taped therapy sessions by experts in CBTI, using a competency rating scale developed by the authors for this dissemination effort to standardize the rating of the taped sessions. The consultation training involves weekly small group phone calls, led by a CBTI expert training consultant, to provide feedback after review of the tapes and to discuss emerging clinical issues. Regular feedback regarding the taped sessions and the weekly consultation provide a process for continued correction and improvement of training participants' skills. Such close consultation is also ethically necessary during hands-on training of new psychotherapy skills.[27] We began the project with a pilot training of clinicians who had successfully completed VA's competency-based training program in CBT for depression (described in Karlin BE, Brown GK, Trockel M, et al. Dissemination of cognitive behavioral therapy for depression in the Veterans Health Administration. Manuscript submitted for publication.) Subsequently, we expanded the CBTI training program to meet the needs of all mental health providers (regardless of their background in CBTI) within the VHA if they meet the following prerequisites: (1) they are licensed, credentialed, and routinely provide psychotherapy; (2) they receive approval and release time from their supervisors to participate in the training; (3) they demonstrated the need for CBTI services in their setting; and (4) they express commitment to regularly use CBTI after successful completion of the training.

Training licensed therapists who already have many professional obligations, meant the training has to be completed within a relatively compressed timeframe with minimal disruptions to training participants' routine work responsibilities. These real-life constraints contributed to the decisions we made as we developed this pragmatic training program. We were faced with the following questions: (a) How much to teach about the science of sleep? (b) How much to teach about comorbid sleep disorders? (c) Which comorbidities other than sleep disorders to cover and how to adapt treatment to address the unique challenges these comorbidities present? (d) How to address hypnotic-dependent insomnia? Decisions had to be made pertaining to the strategy of training. In that regard, we describe the following decisions about principles, structure, and tools for CBTI dissemination. These include: (e) Which version of sleep restriction therapy (SRT) to use? (f) How to teach cognitive therapy strategies to those clinicians with limited prior training in cognitive therapy? (g) How to structure the treatment protocols, balancing between the simplicity of a session-by-session protocol and the benefits of a flexible case conceptualization-driven approach? (h) How to facilitate and streamline the assessment and case conceptualization? and (i) What tools should be used to assist the training and facilitate clinical care? These challenges are relevant to any large-scale pragmatic dissemination effort. Of course, initial impressions and training plans often change once actual dissemination efforts begin, and such was the case in this project. The article concludes with a description of preliminary lessons learned from the initial wave of training and proposal of future directions for research and dissemination.

FOCUS OF TRAINING: DEFINING THE SCOPE OF CBTI TRAINING

How much teaching about the science of sleep should be included?

Competency in CBTI requires the clinician to be versed in the science of sleep, content that is not typically well covered (if covered at all) in most mental health graduate training programs. Our challenge was to identify the essential aspects of sleep science that could be taught within the limited time available for pure didactic learning given the experiential, "how-to" focus of the workshop, without overwhelming the learners. Our guiding principle was to focus on aspects of sleep science most directly relevant to the implementation of CBTI, including the initial assessment and case conceptualization. The content development workgroup identified three core areas of sleep science to be taught: (a) the two-process model of sleep (circadian process and homeostatic sleep drive) and how these processes work together to maintain wakefulness during the day and sleep at night; (b) how hyperarousal interacts with the two-process model and contributes to the insomnia experience; and (c) the basics of sleep architecture and its relevance to understanding sleep quality. This focused education in sleep science differs from the requirements for Behavioral Sleep Medicine (BSM) certification, which includes the equivalent of a one-year post-doctoral sleep fellowship (or comparable equivalency). BSM training includes much broader didactics in the science of sleep and greater exposure to experiential training in the provision of a range of behavioral sleep medicine interventions in addition to CBTI. Below we provide rationale for the choice of each of the sleep science didactic components.

Understanding of the two-process model is essential for competent administration of CBTI. Knowledge about homeostatic drive helps training participants present the rationale behind SRT and some stimulus control (SC) instructions, such as avoiding naps. Knowledge of the circadian process helps training participants explain the rationale for keeping a fixed rise time and guides the placement of the SRT-determined time in

bed (TIB) window so that it is congruent with each patient's chronotype. Trainees can use their understanding of how the two processes work together to regulate sleep to help their patients understand some of the reasons they have a sleep problem, dispel their myths about insomnia, and increase their trust in the provider. This knowledge also prepares training participants to anticipate and address challenges their patients may experience when implementing SRT and SC.

Understanding the regulation of sleep is incomplete without considering hyperarousal and how it interacts with the two-process model of sleep. Training participants need to understand that a strong homeostatic drive and placement of the TIB window to be congruent with the patient's chronotype may not be enough to promote sleep when arousal is high. Training participants are encouraged to explain how these three factors interact and contribute to the development of conditioned insomnia. This information provides the training participants with a framework for presenting the components of CBTI and for addressing emerging adherence issues. The didactic training includes modeling by experts and rehearsal opportunities to practice explaining these processes in a clear and simple manner tailored to each Veteran's experience of insomnia and comprehension level.

The didactic training includes education about sleep architecture (sleep stages, the arousal threshold associated with each, and the distribution of sleep stages across the night). This information enhances training participants' understanding of their patients' experience of insomnia and helps them explain sleep-state misperceptions. The didactic training also includes education about the contribution of sleep fragmentation to perceptions of sleep quality, and this knowledge can be used when explaining SRT as a procedure for reducing sleep fragmentation. Education about the effects of aging on sleep architecture is included because it helps clinicians correct inaccurate beliefs about sleep and shape realistic expectations about treatment goals. Understanding sleep architecture is also important for differentiating between nightmares, ubiquitous among Veterans with comorbid PTSD, and other parasomnias and parasomniac behaviors that may necessitate referral to sleep specialists.

How much teaching about comorbid sleep disorders should be included?

Competent delivery of CBTI requires knowing when comorbid sleep disorders are contraindications for CBTI, when they necessitate adaptation of CBTI to ensure patient safety, and when referral to specialized sleep medicine treatment is indicated. To be parsimonious and ensure appropriate focus, the workgroup decided to limit training to the assessment of comorbid sleep disorders most prevalent among VHA patients[28]: obstructive sleep apnea (OSA), circadian rhythm sleep disorders, and restless legs syndrome (RLS). The training provides information and tools for identifying these sleep disorders, encourages referral to and collaboration with sleep specialists when a comorbid sleep disorder is suspected, and discusses when and how to modify CBTI to enhance outcome and ensure patient safety. Assessment scripts and assessment tools are provided to help clinicians identify the presence of these disorders. Relevant assessment tools consist of the STOP questionnaire[29] to assess the likelihood of severe OSA and the Restless Legs Questionnaire.[30] We also include information on how to adapt CBTI in the context of untreated or undertreated OSA to address the greater risk of daytime sleepiness in response to strict SRT. However, OSA associated with severe daytime sleepiness was deemed a contraindication for CBTI. We instruct training participants to assess and encourage adherence with continuous positive airway pressure devices when applicable. We chose not to discuss adaptations of CBTI for working with RLS sufferers, because our collective clinical experiences suggest standard CBTI protocols are effective with such patients. We encourage collaboration with sleep specialists (either sleep medicine or behavioral sleep medicine specialists) for all comorbid sleep disorders.

We decided that significant focus on severe Circadian Rhythm Sleep Disorder necessitating circadian rhythm entrainment was beyond the scope of CBTI training and recommend referral to sleep specialists. However, we do encourage training participants to assess chronotype using assessment guidelines and the Morningness/Eveningness questionnaire[31] because of its relevance to the implementation of SRT (placing the TIB window to be congruent with it). We also included content for assessing common parasomnias that may be relevant to the treatment of insomnia in patients with comorbid PTSD.

With the exceptions noted above, we decided not to teach strategies and techniques that fully trained BSM specialists use for managing sleep disorders other than insomnia.[10] This has allowed the focus to remain on our primary aim—teaching CBTI to competency. The training emphasizes and encourages collaboration and referral to sleep specialists, including BSM-certified behavioral sleep specialists, for dealing with comorbid sleep disorders. Training in a wider range of BSM services could be the focus of "advanced training" for those who complete the CBTI focused training. Dissemination projects with a broader aim may need longer and more extensive training. We believe that clinicians providing CBTI, whether trained in all aspects of behavioral sleep medicine or not, may contribute positively to patient care by identifying comorbid sleep disorders and recommending appropriate referrals.

Which comorbidities other than sleep disorders to cover and how to adapt treatment to address the unique challenges these comorbidities present?

To make the training most relevant to clinicians in VHA, we focus training on comorbidities most likely to present within the system. These include Major Depressive Disorder (MDD), PTSD, chronic pain, and mild traumatic brain injury (mTBI). For each comorbidity, we incorporate training foci that augment standard insomnia assessment and CBTI implementation. No empirical support exists for providing CBTI during active substance abuse/dependence. The modest data that do exist support the use of CBTI with recovering alcoholics.[32,33] We recommend that CBTI be provided to patients with abuse/dependence disorders, but after some initial period of sobriety is achieved. We include education on the short-term and long-term effects of alcohol (and nicotine) use on sleep given its widespread use among Veteran patients.

Some assessment considerations are common to depression, PTSD, and pain. For example, we highlight the increased prev-

alence of OSA and the importance of assessing its presence and adequacy of its treatment in all three comorbidities. We also educate the training participants on the sleep effects of medications used for each disorder. We encourage assessment of two other features common in these three disorders: (a) hopelessness (Does patient believe poor sleep will not improve because it is just a symptom of depression/PTSD/pain/brain injury?) and (b) the functional significance of bed- or night-related behaviors. In MDD and chronic pain, going to bed may be an escape from emotional or physical pain or daily demands. In PTSD, bed- or night-related behaviors include avoidance of silence or sleep/bed because of nightmares or nocturnal hypervigilance. For MDD, we also discussed the need to determine if sleep is used in an attempt to escape from emotional pain, whether anhedonia and/or low motivation contribute to difficulty getting out of bed in the morning, whether rumination interferes with sleep, and whether diurnal variations in mood affect likelihood of staying in bed too much. For mTBI, we recommend assessing comorbid psychiatric disorders because a large-scale study[34] found that the psychiatric disorders comorbid with mTBI might be better predictors of insomnia than the mTBI itself.

With respect to treatment considerations, we highlight some of the unique presentations of insomnia that occur in each of the comorbid disorders and may affect adherence to CBTI recommendations. In all modifications we selected, we strove to maintain fidelity to the efficacious components of CBTI (SC, SRT) and to the efficacious strategies for comorbid psychiatric or pain disorders. For example, to help patients with MDD or chronic pain with difficulty in following the SC guideline about getting out of bed at the same time each morning, we teach providers to use behavioral activation (planning rewarding daily activities—a component of CBT for depression and for pain). In most instances, CBTI and CBT for depression, pain, and PTSD are complementary and conceptually compatible. However, particular attention was required to address how to implement CBTI in the context of excessive nighttime hyperarousal, as seen in PTSD. Veterans with PTSD often report engaging in compensatory behaviors, such as sleeping with weapons or performing perimeter checks when concerned about safety in the middle of the night. Although these behaviors may increase a sense of safety in the short term, they perpetuate insomnia in the long term by promoting hyperarousal. Therefore, we encourage clinicians to teach patients with PTSD to lock up their weapons and refrain from checking behaviors when unable to sleep and to use instead thought-challenging or relaxation techniques outside of bed to cope with the short-term increase in anxiety and at the same time help break the association between bed and hyperarousal.

We provide additional training about how to adapt standard CBTI by modifying existing components, adding components, or changing the relative emphasis of the different components. For example, when hyperarousal is very high in the context of disorders, such as MDD or PTSD, methods for reducing it may need to be emphasized. Therefore we provide training on the use of worry time and acceptance-based techniques during the day to handle ruminations that might arise in bed, whether they were related to dysfunctional beliefs about sleep or to a tendency to replay past traumatic memories. We alert training participants to the possibility that among chronic pain patients, progressive muscle relaxation may increase pain and need to be adjusted or an alternative relaxation technique substituted. For patients with mTBI, we recommend using simplified sleep diary and handouts to suit the patient's concentration problems. Another example is training on when and how to modify SC and SRT through use of alternatives such as sleep compression[35-37] and countercontrol.[38] This may be indicated for some chronic pain patients who may find it too physically demanding to move to another room or even get out of bed when unable to sleep. We demonstrate the use of cognitive restructuring when disorder-specific beliefs and thoughts interfere with sleep or adherence with CBTI. The training includes education about sleep in various disorders to help training participants change patients' inaccurate beliefs. For instance, we include education about the effects of pain and attention to pain on the likelihood of falling back to sleep when awakened by pain.[39]

The consensus of the workgroup was that training in structured therapies for addressing nightmares, such as Imagery Rehearsal Therapy (IRT), was premature for national dissemination and implementation until further work clarifies its efficacy for addressing combat-related nightmares. In addition, adding IRT to the intensive CBTI training would likely be overly complex. However, we developed the CBTI protocol and training to include important nightmare-related content and skills training, given the frequency of nightmares and other PTSD-related sleep symptoms in Veterans. This includes training in helping Veterans avoid rumination about the meaning of disturbing dreams, use of SC to help extinguish the association between bed and arousal associated with nightmares, and methods for calming the mind when out of bed following a nightmare awakening to facilitate return to sleep. Furthermore, we recommend that clinicians refer patients with more severe nightmare-related symptoms to an exposure-based PTSD psychotherapy,[16] particularly when other PTSD symptoms are also present, or for consideration of treatment with prazosin, shown in multiple randomized controlled trials to be efficacious for nightmares.[40-42]

How should hypnotic dependent insomnia be addressed?

Nearly 50% of patients presenting for treatment for insomnia are prescribed a medication for sleep, and the majority will continue to use sleep medications almost nightly for periods of a year or longer.[43,44] It is therefore likely that many candidates for CBTI are currently taking some form of pharmacotherapy for their insomnia, and many of these patients have been receiving this treatment for extended periods of time. The majority of studies suggest that hypnotic-dependent patients respond about as well to CBTI as do medication-free patients.[45-48] Therefore, the consensus of the workgroup was to not exclude medication-dependent insomnia sufferers from treatment with CBTI. However, it was recognized that two aspects of sleep medication use may require adaptation of CBTI. The first is the potential risks associated with getting out of bed in the middle of the night (SC) or in the morning (during SRT) when hypnotic effects may still be present. Clinicians without prescribing privileges are encouraged to

consult the prescribing physician or another physician on the treatment team about such risks and to use a more liberal TIB prescription, when implementing SRT in order to minimize risk of carryover sedation. The second issue is patients' PRN use of medications, whereby they go to bed without their normal medication to "see how they do" without it. This practice may result in heightened sleep-related performance anxiety, low sleep-related self-efficacy, and psychological dependence on the medication. We included didactic content about these issues, as well as about patients' ambivalence about their use of hypnotic use. However, training participants were discouraged from contradicting physician's instruction of PRN use and were advised to discuss the patient's schedule of hypnotic use with the prescribing physician.

The issue of whether to include specific focus on medication discontinuation led to extensive discussion among workgroup members. Ultimately, there was consensus not to include content related to medication discontinuation, due to feasibility issues and a sense that this would have required significant additional training time and costs for the dissemination program. Therefore, instructions in validated protocols for hypnotic discontinuation had to remain beyond the scope of this training. It was further recognized that the VHA system has expert pharmacotherapy capacity to address the issue of a safe medication taper. We encourage CBTI training participants to refer all patients requesting medication taper to their prescribing physicians, offer to support the patient during the taper, and collaborate with physicians when psychological dependence appears to be hindering success with the tapering plan. For that reason, training includes didactic information about hypnotic medications, relevance of medication half-life, and the timing of administration for the safe application of CBTI. In addition, the training also discusses the concepts of rebound insomnia and psychological dependence, as well as the utility of a gradual taper and strategies for supporting patients during the tapering process.

STRATEGY OF TRAINING: DECISIONS REGARDING PRINCIPLES, STRUCTURE, AND TOOLS OF CBTI FOR DISSEMINATION

Which version of SRT to use and how to adapt it when needed?

The very term "sleep restriction therapy" can induce anxiety in many insomnia patients who already feel they are not getting enough sleep. This anxiety may become a significant obstacle to adherence. Therefore we offered several alternative terms, such as "time in bed restriction," "sleep quality training," and "sleep efficiency training." The alternative terms facilitate a focus on curtailing the excess time in bed, without implying reduction in sleep time, improving the quality of sleep, and making sleep more efficient. Such terms are less likely to promote anxiety and more likely to foster adherence.

We chose to develop an initial time in bed (TIB) schedule based on Spielman et al., [49] using one to two weeks of pre-treatment sleep diaries. We opted for the original SRT method,[49,50] because it is most commonly used in CBTI studies and is more likely to yield rapid results than subsequently developed alternatives that involve longer initial TIB.[51-53] Although the original SRT method used 4.5 hours as the minimum prescribed sleep opportunity, to ensure patient safety we recommend a 5-h minimum, as recommended by several authors.[54,55] We modified Spielman's original recommended criteria for extending, reducing, or maintaining TIB. We operationalize the TIB adjustment to take into account the patient's sleep need. With permission from Arthur J. Spielman, PhD, we adapted a sleep algorithm[56] to assist the novice therapist in determining whether to extend, hold, or decrease time in bed and how much. The algorithm is based on sleep efficiency (SE) and a 4-item questionnaire to assess sleep need based on daytime and evening fatigue, sleepiness, napping, and the patient's perception of sleep adequacy. If SE is $\geq$ 85%, the modified algorithm calls for a 30-min increase in TIB when sleep need is high and a 15-min increase when sleep need is moderate. If SE is < 80% and the sleep need is low, there is a 15-min reduction in TIB. The 85% and 80% SE cutoffs we adapted were originally proposed by researchers testing SRT in older adults[51,52,57] and have been subsequently recommended in several therapists' guides.[58,59] Even though the original protocol recommended adjustment every 5 days,[60] we recommend weekly evaluation for adjustments in TIB for pragmatic reasons, since therapy sessions are usually spaced more than 5 days apart.

The calculation of daily sleep diaries can be time-consuming. We therefore developed a sleep calculator, whereby the therapist enters the diary values into an easy-to-use spreadsheet. The calculator determines the weekly means and graphs the weekly data over time. The graphs can be shared with the patient to highlight progress and help shape awareness of change, particularly early in therapy when the fatigue and sleepiness effects of treatment are strongest.

As in the SRT[61] and SC[62] protocols, we recommend that patients avoid naps. We also provide guidelines for modifying this and other aspects of SRT and SC when patients experience daytime sleepiness. For such cases, we provide napping guidelines. If napping does not alleviate daytime sleepiness sufficiently to permit the patient to function safely during the day and evening, we recommend relaxing SRT. For example, setting the initial TIB to be average TST plus 30 min[52,63] or using sleep compression,[64] a variant of SRT that involves gradual, rather than abrupt reduction of TIB. These variations of the standard SRT were also recommended for certain frail patients, patients with chronic pain, and patients who respond to SRT with high levels of anxiety. Training includes discussion of when SRT is contraindicated, such as in patients with severe untreated sleep apnea. The general recommendations we provide as alternatives to SRT include SC and strategies to reduce arousal. For patients who respond to SRT with very high levels of anxiety or are otherwise resistant to the idea of reducing TIB, we recommend motivational enhancement and anxiety reduction strategies, including cognitive therapy to prepare for future implementation of SRT.

How to teach cognitive therapy strategies to clinicians with no prior exposure to cognitive therapy?

Comprehensive training in cognitive therapy theories and practice as it applies to depressive and anxiety disorders was considered not feasible within the context of this training effort.

Moreover, a comprehensive CBT manual which includes more extensive content and worksheets on the theory and application of cognitive therapy with Veterans and Military Service members has been developed and is now widely available to VA clinicians and others.[65] Instead the workgroup decided to focus on providing the basic model linking cognitions, emotions, and behaviors, and then focus on strategies for reducing cognitive hyperarousal, sleep-interfering cognitions, and beliefs about sleep that may hinder adherence with CBTI. These include strategies for thought restructuring (guided discovery, downward-arrow technique, cost-benefit analysis, thought records), coping cards, and behavioral experiments.[66,66] As in other modules of training, we included modeling and ample opportunities for practice through dyadic and small group work and large group discussions of the experiential work. Even though this sleep-focused training in cognitive strategies will not prepare training participants to apply cognitive therapy when treating other mental disorders, the workgroup reasoned that the focused attention on sleep-related beliefs and cognitions will adequately prepare them to enhance adherence with the behavioral strategies of CBTI.

Using case conceptualization to enhance learning and competency

Case conceptualization is the foundation for any good therapy, including CBTI, and is an important component of the VA CBT-I protocol, thus allowing for flexible patient centered administration. To promote the development and application of case conceptualization in the therapy, the workgroup developed a case conceptualization form that facilitates the synthesis of information gathered during the assessment and design of a treatment plan. The case conceptualization form is part of the protocol. It asks training participants to identify (a) factors that may weaken the homeostatic drive, such as extended TIB, excessive napping, and dozing off before the intended sleep period; (b) factors that may weaken the circadian process, such as irregular sleep schedule or a mismatch between chronotype and the habitual sleep opportunity window; (c) evidence of sleep-interfering hyperarousal, such as sleep effort, dysfunctional beliefs about sleep, and difficulty quieting the mind in bed; (d) sleep-interfering behaviors, including use of substances and other poor sleep hygiene practices, such as nocturnal eating, exercising, and exposure to sleep-disruptive environmental factors. The form also asks training participants to consider (a) how comorbidities, if present, contribute to insomnia and/or hinder treatment adherence, and what disease specific sleep symptoms other than insomnia may need attention (e.g., early morning awakening in depression, confusional arousal and nightmares in PTSD, nocturnal pain); (b) how prescription and non-prescription medications impact sleep and whether they raise a safety concern; (c) which predisposing, precipitating, and perpetuating factors of insomnia are present. The case conceptualization form asks training participants to write down plans for addressing each identified factor and to rank order the list of factors. Thus, the form was designed to promote a flexible, individualized treatment.

How to facilitate and streamline the assessment?

To facilitate and streamline the assessment process, we have developed an intake form and recommended a set of assessment questionnaires. These include the Dysfunctional Beliefs About Sleep Scale[67] to assess sleep-interfering beliefs and cognitions; the Morning/Eveningness Questionnaire[68] to discern the patient's circadian tendency so that if there is a mismatch between a patient's circadian tendency and sleep/wake schedules, it can be recognized; the brief STOP screening questionnaire[29] to assess the likelihood of severe OSA; and the Restless Legs Syndrome Rating Scale[30] to help determine the severity of RLS, when it is suspected. The workgroup thought it is safe to assume that mental health providers would be able to assess comorbid mental conditions without additional instruction or special assessment instruments. Daily sleep diary is a mandatory assessment and treatment tool that guides the implementation of CBTI. The workgroup was faced with the decision as to which of the many versions of a sleep diary to choose. We agreed the format and items used should provide quantitative information to allow estimation of TST and SE. We also thought it would be useful to choose a diary version that is likely to enjoy widespread use both within and outside of the VA health care system. Given these considerations the workgroup chose and obtained permission to use the "Consensus Sleep Diary" developed recently to standardize insomnia assessment in research and clinical venues.[69]

How to structure the treatment protocol?

A session-by-session treatment protocol is easy to learn and is particularly important in research when samples tend to be homogeneous and prescreened. The main disadvantage of this approach is that it does not lend itself to flexible clinical implementation in a real-life setting, in which the patient population is heterogeneous. We opted for a semi-structured approach allowing the case conceptualization to drive the order in which the treatment components are introduced. The workgroup decided on a 6-session protocol that allows early termination when treatment aims are attained earlier and longer treatment when clinically indicated. The first session is dedicated to assessment and the last includes a relapse prevention component. The therapist spends time after the assessment to complete the case conceptualization form and design a treatment plan. The second and subsequent sessions begin with a review of the completed sleep diary. In most cases the second session consists of SRT and SC, but when sleep-related anxiety and sleep effort are high, when daytime sleepiness is severe and/or when other clinical and/or safety concerns render SRT contraindicated, the clinician may chose to focus on other clinically relevant components and, when applicable, to use motivational enhancement and other therapeutic techniques to prepare them for the implementation of SRT. Subsequent sessions include review of sleep diary entries, adjustment of the TIB based on the patient's progress, addressing adherence, and introducing other treatment components as needed. The treatment structure is outlined in **Table 1**.

What patient handouts can assist the training and facilitate clinical care?

The workgroup agreed that clinically relevant patient handouts could be an effective way to facilitate training. Taking into account the possibility that many patients may shun supplemental reading materials we limited the number of es-

Table 1—Session-by-session outline

Session	Content	Forms
Session 1	Thorough assessment interview • Use Intake form • Assign sleep diary	Morningness/Eveningness DBAS STOP RLS severity, if symptomatic
Between sessions 1 & 2	Formulate case using Case Conceptualization Form	
Session 2	• Review sleep diary • Introduce treatment components based on case conceptualization -- **In most cases start with SRT and SC** ◦ Provide rationale for each recommended guideline based on principles of sleep regulation ◦ Ascertain patient's intent to follow each guideline ◦ Identify obstacles to adherence ◦ Troubleshoot/modify obstacles to increase probability of adherence • Assign sleep diary	Guide to Overcoming Your insomnia Reasons for the Guidelines
Sessions 3-5	• Review sleep diary and adherence • Modify SRT guidelines as needed ◦ Address adherence/non-adherence • Add components as needed ◦ Counter-arousal measures ◦ Address sleep-interfering cognitions • Assign sleep diary	"Sleep Need Questionnaire" assists in decision if/how to change TIB window Handouts as needed
Session 6 (last session)	• Repeat content of sessions 3-6 • Develop plan for addressing insomnia in the future ◦ Identify/discuss components that the patient found helpful ◦ Create coping cards as needed • Provide a Folder with Supporting Materials	Action Plan for Addressing Insomnia in the Future

sential patient handouts to two: (a) "A Guide to Overcoming Your Insomnia," a brochure that briefly summarizes the treatment guidelines to help patients remember them, and (b) "Action Plan for Addressing Insomnia," a termination/relapse prevention handout, to enhance maintenance of treatment gains. It lists the essential treatment components and asks the patient to identify strategies to be used if insomnia recurs and suggests they return to the clinic for refresher sessions, if needed. We have also developed optional patient handouts to be used at training participants' discretion as tools for enhancing the application of CBTI. The reading level of the brochures is grade 5.7 (using Microsoft Word 2007 Flesch-Kinkaid Grade Level method). The optional handouts aim to help patients deal with some of the most common challenges they face when implementing CBTI at home and are summarized in **Table 2**.

PRELIMINARY LESSONS LEARNED AND FUTURE DIRECTIONS

Lessons learned from the first training cohort

Ongoing formative and summative program evaluation is a central component of the dissemination effort, as with other VA initiatives for dissemination of evidence-based psychotherapies.[26] We use survey measures to collect data prior to the training, immediately after the workshop is completed, during the consultation period, immediately after the consultation period is completed, and again at follow-up approximately 6 months after the end of training. Variables measured include: participating therapists' ratings of the trainers, the quality of the training program, perceived knowledge and skills acquisition, intent to apply skills learned in their therapy practice, self-efficacy in applying general and CBTI specific therapy skills, attitudes regarding use of CBTI, estimated percentage of respondents' patients who would benefit from CBTI, and the percentage of their patients with whom they plan to use CBTI. We also assess the effects of CBTI on patients' insomnia severity.[70,71] In addition, therapist training outcome, as measured by a competency rating scale developed by the authors for this dissemination effort, and patient clinical outcomes are core components of the program evaluation efforts. Although a detailed report of evaluation results would be premature and beyond the scope of this paper, it does seem useful to comment on initial lessons learned from the first pilot cohort of therapists enrolled in the training program.

Twenty-three therapists (9 social workers, 2 advanced practice nurses, 11 doctoral level psychologists, and 1 psychiatrist) with previous training in cognitive behavioral therapy for depression participated in the first pilot training workshop and are actively treating VHA patients with CBTI and undergoing weekly consultations. The workshop lasted 1.5 days. The training participants overwhelmingly reported that the program met stated objectives (all but one therapist), their educational expectations (all but 2 therapists), and provided them with new psychotherapy skills/techniques that were relevant to treating insomnia in their practice population (all but 2 therapists). The

Table 2—Patient handouts

Worksheet	Purpose
A Guide to Overcoming Your Insomnia	Summarizes guidelines
Questions and Answers about "the Guidelines"	Provides answers to common questions patients have about the treatment guidelines in a Q&A format
Things To Do If You Are Awake^	Provides lists of activities patients may wish to engage in before bedtime, in the middle of the night or in the morning to help follow the recommended changes in bedtime and rise time
Changing Your Thinking About Sleep*	A thought record to aid in cognitive restructuring
Things That May Get in the Way of Following the Rules*	Helps patients identify potential obstacles to adherence and how to overcome them
Staying Awake Until Your Scheduled Bedtime*	Helps identify and address problems with staying awake until recommended bedtime
Enjoying Your Morning*	Helps identify and address problems with getting out of bed at the recommended time in the morning
Other Reasons for Feeling Tired*	Helps distinguish sleepiness from fatigue and tests patients' belief that if they feel tired it is only because they had poor sleep the night before
Action Plan for Addressing Insomnia in the Future*	Assists in forming a relapse prevention plan

^Adopted with permission from its developer, Anne Germain. *From the book Carney and Manber,[59] used in the rollout with permission from New Harbinger. Other measures, developed for the initiative, can be obtained from coauthor Karlin: Bradley.Karlin2@va.gov.

training participants particularly highly valued the experiential aspects of the training, such as skills exercises in small groups. They further reported that additional time would be valuable to fully assimilate the amount of information presented in didactic presentations and experiential exercises. Some therapists indicated that additional training and practice to feel more comfortable explaining a scientifically sound model of insomnia to their patients would be particularly valuable. As expected given the high frequency of comorbidities in the VHA patient population, training participants also expressed significant interest in and value related to the content on implementing CBTI with patients with comorbidities (especially PTSD) and indicated that additional time addressing these issues would be valuable.

Based on this early formative feedback from the pilot training, we have extended the training workshop (3 days vs. the initial 1.5 days) to allow more time for therapists to assimilate the content and provide more opportunity for experiential skills practice, including demonstration and practice on how to present a scientifically sound model of insomnia and rationales for the treatment components to patients. Because the subsequent cohorts of clinician training participants are not required to have prior familiarity with cognitive therapy, the extended training expands training in cognitive therapy strategies relevant to insomnia. Additional content related to implementing CBTI with patients with PTSD and other comorbidities (significantly addressed in the protocol and therapist manual, as described above) was incorporated into the expanded training workshop. The plan is to centrally train approximately 1,000 mental health clinicians from a variety of clinical settings, including primary care, over a span of three years with an approximate annual budget of 1.3 million dollars. Furthermore, mechanisms are being developed to eventually decentralize the training to broaden dissemination and promote sustainability, such as continued "virtual office hours" for graduates. At the time of this writing, this dissemination of CBTI within the VA health care system represents, to our knowledge, the largest initiative to disseminate and implement CBTI in this nation.

Conclusions and Future Directions

The ultimate goal of any CBTI dissemination project is to fill the gap between the number of professionals presently trained in CBTI and the vast, currently unmet, demand for clinicians competent to alleviate the distress of insomnia. This article described the development of a CBTI training protocol for mental health clinicians who work in the VA health care system and have little or no prior sleep specialty training. The issues we encountered in developing this dissemination initiative will be relevant to future dissemination efforts, as those too will have to contend with "real-world" practical issues and tailor training to the training participants' backgrounds, experiences, knowledge and disciplines, clinical settings, and patient populations. Real-world practical issues may include time available for training, need to minimize disruptions to training participants' ongoing workload and to the system in which they work, and, of course, available funds. To ensure availability of CBTI to meet the needs of the largest group of patients possible, we aim to train mental health clinicians regardless of professional discipline. The decision about which training participants to target in future dissemination projects will have to be based on the needs of the specific system(s) within which training will take place. Some decisions we made were specific to the needs of Veterans. For example, we included extensive training on adapting CBTI to patients with comorbid PTSD. We have also adapted the training and the treatment protocol taking into consideration Veterans' culture and other such issues. The specific target population of future dissemination projects may suggest de-emphasizing this aspect of training and emphasizing other aspects instead. Training that targets primary care patients may emphasize medical comorbidities, and place greater emphasis on collaboration with primary care providers. Program evaluation of our CBTI dissemination project is ongoing, as is the validation of our competency rating scale. Once finalized, these and other materials developed for this dissemination initiative will be freely available to others so that they can be used or adapted in future disseminating projects. The continuous evaluation of therapists' adherence and competence on training cases provides information about the strengths and development areas of each therapist and areas that require additional training and feedback. This information will be used for quality assurance

purposes.[72] To fully evaluate the success of any dissemination project of an evidence-based psychotherapy, it is important to evaluate long-term utilization and sustainability,[73] patient outcomes[23] and the maintenance of treatment fidelity over time,[23] all of which are planned for this program and are included in other EBP dissemination initiatives in VHA.[26] We hope this dissemination and training initiative will enable CBTI to cross the boundaries of clinical research laboratories and specialty clinics to serve the great clinical need of Veterans with insomnia. Importantly, we believe this initiative can serve as a model of dissemination of CBTI, making it available to the many patients who can benefit from this effective therapy.

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