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ADVANCING SCIENCE AND PROMOTING UNDERSTANDING OF TRAUMATIC STRESS
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PTSD 101 Course

Transcript for: Smoking Cessation: Integrated Care Model for Smokers with PTSD

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Welcome to our program on smoking cessation for Veterans with PTSD.

I'm Dr. Miles McFall, a clinical psychologist at VA Puget Sound Health Care System, Director of the PTSD programs here and professor at the University of Washington. With me is Dr. Andrew J. Saxon, psychiatrist, Director of the Addiction Treatment Center at VA Puget Sound health care System, also a professor at the Department of Psychiatry and Behavioral Science at University of Washington.

The objectives of this program are to, first of all, provide you with the rationale of tobacco cessation as a health care priority for Veterans with PTSD. Second of all, we aim to review the rationale and evidence of an integrated care approach of smoking cessation treatment among smokers with PTSD. And, finally, we will provide you with an overview of brief as well as intensive tobacco cessation interventions applicable to Veterans with PTSD.

Most people know that smoking is responsible for a host of societal ills, including lost days of work, illnesses of many kinds, soaring health care costs, loss of life through accidental fires. But now we know through scientific discovery and dinosaur art that smoking is the real reason why dinosaurs became extinct.

Let's first review tobacco cessation as a health care priority for Veterans with PTSD, their first objectives. As health care providers, you all know that smoking is bad, but you may need to be reminded about how bad it really is, particularly for our Veterans with PTSD.

Tobacco dependence disorder remains a huge public health problem in American society. It remains the most preventable cause of morbidity and mortality in the United States, rivaled only by obesity. A third to 45 percent of smokers will actually die from tobacco-related illness. Tobacco use accounts for 20 percent of all deaths annually, exceeding 440,000 Americans killed each year by tobacco-related illnesses. The life expectancy for males will be shortened by 13.2 years and for females by 14.5 years for those who smoke. And, finally, tobacco use remains the most lethal of all substance use disorders, killing four times more individuals than does alcohol in American society.

This next slide shows the prevalence of smoking across the states in the United States during the year 2007 for those who are enrolled in Veterans health care. The rate of smoking among VA users ranges from 16 percent to 27 percent, with highest rates of smoking in the south. The good news is that the average prevalence across the country in the VA is about 21.5 percent system wide; it actually may be closer to 19 percent at this point, 2009, since this slide is a couple years old. This rate of smoking within the VA is actually consistent with the national average for tobacco use across the country, which is about 21 percent, and it reflects a significant decline in smoking rates among VA patients, which used to be 30 percent earlier in the decade. This trend likely reflects the benefits of the VA system-wide aggressive tobacco control screening and intervention initiatives.

In this slide we see that there is a very high prevalence of smoking among people with serious mental illness; about 50 percent. Again, compare that to the general population and the VA population of enrollees at large, where the prevalence of smoking is about 21 percent. Persons with mental illness smoke half of all cigarettes produced. They do not smoke just half of their cigarettes, they smoke half of all cigarettes manufactured. Smoking quit-rates for the mentally ill are about half the quit-rates of smokers without mental disorder. Smoking-related diseases and mortality are disproportionally high for Veterans with mental disorders. It should be noted that about 60 percent of smokers with mental illness actually want to quit, and about a third want to quit today if asked.

This next slide shows smoking rates of Veterans who are receiving VA care. There are two lines on the graph; one depicts all VA enrollees, the other depicts those with mental illness. As you can see, smoking rates are declining amongst VA users overall. However, among VA patients diagnosed with mental health problems, they are continuing to smoke at a much higher rate than VA enrollees not diagnosed with a mental health condition.

This next slide shows smoking rates by number of lifetime mental health diagnoses. As you can see from the graph, not only is the rate of smoking among mentally ill persons higher than for people without mental illness, smoking rates increase as the number of diagnosed mental disorders people have increases. Moreover, rates of smoking, go up among persons with multiple diagnosed disorders. This is important to our discussion of smoking in PTSD patients because most PTSD patients have at least one additional co-morbid mental disorder.

Well, we've discussed the problem of smoking in Veterans with mental illness. Let's shift our focus now specifically to the problem of smoking in Veterans with PTSD. If you look at any photo gallery of war zone journalism, it's remarkable how often soldiers in combat zones are depicted as smoking. Here is a soldier with a thousand-yard stare having a smoke after the battle for Fallujah in Iraq. Soldiering and smoking are portrayed as cultural icons. The media reveals the role of tobacco in dealing with boredom and stress in combat zones, as well as being a social lubricant, it bonds young men and women together.

In this next slide you will see that six of nine soldiers socializing are smoking.

A soldier having a smoke for comfort after being wounded and medevaced.

PTSD is a very common problem among Veterans who have served in war zones; a problem associated with high rates of tobacco use. From community samples we know that the prevalence of smoking among people with PTSD is 45 percent. For Veterans receiving VHA care, 30 percent to 50 percent smoked cigarettes. PTSD increases the risk of smoking fourfold and Veterans with PTSD are actually more likely to be heavy smokers. About 48 percent of Veterans with PTSD are heavy smokers compared to 28 percent of Veterans who do not have PTSD. Smoking quit-rates for individuals with PTSD are amongst the lowest of quit-rates amongst all people with mental disorders. Tobacco use likely contributes considerably to the much higher rates of medical morbidity, high health care utilization and costs, and premature mortality among Veterans with PTSD.

Now let's discuss the implications of all this information for treatment of Veterans with PTSD who use tobacco. Veterans with PTSD who smoke are as committed to, and interested in, quitting smoking as are individuals who smoke who do not have mental disorders. However, Veterans with PTSD may need more assistance in quitting smoking and they may need to make multiple quit attempts. In addition, reduction of PTSD symptoms and implementing mood management strategies may be especially important in increasing the chances of quitting smoking among smokers with PTSD.

We've discussed the importance of tobacco cessation as a health care priority among our Veterans with PTSD. Now let's shift to the second objective, which is to create a rationale for integrating smoking cessation care into routine PTSD treatment.

Let me first share with you some of the good news with respect to VHA tobacco control efforts. Efficacious pharmacological and counseling treatments for tobacco use disorder actually exist today; 20 percent to 25 percent success rates can be expected. Over half of VA enrollees who smoke want to quit and are receptive to treatment and that includes Veterans who have mental illness such as PTSD.

Clinical practice guidelines for tobacco cessation treatment for primary care providers in smoking cessation clinic settings are available. And finally, performance measures that require screening and the offer of tobacco cessation treatment are required in VHA.

Within the VA, there are really four different ways of delivering tobacco cessation treatments: these include referring patients to specialized smoking cessation programs; they may include treating patients in primary care for tobacco use; referring patients to telephone quit-lines for tobacco cessation counseling; and then, finally, treating Veterans within mental health care settings.

Specialized smoking cessation clinics exist in every VA medical center. Of those patients who smoke who received tobacco cessation care within the VA, 88 percent of those Veterans received that care in specialized smoking cessation clinics, which have the advantage of providing comprehensive and intensive tobacco cessation treatment by experts. However, the disadvantage of these clinics is a very high failure-to-show rate for initial sessions, which can exceed at least 50 percent, and very high dropout rates in the 44 percent to 79 percent range.

Primary care providers within the VA provide a second avenue for delivering tobacco cessation treatment to Veterans. Of VA smokers receiving cessation treatment, 12 percent obtained this treatment from primary care providers and 31 percent obtained it from a primary care provider plus a specialized smoking cessation clinic.

VA primary care providers meet very high standards for screening patients for tobacco use (about 98 percent are screened), advising smokers to quit (about 95 percent of the patients are advised to quit) and inquiring about interest in treatment (exceeding 75 percent). Studies of primary care practices consistently show very low rates of actual delivery of tobacco cessation treatments to smokers, however, particularly those with mental illness.

Now, with smokers in the community, studies have shown to reveal that only about four percent to 35 percent of primary care providers help their patients develop a tobacco cessation plan. Only about 38 percent of primary care providers during their visits counseled patients to stop smoking, and studies show that fewer than 16 percent of primary care providers actually prescribe tobacco cessation medicines to their patients who smoke in the community.

Psychiatrists provide tobacco cessation counseling to their patients who smoke at only 12 percent of their visits.

How well does the VA's tobacco cessation delivery system work? The studies conducted in 2002, and again in 2004, show that only about 17 percent to 22 percent of VA enrollees who smoke and want to quit report receiving a desired cessation treatment in the prior year. I think this trend is actually improved over time as evidenced by the reduced smoking prevalence rates in VA, but there still are likely significant treatment gaps needing to be addressed.

Our former Surgeon General Dr. David Satcher, described the problem of tobacco use in America by making a very powerful statement. That statement was, "Our lack of progress in tobacco control is more the result of failure to implement proven strategies than the lack of knowledge about what to do."

Let's talk about some of the reasons why it's been so difficult for providers to implement proven evidence-based treatments for tobacco use.

First of all, there are a number of barriers. Brief episodic tobacco cessation treatments are simply no match for a chronic relapsing disorder such as nicotine dependence amongst those with a very hardened target, that is, mentally ill individuals who smoke and have smoked for decades.

Second of all, there is limited provider time for the repeated monitoring of smoking status, response to relapse, and pursuit of drop-outs from treatment. Many providers maintain that they have had insufficient training in tobacco cessation treatment. There is limited time and training to address smoking complicated by PTSD and other health care problems. And, there's also limited resources to treat the volume of VA smokers who want to quit, given the limitations of our specialized tobacco cessation treatment programs.

And, finally, there are provider beliefs that tobacco cessation treatment is ineffective. It can be less than reinforcing when four out of five smokers actually fail to succeed from treatment and many providers find this discouraging and conclude, incorrectly, that tobacco cessation treatment just is not worth doing.

As a potential solution to some of these barriers, I want to offer you a rationale for integrating smoking cessation treatment into mental health care for PTSD. Now, why would we do that? Well, first of all, mental health providers have advanced training in treating behavioral and substance use disorders applicable to nicotine dependency.

Second of all, providers are well positioned to tailor cessation treatments to address the dynamic interaction of tobacco use with psychiatric symptoms, that is, smoking cessation potentially worsening psychiatric symptoms and, of course, exacerbation of mental health symptoms making patients want to smoke.

Third, the frequent and continuous nature of mental health care naturally promotes ongoing monitoring of smoking status and reapplication of treatment to encourage recycling. This is an important point, because we mental health providers see patients for the long haul, oftentimes very frequently, and we are in a very good position to assess and reapply tobacco cessation treatments depending on the patient's clinical status.

And, finally, I want to say that mental health clinics may expand access to smoking cessation treatments for otherwise underserved Veterans and overcome a variety of logistical problems to care that come when you try to refer patients to somebody else to take care of the problem.

So, the take home message is to try to encourage mental health providers to get into the business of delivering tobacco cessation care to their Veterans with PTSD. The goals of this care are to, first of all, create a clinic culture that prioritizes tobacco cessation as a core responsibility of PTSD program

providers. And that means that they assess and treat tobacco use disorder for all Veterans who are willing to quit smoking. Second of all, all mental health providers, we believe, should embrace tobacco cessation as part of their job. And, finally, we believe that providing brief and/or intensive interventions on repeated occasions to Veterans who smoke in multiple settings is the ideal.

While having created a rationale for mental health providers to be change agents and deliver tobacco cessation treatments to Veterans with PTSD, Dr. Saxton and I decided to test out the possibility that this would actually work in a PTSD clinical setting in the VA. So, we conducted a randomized clinical trial where we integrated care for smoking versus the usual standard of care for smoking, which consisted of referral to a specialized smoking cessation clinic.

The purpose of that study was to compare the effectiveness of brief integrated care versus VA's usual standard of care for nicotine dependence for Veterans undergoing mental health care for PTSD. Again, that usual standard of care consisted of a referral to specialized smoking cessation clinic experts within our facility.

So, the study designed for our initial project was a two group, randomized, controlled effectiveness trial comparing integrated care versus the usual standard of care. Once again, integrated care consisted of mental health providers providing the tobacco cessation treatment within a PTSD treatment setting versus referring the patients to specialized smoking cessation clinic experts. The participants in the study were those that were very representative of patient populations in general, within PTSD clinical teams. We used very broad inclusion criteria and only excluded people if they were psychiatrically unstable.

Later on in the program, I will describe for you the treatment that was provided in integrated care. But, for now, that treatment resulted in the quit-rates that you see in the slide before you. Forty-two percent of smokers receiving integrated care were abstinent from smoking at two months after randomization, versus only 13 percent of those randomized to standard care. By nine months post randomization, 18 percent of integrated care patients were abstinent versus seven percent for those in standard care.

By nine months, it is most likely that smoking abstinence rates have stabilized and what we see at nine months is probably reflective of a longer term quit-rate. Statistical analyses that aggregate data across all assessment intervals show that the odds of quitting smoking were over five times greater for integrated care than for standard care participants.

Having established that integrated care worked better than referrals to tobacco cessation specialty clinics, we were curious as to the reasons why integrated care worked. So, we correlated a number of process variables with clinical outcomes and, as you can see, Veterans who received integrated care were more likely to receive nicotine patch, nicotine gum and a greater number of counseling sessions, and they were also more likely to be satisfied with the amount and quality of their treatment. In other words, there was a dose response effect: the bigger the dose of treatment, the better the outcome.

Veterans with PTSD have a chronic relapsing disorder (tobacco dependence) that requires intensive and extended cessation treatment. Those Veterans are more likely to get that intensive treatment if the care is integrated within routine mental health treatments for PTSD, than if they are referred elsewhere for that care.

Our initial randomized control trial was followed up then by an open clinical trial of practice-based integrated care for smoking cessation. In this particular study, 107 patients with PTSD enrolled in our PTSD clinical team who smoked were delivered tobacco cessation treatment by their clinical provider.

Although this is an open rather than a randomized clinical trial, these data show you the kinds of results to expect in real world VA PTSD program clinical settings. These data are from a practice-based study of

107 patients who smoke who received integrated care. The pink bars show seven-day point prevalence abstinence rates of about 28 percent at two months after the start of integrated care treatment, declining to about 18 percent at nine months follow-up. The green bars tell us the percent of reduction in cigarettes smoked per day for patients who are not abstinent at the various measurement points. I caution you, however, that reduced smoking is not a recommended treatment goal as there is no convincing evidence that patients obtain medical benefit from reduced smoking. Reduced smoking, in my view, only has utility as a means to an end of total abstinence from tobacco.

Our preliminary work to date leads us to the following conclusions. First, it is feasible to incorporate guideline-based smoking cessation treatment into routine delivery of mental health care for PTSD, for Veterans enrolled in a PTSD clinical team. Second of all, integrating treatment of nicotine dependence is more effective than the usual standard of VA care, at least at our facility, for patients with PTSD who use tobacco. Finally, integrated care was a better vehicle than the usual standard of care for delivering cessation treatments of sufficient intensity, which we believe may explain the superior results.

Thus far, we've provided background information about tobacco use as a public health problem for Veterans with PTSD. We then provided you with a rationale for mental health providers to roll tobacco cessation treatment into the routine mental health care of Veterans with PTSD. Now, let's turn our attention to giving you an overview of the treatments and guidelines we use for integrated care within PTSD clinical settings.

Integrated tobacco cessation treatment for Veterans with PTSD is a guideline-based, manualized individual treatment modality. It consists of core interventions, including behavioral counseling (five sessions totaling 120 minutes for all five), pharmacotherapy for tobacco use, and a patient education manual and homework guide. It also consists of relapse prevention and management strategies that involve booster sessions delivered once monthly, as well as encouragement for the Veteran to make multiple quit attempts given that relapse is more likely than not.

The first question concerns who should provide integrated care for tobacco cessation. The answer is: the primary mental health provider. The primary mental health provider is the primary point of contact for a patient who coordinates his or her overall mental health care. This individual generally has an ongoing continuous contact and a familiar relationship with the patient. And, they are able to monitor, detect relapses, and respond to those relapses by reapplying treatment over time.

It is very important that mental health teams not recreate the problem that integrated care is designed to fix. That is, do not train one or two specialists on the team to do tobacco cessation treatment and then have team members refer their smokers to that individual. That breaks up the continuity and familiar relationship that is the necessary platform for integrated care to be effective. It is important that almost all, if not all, members of the mental health team become familiar with tobacco cessation treatment and deliver that treatment to their patients in their case load.

The treatment modality for integrated care is an individual treatment modality. Tobacco cessation treatment is incorporated into regularly scheduled individual therapy sessions. If patients are seen primarily in group for PTSD, then that does mean having to set up extra individual visits in order to do tobacco cessation treatment. Face-to-face visits consist of five core skills acquisition sessions that take place within the scheduled visit. Follow-up visits optimally provide face-to-face contact, but telephone delivery is acceptable if patients are not available to come in for face-to-face contact.

Let's talk first about the structure and organization of the treatment manual for providing integrated care. It is very important to refer to the comprehensive treatment manual that is available as part of the course materials.

The content of the first session involves assessing tobacco use, assessing prior abstinence attempts by the Veteran, and identifying personalized reasons for quitting smoking. The therapist advises about quitting and uses motivational interventions as necessary. The therapist orients the patient to behavioral counseling, recommends smoking cessation medications, reviews the guidelines for setting a quit date, and coordinates a visit with the psychiatrist or nurse practitioner who will be prescribing the tobacco cessation medications. A participant workbook is also given to each patient who participates, which outlines session-by-session instructions and worksheets for completing assignments, such as identifying social supports, identifying coping skills, and identifying common smoking triggers.

Of course, not all Veterans who smoke are ready to quit. In fact, most are not. They will require motivational interventions. This diagram shows the stages of change that most of us are well familiar with. About 25 percent to a third of our PTSD patients who smoke are ready to quit today, if asked. That means the remainder will require motivational interviewing interventions over time.

There are a number of motivational interventions that are outlined in the treatment manual you have available to you. But, the key elements are the four R's. That pertains to emphasizing the RELEVANCE of quitting smoking to a particular individual, emphasizing their personalized reasons for wanting to quit. Second of all, emphasizing the RISKS associated with continued smoking. Those may include long-term health effects, environmental effects, or loss in ability to engage in recreational activities that are valued and desired. Third, ROADBLOCKS to quitting smoking are very important to address in any motivational intervention. Finally, it's highly important to REPEAT motivational interventions at multiple occasions at each visit if possible. Now, there is an art to this to avoid appearing to be badgering the patient about quitting smoking. It's important to respect the patient's rights and lifestyle choices. However, it's very important to use humor and sincerity to convey to the patient the urgency of tobacco use as a health care priority as part of your overall care and your willingness to be available to help them quit.

The overall purpose of session two is to identify a quit date for the Veteran and introduce coping skills for smoking triggers. This includes reviewing existing Veterans coping skills worksheets, teaching controlled breathing, and generating additional coping skill methods for smoking triggers.

Session three develops an action plan, very specific actions, to be taken to help Veterans cope with smoking triggers. These will be environmental triggers; they'll be internal triggers, thoughts, emotions, flash backs, war zone memories etc.; as well as emotional triggers: anger, stress, depression.

This session also emphasizes reviewing the homework that was given to the patient in the prior session, as well as reviewing their compliance or any side effects with smoking cessation medications. It's very important for non-prescribers to become familiar with the use of tobacco cessation medicines and educate patients about those, as often times, patients require multiple instructions; they need to hear the message over and over again because they will frequently get confused about which medicine to take and how to take them.

Session four starts with a review of assignments given in the prior week to practice coping with smoking triggers. Second of all, behavior changes are recommended to prepare the Veteran for their quit date that's upcoming. Small suggestions, for example, cleaning the house, getting rid of ash trays, getting rid of cigarettes, and stimulus control strategies where patients are advised to smoke in only one or two settings before their quit date actually arrives in order to break up their pattern of association between smoking and various environmental cues, such as driving, drinking coffee, or after a meal. Third, identifying sources of social support and how others will help the patient, rather than undermine the patient in their efforts to stop smoking. And, finally, homework is assigned and smoking cessation medications are reviewed in terms of side effects or problems in taking them. Common homework assignments for the particular session include following up with the use of controlled breathing, their

success in using reduced smoking to practice coping with smoking urges, and then, finally, continued practice with coping with smoking triggers.

In session five, we start off by reviewing their prior week's assignment to practice coping skills with smoking triggers. We then formulate an action plan for patients to take on their quit date. This includes items such as celebrating their quit date in the presence of supportive others, developing problem solving strategies, and ensuring that they have low stress on the day when they quit. Third, reviewing their assignments to identify specific social supports, people who will help them on their quit date and beyond. Fourth, introducing principles of relapse prevention. Fifth, we will review the plan for using smoking cessation medicines and making sure there aren't any side effects, addressing those side effects, and preparing patients to use nicotine replacement therapies on their quit date. And, finally, we schedule a follow–up visit.

Follow-up visits are of vital importance to the success of integrated care for tobacco use. The main reason for this is that individuals who stop smoking usually have had to make six to eight prior quit attempts before they are finally successful. So, it's very important to schedule as many follow-up visits as needed to ensure success, or to roll mention of tobacco use and cessation into routine mental health visits as is needed. For abstinent patients, these follow-up visits consist of providing support for their continued abstinence, discussing positive experiences or outcomes that resulted from them having quit smoking, and assessing and resolving any problems that threaten their abstinence. For patients who continue to smoke, it's important to renew their commitment to abstinence, setting a quit date, identify goals for the next treatment session, and, finally, schedule another follow-up visit to ensure success and an opportunity to problem-solve with the patient about challenges to their cessation efforts.

It is well known that there is a dose response relationship between the intensity of treatment and smoking cessation outcomes, with more sessions of longer durations yielding the best results. However, providers may not have sufficient time to deliver the full meal deal of intensive integrated care discussed in this presentation. Also, some patients will not be invested in making the level of commitment necessary for using the integrated care manualized approach presented here.
Brief tobacco cessation interventions following the five A's approach can still be effective as an alternative for many patients and can be delivered within a few minutes, two to five minutes, per session. The five A's approach, although less likely to be successful than the more intensive integrated care approach discussed here and presented in your manual, is still better than offering no tobacco cessation intervention at all. Also, the brief five A's model can be the first step in a step-care approach that starts with brief interventions and then is followed by more intensive integrated care approaches if the initial efforts are not successful.

The five A's brief behavioral counseling for tobacco cessation approach is again provided in one of your handouts as part of the course materials. The essences are: first, to ASK about smoking status at every session, ADVISE about quitting, ASSESS willingness to quit, ASSIST quit efforts, and finally, ARRANGE follow-up visits to ensure abstinence and to problem-solve around any lapses.

Now that you've heard about the behavioral therapy component of integrated care, let's turn our focus to the pharmacotherapy component of integrated care, since the two go hand in hand when treating tobacco use disorder among patients with PTSD. It's critical to have a prescriber of smoking cessation medications who is a part of the PTSD team. This is necessary because patients need to get their medications in a fairly expeditious fashion so that they have them on hand when they need them for their quit date. And, in particular, two of their medications for smoking cessation, varenicline and bupropion, need to be started one week prior to the quit date. It is also very helpful that the prescriber understands how smoking cessation medications may interact with other psychiatric medications that most patients in PTSD treatments are taking—although in the majority of situations, there are no serious drug-drug interactions to be concerned with.

In this brief course, we will give you an overview of pertinent points about using smoking cessation medications for Veterans with PTSD. Naturally, we cannot provide all the details of how to prescribe and manage these medications. But, fortunately, the US Public Health Service Practice Guideline for treating tobacco use and dependence has all these details written down quite clearly. As part of the course, we will make this document available to everyone and we encourage you to obtain and read it carefully.

This slide contains the key point from this course that we want you to take away regarding the use of tobacco cessation medications. The vertical axis shows the odds ratios to quit smoking for various medications compared to placebo, which is the bar that you see on your left. The differences between the various medications are not nearly as important as the difference between any medication and placebo. On average, taking a medication when one is trying to quit smoking doubles the likelihood of successful quitting. There are some differences, potentially, between the various medications that you can see on the slide. But, remember to use medication in every Veteran with PTSD who is willing to take the medication.

Here we see key aspects with the use of nicotine replacement therapy for the treatment of smoking cessation. Nicotine replacement therapies have a slower onset of action than nicotine from smoke tobacco. They are very good at reducing the withdrawal symptoms that people have when they are trying to quit smoking, which is very helpful to patients as they go through that process. When you read the guideline, you will learn specifically about the dosing of the various forms of nicotine replacement. And, you will learn about the techniques that you need to know in order to instruct patients in their use.

Here you see depicted graphically some of the information that we were discussing on the previous slide. The vertical axis shows blood levels of nicotine obtained from various forms of nicotine delivery and the horizontal axis shows time after administration that these levels were obtained. Smoking is a very efficient way of delivering a drug to the arterial circulation in the brain. Within seconds after smoking a cigarette, nicotine is in the brain causing its reinforcing effects. You can see that all the forms of nicotine replacement therapy have a much more gradual onset and don't attain the peak levels that are obtained with cigarettes. But, they also don't have the same kind of trough effects, so people do get a sustained effect of nicotine throughout the day, which prevents the withdrawal symptoms.

For patients with PTSD who smoke, the vast majority, as we have said, are going to need pharmacotherapy as an important part of their treatment for smoking cessation. We'll talk in a few moments about the advantages of combining various forms of nicotine replacement as a first line treatment for smoking cessation if nicotine replacement is the medication that you are going to use. Other options include the antidepressant bupropion, and the medication varenicline, which has direct effect on the nicotine receptors in the brain. Both of these medications do have black box warnings expressing concern about psychiatric side effects of the medication. However, recent information, that I'll cover in a moment, suggests that these are not overriding concerns that should prevent you from using these medications.

Here you see some of the latest evidence we have about varenicline and its relationship to suicidal behavior. As background, please be aware that smoking, itself, is associated with a higher risk for suicidal behavior. In this study, done in the United Kingdom, they looked at more than 80,000 patients who had received smoking cessation therapies. They compared those who received nicotine replacements to those who received bupropion and those who received varenicline, first looking at actual suicidal behaviors, and then looking at suicidal thoughts. They used a multivariate analysis that adjusted for a number of other variables related to suicide risks. And, they found that the odds of either suicidal behaviors or suicidal thoughts were not statistically significantly higher for patients receiving bupropion or varenicline compared to those receiving nicotine replacements. This gives us encouragement that it's

reasonable to use these other medications even in patients with PTSD when they are carefully monitored.

Here, we're returning to the point about using combinations of nicotine replacement therapy as a first line treatment if nicotine replacement therapy is going to be your pharmacotherapy of choice. In this recently completed study, five different pharmacotherapies were compared to placebo. In this graph, we are looking at the proportion of patients who relapse over time. What jumps out, immediately, is that any active pharmacotherapy is far superior to placebo in terms of preventing relapse. However, the pharmacotherapy that performed the best in this study was the combination of the nicotine patch and a nicotine lozenge. Using this form of therapy gives you a sustained level of nicotine in your blood from the patch, and then the lozenge or, alternatively, gum can be used as needed when someone has a particular craving to smoke to increase the nicotine levels temporarily.

To emphasize that concept, here are data from the US Public Health Service Guideline. These data compare the odds of quitting for various individual pharmacotherapies compared to combination pharmacotherapy. As you can see, the combination of nicotine patch plus nicotine gum provided equal or better odds of quitting than the best individual pharmacotherapy, varenicline.

When using combination nicotine replacement therapy, use nicotine patch at the appropriate dose, and add on to that adjunctive nicotine gum or nicotine lozenge that the patient can use when desire for a cigarette or cravings for nicotine occur. If an excessive amount of gum or lozenge is being used, you can adjust the patch dose upwards to compensate for the amount of nicotine needed. It is perfectly fine to prescribe nicotine replacement therapy for longer durations if particular smokers need to have the medication over an extended period of time.

In fact, the US Service Guideline makes it very clear that it is perfectly safe and acceptable for patients to use nicotine replacement therapies for up to six months of continuous use, or even longer in some cases, if necessary. And so, to conclude our component about pharmacotherapy, remember to prescribe smoking cessation medications for almost every patient with PTSD receiving integrated care for smoking cessation. Keep with the medications until you find the medication that works for the patient and strongly consider using combinations of nicotine replacement therapy as your first line treatment.

I'm working with my patient on PTSD and alcohol use issues. Does it make sense to add smoking cessation as well?

There is no evidence that there is any risk to adding smoking cessation treatment onto treatment of PTSD and alcohol dependence. There is also no harm in waiting until the alcohol dependence is stabilized and some period of abstinence is achieved, and then tackle smoking cessation. So, either they are together or in sequence, just make sure that you do tackle the smoking cessation.

When is the best time to offer smoking treatment when you are already doing a manualized treatment like Prolonged Exposure or Cognitive Processing Therapy?

There is no universal evidence-based answer for that question. It is a matter of patient preference and what the provider and patient negotiate. The important point is to remember to do tobacco cessation treatment somewhere during the overall course of treatment for the better. Many Veterans would prefer to do tobacco cessation treatment after the emotionally evocative treatment like PE or CPT has been completed, because those treatments are often emotionally evocative, and could precipitate potentially greater use of tobacco to cope. And, what's more, once PTSD symptoms are better controlled through those treatments, one could argue that patients have a better chance at quitting smoking after that. So, it's different approaches for different Veterans.

Incorporating smoking cessation treatments seems to take a lot of extra time. Can you really fit it into a one-hour session?

Again the answer depends upon the particular nature of the treatment with the Veteran. If the treatment for PTSD is Prolonged Exposure or CPT, then the answer is no, you are not going to be able to fit it into that existing time; additional time would need to be scheduled for the Veteran. However, other forms of therapy are not PE or CPT; they are more case management and supportive forms of therapy. In which case, it is possible to carve out 20 minutes or so out of each of those sessions to actually do tobacco cessation treatment as a topic of discussion to temporarily substitute for other topics.

Can smoking cessation treatment be conducted in a group setting?

Yes, absolutely it's possible to do tobacco cessation treatment in group settings. The important point here again is tobacco cessation treatment of any kind is what we are encouraging mental health providers to give to their patients with PTSD who smoke. The data we showed you earlier on integrated care was based upon an individual modality of delivery; that's what we know to work. However, that does take time and resources that are not always possible. It would certainly be a viable option to offer group-based tobacco cessation treatment and programs that have limited individual treatment capability to deliver integrated care as we described in this program.

Why is it so important for the team psychiatrist to be involved in helping patients with tobacco cessation?

As we described, the vast majority of patients with PTSD will need smoking cessation medications to have a successful quit attempt. Generally, they need these medications around the time when they are going to make their quit attempt, and the easiest way to do that is to have the team's psychiatrist or other team prescriber very involved in prescribing medications and other care for the patients at the time of their smoking cessation attempt. This requires a lot of teamwork within the PTSD team to integrate all these functions and make sure the patient gets their needs met at the appropriate time.

In our program today Dr. Saxon and I hopefully convinced you that tobacco use is a serious health problem in our Veterans with PTSD. It can be effectively treated by the same mental health providers responsible for their PTSD care.

Mental health providers can and should be pivotal change agents to assist our PTSD patients with nicotine addiction that undermines the quality and longevity of their lives.

It has been a privilege for Dr. Saxon and I to share with you our enthusiasm for helping Veterans with PTSD recovering from tobacco dependence. We thank you for attending this program; we wish you success in your smoking cessation efforts with your patients.