Good afternoon, everyone. Welcome to the Opioid Safety and COVID workshop. We are featuring Dr. Ilene Robeck. Before we begin, I would like to go through a few housekeeping items. First, I would like to remind you all that this session is being recorded. Also, if you have not already done so, enter your participant code which you can find by going to the phone icon at the top of Adobe Connect. You go to the audio conference details where a pop-up will appear, and you press pound 3 for your participant code. It merges your phone number with your name in the Adobe Connect system. It is vital to recognize your name for the verifications. Also, all attendees must be logged in individually, not as a group for CME and CEU purposes. The worship has an agenda, presentation, bio, CME, CEU sign in sheet all located in the bottom left-hand corner. You can download them for your own personal use, and send that into me, Troy Spencer, so that you can receive credit. Also in the notes pod, please note that the CEU sign in sheet and the CME sign in sheets are completely different. Their evaluations and sign in sheets are completely different. The CME sign in sheet you will return back to me, Troy Spencer, and the CEU sign in sheets you will return to Carla. Also, during the Q&A session, we will have you place the questions in the chat box, and we will also unmute your web camera so you can come on, and if you need to take your speaker off of mute, you will press star pound during the Q&A session. Following the training, you will receive an email survey evaluation at your military and/or personal email. Your answers are invaluable for the future planning of the symposium. In addition to the training survey evaluation, there will be a CME survey to complete within the Navy CME website. Also, the survey from our program and the survey from the CME website are two completely different items. Please make note of that. Also, for CME it can also take anywhere from 3 to 4 weeks for you to receive your credit. Once the credits have been assigned, you will receive an email from the system to complete the survey. You will need to complete the survey at the Navy CME website in order to retrieve your certificate. Please be sure you do this. A general certificate of attendance is also available for this training upon request only. If you would like to receive that certificate, please make your request to Amy. Also, if you're having any trouble viewing this slide presentation, please exit out and come back in, or you can download the presentation from the files pod and follow along. Also, real-time closed captioning that anyone would like is available for this training. If you need, you can go to the notes section, copy and paste the link in a new browser, and follow along that way. Now at this time I would like to turn it over to Dr. Ilene Robeck. Thank you.

Thank you so much. I want to talk about the intersecting epidemics that we are currently facing in the United States. We will talk about opioids more specifically in the second hour, but I want to give a general overview of issues of substance use and COVID, and the intersecting problems that we are seeing with these two very different, very serious medical problems. We have three presentations. Each will be divided into 45-minute segments that will include time for discussion. Everybody will get a 15-minute break, and we will start again at the top of the hour, so we will get started right now with our general overview of COVID and substance use.

The issues of COVID and substance use are really also partly a larger mental health problem during our pandemic. We are seeing increasing amounts of difficulty related to mental health problems from the beginning of the pandemic, and we really continue to see difficulty, even as we are making headway with treatment. The initial improvement in mental health we saw during the early summer has now been replaced by further anxieties related to the Delta variant. So, when we look at the average share of adults reporting symptoms of anxiety and/or depression prior to the epidemic, versus in January of this year, the results are a fourfold increase in terms of symptoms of anxiety, depression. Almost half of households, half of adults having one or the other, or both symptoms. Of adults reporting symptoms of anxiety or depression, about 36% have anxiety, 28% depression, and 41% experiencing one or the other, or both. Of those reporting anxiety and depression, the vast majority are adults between the ages of 18 to 24. Interestingly, the symptoms are less common in older adults who are at greater risk of COVID ill effects, but have less responsibility for childcare, and less responsibility for work.

When we look at this issue of work and household job loss, a huge majority of people who have had some type of household job loss have anxiety or depression, with less problems and households in which jobs have been intact for all family members. For households with children under the age of 18, we see greater symptoms of anxiety and depression among women and those households than men, and that also intersects with the risks of greater job loss, and greater childcare responsibilities.

We have also seen increasing overdose deaths. Unfortunately, even prior to the epidemic, we were seeing stability in overdose deaths, only to see increasing overdose deaths occur in 2019 prior to the pandemic, with over 70,000 overdose deaths in 2019.

But in the year of the pandemic, in 2020, we saw nearly 92,000 drug overdose deaths. That is the highest number ever recorded in a 12-month period. We are starting to see worsening of an already very difficult situation. Remember, an overdose doesn't just impact the individual who is now dead, but it impacts family, children, and we also have increasing evidence that people who overdose, but survive, are left with significant morbidity, including cognitive concerns.

Overdose deaths are fueled by opioids, especially fentanyl and other synthetic opioids, with less problems related to antidepressants and benzodiazepines. Ongoing concerns related to psychostimulants and cocaine.

We also know the risk of developing COVID is substantially higher than anyone with a history of substance use disorder, but most high in patients with a recent substance use disorder, especially opioid use disorder, but it crosses the full gamut of increased risks related to alcohol use disorder, opioid use disorder, cocaine use disorder, tobacco use disorder, and cannabis use disorder.

Looking at electronic health records for more than 73 million patients in 360 U.S. hospitals found that people with substance use disorders up only 10% of the sample overall but accounted for almost 16% of patients

hospitalized with COVID. A previous diagnosis of substance use disorder at any point made patients 1.5 times more likely to have COVID than those who did not, and they also found that people with substance use disorder diagnoses were likely to have more severe outcomes, including hospitalization and death.

We also know that while we think about substance use disorder of illegal drugs and substances, the use of legal drugs, legal substances, also creates problems. People who smoke nicotine products, people who vape. We know about the use of opioids, cannabinoids, even legal cannabinoids, or medical marijuana, alcohol, psychoactive prescription drugs, they all play a role in increased risk of COVID.

The percentage of current and former smokers was higher among severe cases of COVID compared to people who never smoked. People who vape nicotine, or THC may be at risk for COVID, with recent work suggesting that vape aerosols may damage lung tissue and reduce the lungs abilities to respond to infections.

We will talk in more detail in the second hour about opioid use disorder and opioid dependence specifically, but we also know that the pandemic has decreased access to medication for opioid use disorder, a highly effective treatment. The diversion of resources for the pandemic may also strain resources. Also, for people that are using opioids, either illicitly, or potentially using high-dose prescription opioids, or misusing prescription opioids, social distancing and isolation increases the possibility of opioid overdose with fewer bystanders that can reverse the incident [Indiscernible].

We also know that cannabis sales on illicit online markets have risen rapidly during the pandemic. Patients with alcohol use disorder may be at greater risk for COVID given that alcohol can weaken the body's defenses against infections. And with social distancing patients with alcohol use disorder have less structured time meant for nonalcohol related activities, so the relapse may be increased.

According to the Centers of Disease Control, as of June 2020, 13% of Americans reported starting or increasing substance use as a way of coping with stress or emotions related to COVID. While that is early on in the pandemic, that data continues to ring true. The University of Washington alcohol and drug Institute has observed a spike in substance use that includes increase in both quantity and frequency of drug use during the pandemic, and many people have been noticed to start new drugs. There is an uptick in the use of fentanyl, with that being more readily available on the streets, and changes in supply chain.

We know that throughout this pandemic, the importance of telehealth is really key, and being able to utilize current telehealth options and expanding telehealth is important. It can improve safer options for support groups, and support groups have been a huge boon for treating patients with substance use disorder throughout their lifetime. It can improve our ability to interact with family. It can improve options for overdose education and the locks and distribution, especially for family members and significant others who cannot come into our clinics. It can

improve the ability to initiate and follow-up on M.A.T. It can improve access to mental health counseling, and we will talk about the fact that mental health counseling has been shown to be highly effective, and actually preferred by many patients. It also helps us to improve access in rural areas, and other hard to get to places related to face-to-face visits.

Once again, a reminder about alcohol, and I don't want to keep bringing alcohol up in this first hour because many of our patients do have access to alcohol. It is considered legal. This increased chance of increased alcohol use can activate the immune system, causing inflammation, and also interfere with the body's immune response to infections. Alcohol actually impacts the lung, and excessive alcohol damages lung epithelial cells, that may negatively impact patients with COVID, especially those unvaccinated who may develop acute respiratory distress syndrome. And increase the risk of mortality in regular or alcohol users who are drinking more than they are used to, or actually true alcohol use disorder, diagnosed or undiagnosed. We know from looking at retail sales that the current COVID crisis appears to have fueled increase in retail alcohol sales.

Smoking or vaping are often social activities which include sharing cigarettes and devices. Being in close proximity with each other, not wearing masks. Having a COVID-19 diagnosis was five times more likely among users of e-cigarettes only. Seven times more likely among ever dual users. 6.8 times more likely, past 30-days dual users meaning e-cigarettes and nicotine. E-cigarettes really don't decrease the risk of becoming nicotine dependent from cigarettes, and symptoms are almost 5 times more likely among past 30-day dual users.

Smoking heightens the risk of respiratory viruses, and we all know this from previous respiratory infections, because of the direct damage to the lung cells, and underlying lung disease. With COVID, smokers have a higher incidence of needing ICU, and a higher mortality rate. We are also seeing increases of methamphetamine. The fatigue level of this pandemic is huge. And there is increasing use of methamphetamine obtained from various sources. Methamphetamine can suppress the immune system, increase cardiovascular risk, and increase pulmonary risk.

Methamphetamine impacts the lungs, and makes the diseased lung more susceptible to COVID, can increase the risk of lung infection. It damages the immune system and increases risk of morbidity and mortality if a patient does develop COVID. We also know that we are seeing increased mixing of methamphetamine and opioids, which is driving the methamphetamine overdose epidemic as well.

We are also seeing domestic violence increase throughout the pandemic. Obviously, the stresses of the pandemic increase that, but we also know that when you add substance use, changing substance use, increasing substance use, we wind up seeing increasing problems related to domestic violence that may be more challenging to diagnose and treat.

PTSD is very common among all of our patients, whether they have had COVID or not. Alcohol use will increase the risk for domestic violence.

We are seeing financial stresses, and this prolonged stress. We have been dealing with this now for 18 months, with no true end in sight. And this review of domestic violence, alcohol, and substance abuse, we know that the problem is probably underreported, and may affect as many as 10 to 15% of women in the United States, that the person who is a domestic violence perpetrator and victim, and frequently looks very much like substance dependence. There is loss of control, maintenance of behavior despite adverse consequences, blaming others, denial, minimizations, cycles of escalation, contrition, promises to change, and really requires treatment in most cases. Both men and women hold an intoxicated victim more responsible than an intoxicated perpetrator, and culturally, chemically dependent women are considered to be more sexually available, leading to the notion that sexual aggression towards them is acceptable.

Substance use by the perpetrator, the victim, or both is involved in as many as 92% of reported episodes of domestic violence. If you see someone with the changing substance use, ask about domestic violence. If you see someone with evidence of domestic violence, ask about substance use. Alcohol frequently asks as a dis-inhibitor, facilitating violence. Stimulants, frequently involved episodes of the domestic violence by reducing impulse control, increasing paranoia. Alcohol may be involved in up to 50% of cases of sexual assault, and violent married men tend to have higher rates of alcoholism when compared with their nonviolent counterparts.

We are also going to see these patients presenting in different ways, and they may not walk in the door saying I am drinking more, and there is violence in my house, or my spouse or significant other is drinking more, and there is violence in the house. They may present to us with depression, difficulty sleeping, anxiety, women may present with chronic pelvic pain, repeated urinary infections, sexually transmitted disease. You may see signs suggesting domestic violence that indicate that it is important for you to pursue this further. Vague and repeated complaints, attendance at prenatal care only after the second trimester, a possessive and controlling partner, and overly attentive partner. We talked about repeated UTIs, chronic pelvic pain, irritable bowel syndrome. You may see sexual complaints, repeated abortions, depression, anxiety, insomnia we talked about. Suicide attempts, and substance related problems we have talked about.

So, in many of our visits now we need to start thinking about routinely asking about domestic violence, in a very nonjudgmental very matter-of-fact way. We can say stress can cause a lot of physical and psychological problems. Have you been under stress lately? How do you and your partner handle conflict? We know that many people have had complaints similar to yours are experiencing difficulties at home. Have you experienced problems at home? Physical fighting is a problem by some families we see. Have you ever been hit by your partner? Have you ever been forced to perform sexual acts that are uncomfortable to you? Does your partner abuse drugs or alcohol? Does he or she get violent when they take drugs or alcohol? Are you worried about your drinking? What about medications prescribed by doctors? What about illicit drugs? Do you feel safe at home, work, or the home of your family? Are you in a relationship with someone who threatens you?

Once again, substance use initiation and COVID seems to be a significant concern. Across substances levels of COVID related worry were highest among those who initiated use of substances during COVID-19. Cannabis use appeared to be associated with the largest effects across groups, and traumatic event exposure may be specifically related to cannabis initiation and using cannabis in response to stress has been significantly linked to increase likelihood of developing a substance use disorder. While our patients may not be using cannabis, there may be things going on in the family and with significant others or children have had increased cannabis use.

COVID related worry but not fear was associated with coping motives for using substances. Given the observed differences and COVID-19 related worry and fears, it may shed light on those at highest risk for substance use and ultimately substance use problems. We really want to acknowledge that this is a very common problem, and that our door is open to be able to talk about this.

So, Nora Volkow, the current head of NIDA, had a very nice editorial. I think it's really helpful to share her words with us. More people have died of overdoses in the United States last year than of any other 1-year period in our history. The increase from the previous year was almost more than we had ever seen, up 30%. The benefits of providing effective substance use disorder treatment, especially medication for opioid use disorder, are well known and not even controversial, but decades of prejudice against treating substance use disorder with medication has limited our ability to treat patients, and currently, only 18% of people with opioid use disorder receive medications, despite their incredible effectiveness at decreasing morbidity and mortality, and improving function, not just for the patient, but for the patient's family. Addiction is a chronic and treatable medical condition, not a weakness of will or character or form of social deviance. It is very similar to diabetes, related to a complex series of genetic, behavioral, and outcomes impacted by both medication and psychosocial and educational interventions, but the stigma and long-standing prejudices make it very difficult for us to treat as effectively as we would like to.

So, we need to see some societal changes, but even within our own clinics, there are changes we can make. We will be talking about that in the second hour.

We also know that many patients are facing trauma. I think 100% of the population of the world, and the United States right now, is dealing with this chronic, ongoing trauma of the pandemic, and the unpredictability of the next year to come.

This is from SAMHSA. SAMHSA has a fabulous text to understand the impact of trauma on health. I would recommend going to the SAMHSA website. These are the takeaway points from this text, meaning the treatment suggestion brochure. We see irritability and/or hostility, depression, mood swings, instability, anxiety, fear of trauma recurrence. Well, this is a fear of trauma persistence, because it hasn't really let up. Shame and grief reactions, feelings of fragility and vulnerability, emotional detachment.

Sleep disturbances are common and may be the rule rather than the exception right now. Reactivation of previous traumatic events for our patients. Preoccupation, problems with decision-making, magical thinking, belief that certain behaviors will protect against future trauma. Belief that feelings her memories are dangerous, generalization of triggers, suicidal thinking, avoidance of event reminders, further isolating people in their homes, social relationship disturbances, decreasing activity level, engagement in high-risk behaviors, increased use of alcohol, drugs, and withdrawal.

When we look at trauma and health, and once again, this is a takeaway from the SAMHSA brochure, there is questioning, why me, increased cynicism, increased self-confidence, loss of purpose, renewed faith, hopelessness, reestablishing priorities, redefining meaning and importance of life, and reworking life's assumptions to accommodate the trauma.

Also, from this, these are some key takeaways, looking at resilience. We will talk about resilience in the third hour. Well, what are the key components of resilience for all of us? Kinship bonds, respect for elders and the importance of the extended family, spirituality and religious practices, valuing friendships and warm personal relationships, expression of humor and creativity, a sense of history, heritage, and historical tradition. Community, activities, socialization, strong work ethic, philosophy is a belief about life, suffering and perseverance. Fortune owes its existence to misfortune, and misfortune is hidden in fortune from the teaching of [Indiscernible].

There's this cognitive triad of traumatic stress. The is about the world, the world is a dangerous place. People cannot be trusted. Life is unpredictable, leading to views about the future, things will never be the same, what is the point, I will never get over this, it is hopeless, and views about ourselves, I am incompetent, I should have reacted differently, it is too much for me to handle, I feel damaged, and this vicious cycle perpetuates itself while we still have such uncertainties about where things are going.

PTSD and substance use disorder go hand-in-hand. PTSD is one of the most common co-occurring mental disorders found in clients with substance abuse treatment. People treat PTSD tend to use a wide range of substances including opioids, cocaine, marijuana, alcohol, and prescription medications. People in treatment for PTSD and substance use have a more severe clinical profile than those with just one of these disorders, and PTSD with or without major depression, increases the risk for suicidality. Rates of trauma-related disorders are high among men and women in substance abuse treatment. Women with PTSD and a substance use disorder most frequently experienced rape or witnessed a killing or injury. Men typically witnessed the killing or injury or were the victim of a sudden injury or accident. When you ask people right now in our country, do you know someone who has died of COVID, the number of people that will answer with yes is extremely high. So, there is the risk of continued cycle of violence, and the risk of ongoing uncertainty. Also, combined with other issues of violence, especially if there is domestic

violence or violence in a community. It is important to recognize and help clients understand that becoming abstinence from substances does not result PTSD. We need to offer treatment together.

There is a lot of barriers to trauma training. We are all really treading water here. We have so little time, but there are further barriers to trauma screening. A reluctance to inquire about traumatic events, because these questions are not part of our program standard intake procedures. Underestimating the impact of trauma on physical and mental health. I believe the treatment of substance abuse issues needs to occur first, before treating behavioral health issues that have been found to not be the case. I believe that treatment should focus solely on presenting symptoms, rather than exploring the potential origins or activators of symptoms. A lack of training and feelings of incompetence, treating trauma related problems. Surely, we know about trauma related problems related to other traumas. We need to be able to apply that to COVID related trauma. Not knowing how to respond to a report of trauma, feeling that it will be too disturbing, not using common language, concern that if disorders are identified, clients may require treatment that we don't know that we are capable of providing. We need to know what resources are available for us. Time is a huge problem, and undertreated trauma related symptoms, of us all. People in healthcare right now have incredible reports of trauma, burnout, inability to handle their own mental health concerns, just due to the lack of time, and the ongoing push of treating patients.

So, ongoing stresses of increased substance use during the ongoing COVID pandemic. Vaccination has been demonstrated to improve physical as well as mental health, and more conversations about vaccinations need to be incorporated into healthcare visits. Overdose rate have increased during the pandemic and education about risks of substance use can approve outcomes. Use of drugs and medications such as alcohol, tobacco, and prescription drugs may increase risk of poor health, and trauma informed care is important for all patients who continue to experience pandemic stressors.

Let's talk about this case. We will continue to talk about this case throughout each of our three sessions. We have a 35-year-old male who comes in with symptoms of fatigue and back pain. He is currently working in a relatively sedentary job, and due to multiple stressors has limited exercise compared to his lifestyle prior to COVID. His wife had COVID prior to getting vaccinated, and developed ongoing problems with headaches, treated with oxycodone in the private sector. The oxycodone has stopped working, but she's unable to taper and discontinue her oxycodone because of symptoms of difficulty thinking, and worsening pain whenever she tries to lower the dose. Never underestimate the impact of problems in the family on our patients. His wife is now seeking oxycodone from multiple physicians. Due to the stress of this and the pandemic in general, he finds himself drinking alcohol more than he used to. There are times the back pain severely limits his ability to function, and he wonders if an oxycodone prescription might help. I want to stop here for the next 10 minutes, and we will take a break at quarter to, and ask for comments, questions, or input into strategies for working with this patient. Any thoughts, put it into the chat, or unmute your microphone.

Any thoughts, comments, anything, either about the presentation, or to talk about the case? And I will take anything either in the chat, or if you want to unmute your microphone. So, seeing no chat, I will continue to give some insights and thoughts into this case, but once again, the minute I see chat, or somebody wanting to unmute, I will, I would, I will defer to that is a priority.

So, one of the things that is very important in my mind here is the importance of understanding risk mitigation for everybody in the family. We don't know yet whether or not our patient is using opioids, sharing them with his wife. He is certainly coming in for an opioid prescription. Is it for him? Is it because he is sharing his wife's opioids? Is he coming in for her because she is starting to get into trouble? We don't know the answer to that, but before we do anything more, let's talk a little bit about the safety of the situation.

Now, there can be many ways that you can address this, but I think, as we talk about best approaches, we want to really acknowledge how stressful the current situation is for our patient. And say, I can understand, the situation is stressful for many people. This is a very stressful situation. Let's talk about how we can improve safety while we figure out a more long-term goal. To me, this is a fabulous time to have a discussion about the impact of opioids on pain, the impact of opioids on COVID related to his wife, because even though she is not our patient, if she overdoses or if she gets COVID and has a bad outcome, that is going to impact our patient. To me, frequently, there is nothing so beneficial as talking about two key things. Number one, overdose education and Naloxone. Naloxone is available over the counter in many states. In fact, in a majority of states. Therefore, even if we aren't feeling that we can write a Naloxone prescription for the wife, education about Naloxone is critical. We will look at how few patients on risky opioids get Naloxone. The vast majority of people who are getting prescription of opioids are not getting Naloxone. One of the things we want to make sure of is that he understands that there are ways to maximize, to decrease the risks for his wife while not eliminating it, and that is to educate him about the option of Naloxone if he is concerned about his wife's safety. That is one thing. And also, the risks associated with the way her opioids are being utilized. The other thing is to broach with him the fact that it would be very important for her to seek help for what is going on with her opioids, and that there is very effective treatment for the situation that she finds herself in. While we can't diagnose opioid use disorder, we can get some understanding that her situation is somewhat problematic, and that there is effective treatment.

So, many times when we see patients dealing with a family member who has problems with substances are opioids, there is a feeling of nihilism, that nothing will help. As we know, the benefits of medication for problems with opioids, we want to basically indicate to him that we do know that your wife's situation can have effective treatment. It is very important for her to talk to somebody openly and honestly about what is going on, and that may actually improve her pain as an effective treatment becomes available to her. That is one option available. Making sure that he understands that what is going on with his wife is clearly

going to impact him and that there are ways that we can make suggestions that are available in the private sector that can improve her ability to function and improve her safety. So, now we talk about our patient, and we can now use this as a mechanism for talking about effective treatments for back pain, of which oxycodone is not one of them.

So, we can have an open, honest, and meaningful discussion with our patient about back pain, about all of the ways that we know we can improve back pain care, and that includes many of our non-pharmacological approaches, approaches that improve exercise, looking at his diet, looking at mindful meditation, perhaps referral to our pain care specialists who are very able to potentially use procedures to jumpstart feeling better so that he can go to physical therapy, considerations of acupuncture, improving his sedentary lifestyle. All of the things that we know dramatically improve back pain, and also the fact that we know that in our studies about opioids and back pain, the improvement from opioids is quite transient, and the long-term effects of opioids and back pain is that they actually make back pain worse. And that way we can address both of these issues with this patient. The stress of the pandemic is also something that we want to be able to offer help with, and look at resources available for that, and they have some resiliency resources available within the DOD system, we will talk about that as well.

Welcome back to our second hour, where we are really going to be talking very specifically about opioid dependence, and the updates for the past year. We have 1 more minute before we get started. We will get started exactly on time, but there are some very important changes that have been made related to treating opioid dependence that everyone needs to be aware of, whatever your practice situation is.

At the top of the hour, we will get started about this, but keep an open mind about what your role is in caring for the opioid dependent patient, and/or their family. So, there are a number of myths about opioid and opioid use disorder. Going to talk mostly about buprenorphine. That is the medication that is most available for non-substance use disorder clinicians. Buprenorphine has been shown to be extremely safe and highly effective for treating complex opioid dependence or opioid use disorder. There is a number of myths about buprenorphine, and it's important for us to think about what is the myth versus the reality. There is a method buprenorphine treatment is dangerous, more dangerous than other chronic disease management, whereas it is not. It is actually simpler in many routine treatments in primary care. I am an internist as well as an addiction specialist. It is infinitely easier to treat opioid dependence with buprenorphine, and diabetes, some anticoagulation regiments, even hypertension. There's a myth that you so buprenorphine is simply a replacement for addiction.

Addiction is defined as compulsively using a drug despite harm. Taking a prescribed medication to manage a chronic illness does not meet that definition. There is a myth, just get them off opioids, detoxify them, that is all you need, but there is no data showing that detoxification is effective. In fact, just getting people off of opioids, whether you taper them, or you use a detox method, may increase the likelihood of overdose

by eliminating tolerance, because the cravings for opioids are so strong that it is very common that people without treatment go back to using 90% of the time. There is a myth that prescribing buprenorphine is time-consuming and burdensome, whereas, once again, it is easier to treat than many of the chronic diseases and is incredibly rewarding. I can't tell you how many times people have said to me, thank you for giving me my life back. I rarely get that when treating diabetes and hypertension. There is a myth that reducing opioid prescribing alone will reduce overdose deaths. We now see that that is not the case. We have effectively started to decrease opioid prescribing in healthcare. We have seen it is neither safe nor effective, but the overdose rate continues.

So, understanding this, there has actually been new buprenorphine practice guidelines. It used to be that in order to prescribe buprenorphine, you had to attend an 8-hour course. You had to document attendance of that course, and then you applied for your X waiver. You can now just apply for your X waiver, and if you have a federal license, that is free, that you do through SAMHSA. These are the new HHS guidelines. Because of the spike we have seen in opioid involved death, it is really critical that we do something about it. By the way, the United States is the only country that requires an X waiver, or any extra training, to prescribe buprenorphine. So right now, if you want to treat 30 patients at a time, which is more than sufficient for most non-substance use disorder providers, you don't have to take that 8-hour course. These are the guidelines.

With respect to the prescription of certain medications, specifically buprenorphine, practitioners are defined as physicians, physician assistants, nurse practitioners, clinical nurse specialists, certified registered nurse anesthetist, and certified nurse midwives, who are licensed under state law and who possess a valid DEA registration may be exempt from the certification requirements related to training, counseling, and other ancillary services. So, if you currently hold a DEA license, whether private or federal, all you need to do is go to the SAMHSA website and apply for an X waiver. You do not need to do any extra training. If you have a federal DEA license, that is free. You have nothing to gain by not having an X waiver. And everything to gain by having one, and we will talk about why that is true. If you do not do the extra training, you are limited to 30 patients at any one time, more than enough for any non-substance disorder provider, and you always can take the extra training and increase the numbers.

Under the exemption, the providers that we talked about, can prescribe buprenorphine for treatment of opioid use disorder. Practitioners who do not wish to practice under the exemption and its attendant 30 patient limit, they can always do the extra training and get a more formal waiver. And then, all of the guidelines for this are clearly outlined for you on the SAMHSA website.

I am just going to tell that to you, and we are going to talk about what are the innovations that have occurred in the past year that were starting, but really increased related to the pandemic. Here we have a situation where people are saying my clinic is not set up for inducing people on buprenorphine. I can’t do that. We are seeing more and more

home inductions, and in fact, a vast majority of inductions and non-substance use disorder settings now are home inductions. This is an adaptation of at-home induction, just to let you know what it looks like, from the NYU School of Medicine.

So, there are brochures, and all sorts of tools available for this home induction. What is the difference between a home induction and at the doctor's office? At the doctor's office, you are right there. So, if there is a problem, you can check on the patient. And there is a way to have that face-to-face connection with the patient. There may be behavioral health people there, but the patient may feel much more comfortable at home. Someone has to be driven there. We have all of the COVID protocols. And you don't need to drive somewhere or have someone drive you. Also, you may be more comfortable if your first dose is taken at home. And, yeah, your team is not there to check on you personally, but there are a lot of different options available to you through telehealth.

For home induction, for any induction, when to stop taking opioids? 12 to 24 hours before your first dose, for a short acting opioid. 36 hours before your first dose for OxyContin or morphine or a long-acting opioid, or 48 hours for methadone.

So, there is usually consent and treatment agreement forms. Review what is called the subjective opioid withdrawal scale for home induction, and there should be a SOWS score greater than or equal to 17 before starting the first dose. Identify the person in the office that they will check in with virtually. Create a follow-up plan. Discuss safety, including interaction risks, avoid driving, safe storage.

Hears SOWS. 0 to 4, in terms of severity. 0 not at all, 4 extremely. And the SOWS are you anxious, yawning, perspiring, are your eyes tearing, is your nose running, do you have goose bumps are you shaking, hot flushes. Do you have cold flushes, do you feel achy? Do you feel restless. Do you feel nauseated. You feel like vomiting. Do you have muscle twitching, stomach cramps, and do you have a craving, do you feel like I just have to use it now? And then you tally up the score. A score that indicates moderate withdrawal, especially at that upper level of greater than 17, you dose with buprenorphine.

On day one, we talked about this, you need that SOWS score above 17, and before your first dose what you need at least three of the following. Feeling restless, having twitching tremors, your pupils may be enlarged, chills or sweating, yawning, body aches, running nose, gooseflesh, cramps, nausea, vomiting, diarrhea, or feeling anxious or irritable.

Schedule, a typical schedule is you take 4 milligrams of buprenorphine, put the tablet under your tongue, don't swallow it. Wait 1 hour. If you feel fine, that's it. If you continue to have withdrawal symptoms, take a second dose. If you are feeling worse than when you started, you may have precipitated withdrawal. At that point, we advise communication with your healthcare provider and pushing through. Wait 1 hour or 2. If you feel fine, don't take anything more, record your dose for the day. If you continue to have withdrawal, you can take a third dose, excuse me. Wait 1

to 2 hours. If you feel fine, record the dose for the day. You can take a fourth dose if needed.

So, your dose schedule, you put down the amount you took, and you add it up. If you take 16 milligrams, and you are still having problems, then you need to communicate with your healthcare provider. That is quite rare.

So, on day two, we take the total from day one, and if all is going well with that dose, you take the dose you took on day one. If on the lower end of the scale, and you feel problematic during the day, you may be able to take another dose.

If your total was 8 milligrams, once again you are still on the lower end of the scale. If all is well that is what your take. If not, you can take another 4 milligram dose. If you are taking 12 milligrams the 1st day, if you feel withdrawal symptoms, then you can go to 16 milligrams. And once again, if you're going to get over 16 milligrams, especially at home, talk to the healthcare provider that you are working with in order to determine where to go at that point. It is really, I prefer to split the doses, because it is better for people who the pain, so I advise people, personally, to take whatever dose they lined up with, and split it over twice per day once they are stabilized.

With the day two summary, once again, if you felt good, you dose with more than 8 milligrams, you may want to split the dose. If you feel tired or groggy or over sedated, take a lower dose. If you still feel withdrawal, you may need to take another 4 milligrams dose, and you see how the days goes. So, phone contact, email contact, face-to-face contact through video, this all can substitute for being in the office, and a lot of the follow-up is quite short.

Don't take more than 32 milligrams of buprenorphine in one day. That does require someone who now needs a face-to-face visit, and probably even lower than that, I will transition into getting into the office sooner rather than later. And similarly, by day 4 and beyond, that patient should be relatively stabilized.

There are some patients that you may feel uncomfortable putting into withdrawal or who say I don’t know, I've had withdrawal, I can’t do that. So, there are multiple new protocols looking at micro-dosing for buprenorphine. This is just one of them. This is sort of the classic article that describes this in 2016. It is known as the Bernese method, and it involves micro-dosing buprenorphine in small doses, with incremental increases to both dose and frequency over time. Coinciding with this patient, can continue to use all their other opioids, until a therapeutic dose of buprenorphine -naloxone has been achieved, usually when full opioid agonists are generally discontinued. The induction process takes place over a 7-to-10-day period of time and has been associated with success. It’s been extremely well-tolerated. This is a typical buprenorphine micro-dosing schedule. 0.5 milligrams on day one and day 2, 1 milligram on day 3. 1.4 milligrams on day 4. 2 milligrams on day 5. 2.5 milligrams day 6. 3 milligrams day 7. 4 milligrams day 8 and at buprenorphine 4 milligrams, you can stop the short acting opioid. You

can titrate buprenorphine up to two max milligrams every hour until comfortable with a max of 12 milligrams on that day.

Another option, there's actually protocols for that using patches as well, but very well or tolerated, with telehealth as an outpatient. We are also starting to see more and more buprenorphine induction in the emergency room. Emergency room clinicians are in a unique position to interact with people struggling with addiction. When people come in with an overdose, the impact of starting buprenorphine in the emergency room is infinitely better than sending them home, or even admitting them only to be discharged without buprenorphine. People who have been sent to the emergency room with other chronic diseases and are stabilized and handed off for outpatient care, we can do the same for people with opioid use disorder, and this is a 2015 JAMA study that found that twice as many people were in OUD treatment at 30 days with ED initiated buprenorphine and brief negotiation interview compared with the referral only. For a brief negotiated interview and facilitated referral and use of less illicit opioids in the last 7 days.

So, what is a brief negotiated interview for an emergency room physician? Raise the subject, establish rapport, raise the subject of drug use, assess comfort. Provide feedback, review the patient's alcohol and/or drug use and patterns, make a connection between drug use, alcohol use, in those settings, and in this case, opioid use, and negative consequences. Make a connection between the drug use and the emergency room visit. Enhance motivation, assess readiness to change on a scale of 1 to 10, how ready are you just stop using, cutback, or enroll? Negotiate and advise. Negotiated goal, short-term goal, give advice, summarize and complete referral and prescription form, thank the patient for their time, and make a referral for an individual who can follow up, and that maybe the primary care doctor who has now gotten an X waiver because they know they don't need to take that 8-hour course. It may be someone that this patient now feels comfortable with, and that provider now does not have to worry about an induction. They just need to continue the prescription and make decisions about what psychosocial options are needed.

So, there is an association of frequent ED visits and subsequent prescription drug death. When you see that patient come in for that second opioid-related ED visit, you know that the risk of death is really substantially higher if nothing is done.

The use of telehealth in this regard is really invaluable. And now with social distancing, a lot of childcare problems in terms of access to resources at home, it really expands our use. It enables us to monitor people and check in on them, early on in the induction, and frequently during early treatment. It enables people who are quarantined to get healthcare. It enables clinicians to continue patient engagement, and frequently multiple frequent telehealth visits can be much shorter than that one big, long in patient visit, where you have to get everything in because you don't know if you are going to see that patient in 3 months. And it reduces the likelihood of patients participating in activities and behaviors outside of the clinic that increase risk of exposure, such as

use of public transportation, or other ways that are increasing risk of exposure related to COVID.

So, with all of this there are changes in the guidelines. I am not going to use this as an opportunity to present all of the guidelines to you. They are very well done, and they are on the ASAM website, I actually reviewed all these guidelines last year. Let's look at the changes, that what we want to focus on. What has changed?

Prescribing by telehealth is now possible if the prescription is issued for a legitimate medical purpose by a practitioner acting in the usual course of his/her professional practice. Communication is conducted using an audio visual, real-time, two-way interactive communication system. That is something for a fist visit but you do not need it for everyone that you follow up on. Recommendations related to testing and screening, this is old news, but we want to have a medical history, what substances the patient is using, the lab test we use whenever possible, hepatitis, HIV, drug testing and pregnancy. We will talk about what happens when you can't get that because the patient is virtual.

And we need to talk about food insecurity even in our working patients, food insecurity is much higher in this country then we thought. Housing, transportation challenges, domestic violence, as we talked about last hour. And what other mental health issues are there related not just to the patient. We also have, what about the patient's family? So, here's what is new. Comprehensive assessment of the patient is critical for treatment. However, completion of every single assessment should not delay, or preclude initiate treatment for OUD. If not completing before initiating treatment should be completed thereafter and once again, we have the ability to telehealth to complete the assessments and slowly but surely a little bit at a time each day. The use of cannabis stimulants alcohol and other addictive drugs should not be reason to withhold or suspend OUD treatment. However, patients actively using substances during OUD treatment may require greater support. So, if you discover active substance use in addition to opioids, that might be the patient you want to comanage with a substance use disorder and/or mental health provider.

Here is a major revision. Use of [indiscernible] and other sets of hypnotics should not be a reason to withhold or suspend treatment with methadone or buprenorphine. Why is this? The risk of death from opioid use disorder if untreated is so high that treating is going to be critical even if there are other risks. We know the combined use of these medications increases the risk of serious side effects. However, the risk of untreated opioid use disorder in the patient is astronomical.

Here is another major revision. All FDA approved medications and treatments of OUD should be available to all patients. Treatment with methadone, we are not going to go into a lot of details today. But that must be made available through an opioid treatment program and cannot be office-based. Although, when you have a discussion and that is a preference, that is an indication from the patient knowing where you can offer that is really going to be important. There is also no recommended

time limit for treatment. There are many patients who may need years of treatment, if not indefinite treatment.

Another major revision. Patients with psychosocial needs should be assessed and patients should be offered or referred to psychosocial treatment based upon individual needs. However, the patient's decisions to decline at that moment or the absence of available psychosocial treatment should not preclude or delay pharmacotherapy with appropriate medication management. Motivational interviewing or enhancement can be used to encourage patients to engage in psychosocial treatment appropriate for addressing individual needs. What we are finding in fact is you have a greater success rate of patients engaging in and staying in psychosocial treatment once you stabilize the opioid dependent symptoms with medication.

Another major revision is, once again, cautiously using benzodiazepines when patients require opioid use disorder treatment. Another new guideline, opioid dosing guidelines with a chronic dealing with chronic pain. And morphine equivalent is not treatment of OUD. New guideline. Naloxone for opioid overdose should be provided to patients and being treated for or with a history of OUD. Patients, family members or significant others should be changed -- should be trained on the use of Naloxone -- whether they agree to OUD treatment or does not agree to OUD treatment. Everybody that has opioid dependence or OUD is at risk of overdose and should always have a prescription or Naloxone and intermittent overdose education. Opioid withdrawal management should not be an issue until signs of opioid withdrawal. And when the signs of withdrawal and can be given a dosage of buprenorphine. And we know there is a micro dosing regimen that makes that a different issue. [indiscernible] agents are safe from withdrawal but do not show long-term promise when not combined with treating opioid starting with medication. For patients currently opioid dependent, [indiscernible] should not be until signs of withdrawal again. We talked about the dosing.

Office space and home-based initiations are considered safe and effective with Buprenorphine treatment. Really, what you do depends upon what you have to offer within your own treatment environment as well as the patient's environment. And once again, we talked about that. For patients taking methadone or Buprenorphine for the treatment of OUD temporarily increasing the dosing frequency might be effective for managing pain. We have seen that when you take people off of their treatment, the MAT, medication for addiction treatment, the relapse rate is very high. And once again, the details of this are in the guidelines available on the ASAM website and I recommend you going to it. But I want you to understand conceptually that the concept of acutely increasing and/or increasing frequency of dosing is acceptable for acute pain. For patients taking methadone for the treatment of OUD of acute pain refractory to other treatments require additional [indiscernible] adding to the regular dosage can be considered. However, that is going to increase risk of overdose. And therefore, you want to be able to make that as short-lived as possible while adding nonpharmacologic for non-opioid options. Once again, you may be able to increase doses of Buprenorphine. You may have to, in certain situations, add a short

acting agonist, especially in supervised settings. But once again, the trend now is to not discontinue opioids if you have any choice.

And it should be transient. And also keep in mind that the dosage of additional [indiscernible] might be higher than the typical dosage necessary to achieve on individuals. Discontinuing of methadone or Buprenorphine before surgery is not required. And whenever possible, should be continued. If it is decided that methadone or Buprenorphine should be discontinued before surgery, this could occur the day before or the day of surgery, working in conjunction with your anesthesiologist. And once again, we want to have that period of time off medication as short as possible.

How do you apply for a waiver through SAMHSA? There is a website. The division of pharmacologic therapy (DPT), and you go to the SAMHSA website, and they have a center for substance abuse treatment link which you can go to, the notification of intent must be submitted to SAMHSA before the initial dispensing or prescribing of OUD treatment medication. There is actually a link there to apply for a patient waiver. And again, if you do take the eight-hour course, you can treat 30 patients. I find that more than adequate for almost all non-substance use providers. And remember, you might find patients to have been started on Buprenorphine elsewhere. And having the ability to create continuity of care and not discontinue a prescription for Buprenorphine is really lifesaving for these patients.

So, overdose rates in the United States are at record highs during the past year. There has been a number of innovations with treating opioid dependence easier and has been highly effective with improving function and reducing overdose rate. And effective treatment for opioid dependence. And again, everybody who has a D.E.A. number can apply for a waiver now.

Let's go back to our case. A 35-year-old male comes in with symptoms of fatigue and back pain and is currently working a sedentary job and because of multiple stressors, limited exercise, compared to his lifestyle prior to COVID. His wife had COVID-19 prior to getting vaccinated. Developed ongoing problems with headaches. Treated with oxycodone. Oxycodone stopped working but she is unable to taper and discontinue Oxycodone because of symptoms of difficulty thinking and worsening pain when she tries to lower the dosage. She is now seeking oxycodone for multiple providers. Due to the stress of this and the pandemic in general, he finds himself drinking alcohol more than he used to. There are times the back pain severely limits his ability to function, and he wonders if an oxycodone prescription might help.

So now what we learned in these first two sessions, we know how we can better educate this patient about the risks of him starting opioid therapy for back pain, not proven to be effective and proven to actually worsen back pain. Especially when people are drinking. We can now effectively offer him non- opioid options for pain and reassure him that there are other non- opioid options for headaches. And that opioids can actually make headaches worse, and his wife really would benefit from making sure she gets the opioid-related problems that she has addressed

and that there are medications and nonpharmacologic approaches and other ways to treat her headaches.

So those are my comments. Are there any other comments or anything anybody wants to say in the chat box let me see what I have got here.

Jake Stanley, I think there will be a lot of unresolved trauma related to COVID-19 that we will have to reconcile in the years to come. I completely agree. And I think we need to make this a standard part of our care. I don't know anyone that has not had COVID-19 related trauma. People have had deaths of family members or friends. People have had family disruptions. Disagreements about vaccinations. Disagreements over masks. People have had family disruptions related to even being able to see family. Especially out of town family. This is really an ongoing trauma.

We just spent some time with friends in New Mexico. And they talked about the last month or two. And so, these are friends of mine who had COVID-19. They work in Morocco at the time that the first wave hit. And got COVID-19 coming home. And they were pretty sick. They never went to the hospital, but they were pretty sick. They are now finally better. They got vaccinated when they could. And they felt, like May, June and July, they were vaccinated. The vaccination data looked great. They felt like, this is over. We are home free. We will wear a mask if we need to but we are home free. And only to have that crashing down on them when the Delta variant started to create large numbers of breakthrough infections. Especially in people over 65 or with any other underlying medical condition. And that roller coaster of, it's over! It's not. It is creating all sorts of mental health concerns.

So, Corey Fitzgerald, any data regarding increased drug diversion given the pandemic and substantial stress on providers?

That is hard to know. I don't think I have seen a lot of studies related to that. I think our biggest problem has been lack of access to treatment with growing access to street fentanyl. I think it is very important. We don't want people to be diverting Buprenorphine. The risks of Buprenorphine diversion is far lower than others. And we just need to do the best we can to educate and prevent diversion. But also untreated opioid use disorder is extremely lethal. And with high morbidity as well. We will talk about that as well in the next hour. Are there any other comments that I'm not seeing here?

With respect to the Buprenorphine dosing, I recall in medical school in Tennessee my attending prescribed 8 milligrams and feeling capped, often tapering patients down from 16 milligrams due to perceived or real pressure to reduce the dosing forcing patients into discomfort. Is there still pressure from state or local governments to reduce the dose or even taper off -- there shouldn't be. The data is clear.

Let's also talk a little bit about individualization realization of dosing. I think this is a great point. There is a huge amount of morbidity and mentality associated with inadequate dosing as well as premature tapering and/or discontinuation of Buprenorphine. That data is

clear. So, the pressure to limit dosing, obviously when we start to get more than 32 milligrams, that is sort of a red flag that may be that patients' needs to be in a substance use disorder setting or even 24 milligrams. But most patients do well at 16. Certainly, some patients will need a higher dosage. We know that from the literature. So, depending on your rapport with the patient in a primary care setting, easily up to 16 milligrams or 24 milligrams. It is really pretty well-tolerated when you go higher, and you can ask to either switch over to substance use disorder setting or treatment with the provider. There is nothing like that in ongoing treatment of comorbid conditions you can get with primary care.

I have also seen another situation where we are seeing a subset of patients with a lot of medical problems who were prescribed opioids. Some of them because of age and some of them because of comorbidity and drug interactions. That is when you need lower dosing. That is okay too. I took care of the patient where he went into a substance use disorder program for prescription opioid dependence. He had overdosed one time and was miserable off of opioids due to withdrawal. But everything, all of his opioid-related problems were prescription opioids. He wasn't using illicit opioids. And he was 75 years old with multiple medical problems. When they tried to dose him on 16 milligrams, it was too high of a dose. And he felt awful. So, I was able to work together with his pain provider to do individualized dosing and that was 2 milligrams twice a day and that was the perfect dose. And he did well. He was a different person compared to 16 milligrams or nothing. So, individualization of dosing is really important. But most patients will need, unless they are older or with a lot of medical comorbidities or in need of medications with drug interaction, most patients will need 16 milligrams, give or take. So yes, I agree. That has been a huge problem. And I was at one time caring for a patient who went from being completely dysfunctional due to opioid use disorder, to one of the most functional patients I have seen. So functional that the nurse that worked in the clinic I was working in was away on vacation when we induced him. And he was a different person within a month. And his nurse came back and said to me, I will just use the name Mr. Smith -- oh my God! Is that Mr. Smith's brother? I'm glad we are catching him before Mr. Smith who we have no hope for. Had to turn around to the nurse and say, that is Mr. Smith. And the nurse was just dumbfounded. So Mr. Smith did very well for a year. Unbelievably well. Improved function. went back to work. Reestablish relationships with his family. And then there was this external tapering and discontinuing of him at a year and he completely fell apart, went back to using and was in and out of the hospital by the time I left the clinic. And we couldn't really dose the provider prescribing for him was adamant that a year was your limit, and it was potentially life-threatening for this patient. So that was a fabulous point, Landon. Very well taken. And luckily now, the pressure and the new guidelines prematurely discontinue or to limit dosing is no longer there.

Any other comments? I love the chat. Fabulous. Any other comments or questions? Or anything about the case before we go for our next break and tackle our last hour? Okay, see you back at the top of the hour at 3:00 for the last push. And we will finish up.

Let's talk and finish this up. By talking a little bit about prevention, and resilience and the face of ongoing unprecedented hardship, yesterday the United States surpassed the number of deaths that occurred in the Spanish flu. As they called it the 1918 pandemic, despite all of our medical advances. The incredible power of our vaccinations, we still have lost more US citizens in the past 18 months that the two years of the 1918 pandemic. In addition, we are seeing patients who we thought had recovered with prolonged medical illness so let's talk about pain resilience in the substance use prevention in an anticipatory way.

Let's remember, there's nobody being hit as hard with this as the health care professionals. The entire group of healthcare professionals, everybody, how do we take care of ourselves in this is from the AMA, for everybody. How do we figure out how to express our feelings about our fears, our frustrations, our anxieties, our exhaustion, in order to be able to keep going? This is not over. Certain areas of the country are seeing cases as high as they've ever been. How do we figure out the coping strategies that can work in a crisis, most of these coping strategies are meant for acute crises and you get a bit of a breather. We really have not a lot of breathers here. So how do we employ those coping strategies? How do we get enough rest? How do we take a break? How do we wind up eating properly? How do we get exercise? How do we re-hook up with family and friends? How do we perform regular check ins with yourself and monitor yourself for depression or stress and sadness related to more than just death, it is related to disruptive family time, disruptive time with friends? Difficulty sleeping and feelings of hopelessness, how can we create safer spaces for ourselves that were?

At home it takes rakes from the news and social media, need to be well-informed, but it doesn't have to be a 24/7 new cycle. Recall how important work in healthcare is. Work and healthcare has been important since the first time somebody realized you could alter the course of a person’s life either psychologically or physically. Over the years the importance of healthcare professionals has just gotten greater and greater. Our important is huge without getting too egotistical but let's not downplay how important our role, not only to our patients, but to the community, as well as our fellow healthcare providers. How do we look at that and take care of our staff? Are staffing procedures working? Obviously, this is more for people who are administrative positions, but we want to prevent substance use related problems in ourselves, how and our staffing procedures? Do we have a good program for psychosocial support? When we see someone having difficulty or even to make available to them before they have difficulty?

Make monitoring staff part of the day today effort and how do we create open communication while still trying to work the incredible schedules we are putting together? Asked the questions, there they are important as some of the answers we get, and we have to take care of our patients. Assume there’s mental health issues that are par for the course and standard and normal in the process of a prolonged life-threatening stressful situation.

Do we need to be training the frontline staff how to deal with this? A lot of people said I feel like we are building the plane while we're flying it. Also adjusting to the needs of staff is also building the plane while we are flying it. Know what referral pathways still exist, and the ones that don't exist and know what pathways there are figure out a way to systematize that. Know how to communicate with patients. There's a number of toolkits available, handouts, do we need to make sure we get written communication with patients where they know what we talked about after the visit? And incorporate guidance about stress as general care practices universally. We did this when I was a director of a post deployment clinic everybody got stress guidance as part of their return visit home. We just assume coming back is going to be stressful and once you accept that and deal with that it gets easier when once again if we assume there are stresses and we accept them and deal with it, it is manageable if we pretend, they are not there, it is unmanageable.

So this is from the British Journal of general practice and this is pre-pandemic, and talks about a resilient healthcare professional pre-pandemic. How do you incorporate appropriate humor, adaptability, optimism, confidence, how do you get organized? How do you get flexible and organized is a challenge and always been a challenge, and you want professional boundaries, but you really want to create a sense of teamwork, a sense of self-worth for everybody on the team? How about lines of communication with management, what is the team culture and what is we are all in this together culture that gets us through? Is there time for reflection? Is there time to make sure you nurture the social network, family, social create a leisure time activity that works, interest out of work, and the challenges of workload time pressure, lack of communication, information overload, my God do we have information overload, challenging patient situations, rural environment for some this is all pre-pandemic. How do we incorporate this post pandemic?

We don't know the Army has a resiliency training course with, I did a program on this, but see if there is a resiliency training course available to you even if you've taken one, we all need a refresher. The ideal model to communicate assertively is one part of the course, identifying understanding the problems, describe the problem, express your concerns on how you feel, ask the other person for his or her perspective, and ask for reasonable change with the positive outcomes that will occur if a person makes agreed-upon change. There's a large number of slides I was actually attempted to include more but understand that many of the departments within the DoD have resiliency training options available, take advantage of them.

Self-care options are really critical regular exercise, anti-inflammatory diet, mindful meditation, addressing sleep, important both our patients and ourselves. And I want to take some time to look at the literature of the past year. The literature review is adapted from a routine literature review that occurs quarterly, from the Boston University alcohol drugs and health. You can subscribe to this or get the latest copies by going to www.AODhealth.org and let's take some time to reflect on the literature of the past year during the peak of the pandemic that has come our way about substance use.

How about extended-release naltrexone in AUD? So, we used extended-release naltrexone for treating opioid use disorder and I did not go into detail on that because I really wanted to focus on Buprenorphine today. But we now have a review of alcohol use disorder, we have used oral naltrexone for alcohol use disorder but that's fraught with difficulty related to ability to remember medications and perhaps adherence during periods of increased stress. So, this was a study looking at extended-release naltrexone and they looked at the impact, not on opioid use disorder which has been evidence-based, but alcohol use disorder. And compare with patients received placebo those received extended-release naltrexone had two fewer drinking days and 1.2 fewer heavy drinking days per month. The results are not overwhelming, but they do give you some benefit. And the longer you use the more impressive the treatment was. Longer treatment duration resulted in almost two fewer heavy drinking days per month. Compared with patients requiring abstinence prior to treatment initiation. Patients that do not require leaving abstinence had 2 fewer had drinking days per month and while a modest reduction in drinking days and heavy drinking day per month compared with psychosocial interventions and placebo alone, results of the meta-analysis suggest XR-naltrexone may have efficacy, especially with longer treatment duration and if one of those days that was not drinking, they were driving, the impact of that may be profound.

Also, many of our patients are of childbearing age both male and female and this study looked at paternal alcohol consumption linked with fetal anomalies; we do need to do alcohol counseling with our patients. Paternal alcohol consumption reported by 31% of couples, while women of course they know are not going to drink at the time of conception, and during pregnancy and incidence in women with much lower. Couples report paternal alcohol consumption had a 35% increased risk of having a baby with a birth defect. That's not an insignificant observation of 1.35. So, the study suggested that paternal alcohol use prior to conception increase the risk of birth defects. Especially if you have somebody with problems with pregnancy and problems with miscarriage think about paternal alcohol consumption. And also parenting the chance of having a healthy baby is a strong motivator and maybe something worth discussing with some of our patients.

While we do not allow for THC use in our patients in the DoD, there's THC around and remember with our case we talked about the impact of substance use in the family. So, we have many of our patients have family members who are not in the military, children clearly at home, and one more study that looks at the ever-increasing THC concentration that is available in the streets.

Cannabidiol is being advertised a lot, it is not psychoactive but what we are seeing with Cannabidiol product there’s no quality control and what use think maybe Cannabidiol may not be. There's very little pure Cannabidiol and not sure what fits in all this. They look at recent THC. And a number of studies from all over the world and they are showing us then THC concentration in herbal cannabis is rising annually by a third. By .29%. THC concentration and cannabis resin is rising annually by .57%. CBD concentration has not changed. More and more we are seeing not only increasing THC concentrations but ways to concentrate in terms of how

people are using THC which is potentially going to result in greater difficulty for those using THC especially adolescence. So, it is really important for us to understand with more and more THC use, ask about that risk in family members, even if our patients are not using.

We know that we have been using less and less opioids over time. What is really important is to save opioids for a when no alternatives are going to be effective, and somebody into whom they are likely to be beneficial. Because once you start opioids, especially in a high-risk population, it is not so easy to discontinue them even if you carefully taper them. This is important as we educate patients about why we are being so cautious about starting opioids in the first place. It is also important for us to keep in mind when we see a patient who is struggling, who has been on opioids in the past, who is no longer on opioids, they still may have residual retractive withdrawal. This this looks at the risk associated with prescription opioid dose decrease or discontinuation, so there was patients with abrupt medication discontinuation without the reduction. Opioid discontinuation after moderate dose reduction, and other patients stable increasing dose opioid dose. Compared was stable or increasing dose the risk of suicide was actually higher with discontinuation, whether it was abrupt or with dose reduction.

One of the problems I have with the study is it doesn’t really look at what happens with very slow dose continuation, nor does it look at when Buprenorphine Naloxone is offered as an alternative. So, there's unpublished data about a clinic I worked with in Gainesville where aggressive opioid discontinuation with slow tapers and/or offering of Buprenorphine Naloxone for patient who struggle with tapering, or think they will struggle with tapering, and/or use of Naloxone found that the risk of suicide in that patient population when you offered treatment actually precipitously declined.

So here's what happens when you don't offer treatment, this is another reason that you should make sure you get X waiver, if you have a patient whose opioids were discontinued a month or two months or three months ago and they are struggling, it is okay to offer Buprenorphine you don't do the traditional induction, but you start at low dose and work your way up until that patient is stable. It makes a huge difference. Remember the patient I told you about and whom they did not tolerate higher dose opioid Buprenorphine and did not tolerate being off of opioids or Buprenorphine altogether, and months after opioids were discontinued months after Buprenorphine high dose Buprenorphine does was discontinued, we were able to start lower dose Buprenorphine and the difference in the man was night and day.

So compared to stable or increasing dose risk of overdose was lower with abrupt discontinuation or dose reduction however the risk of suicide was higher. So very important for us to put this together as we look not only at our patients, but at our patients’ families.

Also, we are really very short staffed, we are all doing the best we can with the ongoing problems related to mental health concerns during the pandemic. What about Internet-based cognitive behavioral therapy for alcohol use disorder. Well in this particular study cognitive behavioral

therapy given by Internet was equivalent. This was a study done in Sweden, and they exclude individuals at risk for severe withdrawal or suicide, but for patient who have mild to moderate alcohol use disorder they actually did pretty well. Attrition was not significantly different between the two groups. The face-to-face group did complete more modules than the Internet group, the primary outcome measures difference in alcohol consumption was not inferior. Both groups had a decline in self-reported drinks from approximately 24 to 12 drinks in the past week, so they were not measuring abstinence, they were measuring declined in drinks for the group. Obviously, abstinence is the gold standard, but lower drinking is also going to be critical, this is something worth pursuing, tweaking, and understanding availability for our patients.

Alcohol has a huge impact on liver disease and for many of our patients and not getting into behavioral problems with alcohol, we sometimes don't always intervene as early as we need to. We've seen mortality from liver disease increase over the last decade in the United States. Alcohol contributes to the development of progression of other types of liver disease, and they look at alcohol and liver disease and its impact. Alcohol caused over 54,000 incident cases of liver cirrhosis of which 35% were from diseases other than alcohol associated cirrhosis but were exacerbated by alcohol.

Interactional behavioral risk factors alcohol use accounted for the progression of cirrhosis in over 10,000 cases in the review, of obesity related liver disease, in cases of hepatitis C. So, alcohol use caused over 47,000 total deaths from liver disease, including over 6,000 from lung cancer. Liver disease exacerbated alcohol consumption caused by alcohol associated risk factor, yield substantially higher estimates of morbidity and mortality than those based on diseases for which alcohol is the original principal cause. Everybody knows alcohol itself is a hepatic toxic but what happens when you add it to other hepatic toxic situations, it's important educationally for patient who may have a comorbidity who are also drinking.

What about unhealthy opioid use, what if our backs are to the wall and we feel like we need to prescribe opioids, what are some of the ways in which we can get a warning and don't really do this? We know that opioids are best used if necessary, in short-term situations, low dose and short acting. What happens when we look at some childhood risk factors? This looks at issues of child depression and nicotine use and the risks of unhealthy opioid use in young adulthood, this looked at over 1200 participants. By age 30, 9% of participants had weekly non-opioid medical use, and 7% has used heroin in this particular patient population. Cannabis use was associated with any non-medical opioid use but not frequent non-medical opioid or heroin specifically, depression and tobacco use associated with frequent non-medical opioid and heroin use. Neither anxiety, ADHD, nor alcohol use was associated with non-medical opioid or heroin use. Once again, these drugs considered legal in many states obviously tobacco is legal everywhere, cannabis is legal in many states, once again for family members we need to watch out even if our patients are not using, but what is important for us to understand that early history to understand opioid-related risk.

By age 30, 9% had once again – repeat slide, sorry.

Once again, addiction begins in the teen years. Adolescence is an ideal time to identify, intervene to prevent addiction. This study identifies modifiable antecedents of opioid use disorder including depression and tobacco use. We need to screen for that everybody, especially in those with pain who may be at risk for having opioid prescription. We also know that in COVID, COVID long haulers have increased use of pain and starting to see increased opioid prescriptions for those COVID long haulers that are creating problems.

We talked about the importance of Naloxone, if someone has a prescription for an opioid whether, it be Buprenorphine, methadone, or a non-MAT agonist for pain or any other reason opioids are prescribed, or people are using illicit opioids, a prescription or understanding how to get Naloxone is critical. That's in all our guidelines now. This is critical.

So, a large database of commercial pharmacies including 6 million long-term opioid therapy treatment episodes, defined as filling opioids prescriptions for greater than 90 days, among 5 million unique individuals, this is pre-pandemic. Individual and community characteristics include age, sex, high dose greater than 90 milligrams morphine equivalent daily, Benzodiazepine co-prescribing, prescriber specialty, and county level overdose rate and poverty.

Overall Naloxone go prescribing 2.3% of long-term OT treatment episodes, 2.3% when it is recommended to be prescribed 100% of the time. This is critical. Naloxone co-prescribing was associated with receiving only high dose opioids and Benzodiazepines, although co-prescribing remained uncommon even during these treatment episodes, 7.3% and 3.5%. Co-prescribing is higher in Medicare or Medicaid was the payer, versus other insurance or cash payment. Naloxone co-prescribing increased with age and 46-to-55-year range, and lower in older age groups. That does not make sense because it is the extremes of age where we see the overdoses. And co-prescribing was more common in counties with high overdose rates and urban counties. Once again this is such a simple thing to do.

It also makes a very important point about concerns about risk. I call overdose education [Indiscernible] you get an opportunity to talk to the family how to use it, an opportunity to talk to the patient about concerns about risk and death and overdose. Many patients who should receive Naloxone do not. It's important for us to continue to offer opioid education and Naloxone and also continue to minimize our use of opioids in combinations when possible. This is a really important piece of literature.

The other thing that's happened is we were told by the e-cigarette manufacturers that e-cigarette's help people cut back on regular cigarette use. Not quite so. Demonstrated an association between e-cigarette use and initiation of tobacco use among youth. This is the data from the US national sample, compared with US who never had a e-cigarette, those who initiated in 2018 were seven times more likely to initiate combustible cigarette use in 2019, and eight times more likely to have current combustible cigarette use.

Other predictors of combustible cigarette use include household tobacco use and sensation seeking. E-cigarette use during adolescence greatly increased the risk of later combustible cigarette use and they were introduced as a solution to the public health problem, but they never turned out to deliver on that promise so people that already were smoking cigarettes found that using e-cigarette's help in a small minority of patients and worsened things in the vast majority.

And let’s not forget our own prejudices this looks at the racial and ethnic disparities among medication for pregnant women in Massachusetts. Medication for opioid use it is the standard of care, like hypoglycemic standard for diabetes, like hypertensive the standard for hypertension. There may be a small subset of patients who do not need medication, but the vast majority of people will relapse without medication, 90%.

So, this particular study looked at racial and ethnic disparities in receipt of treatment and look at pregnant women. They found looked at the following outcomes receipt of treatment, consistency of receipt and medication type. Whether methadone or Buprenorphine. Overall, 87% of cohort were non-Hispanic, 5% were black non-Hispanic, 90% were Hispanic. A third of the cohorts did not receive any medication. That’s actually good news to see two thirds of the cohort received medication, that’s the good news. Here’s the bad news, compared with white, non-Hispanic women, black non-Hispanic, and Hispanic women, were much less likely to receive MOUD during pregnancy, and less likely to consistently receive it. Compared with white non-Hispanic women, black non-Hispanic and Hispanic and had a lower likelihood of receiving Buprenorphine which has been shown to be as effective for most patients as methadone and infinitely safer and certainly easier to use.

So, it demonstrates a treatment gap during pregnancy with disparities and what to remind ourselves that we all come to medicine with what we have been taught what we have learned our own biases and really need to be aware of the fact that we want to minimize bias as much as possible and offer the same treatment options to all patients.

We also are reminded in the study as we are seeing increasing overdoses due to Fentanyl, but actually Fentanyl may have a protracted renal clearance, sot over time, we think that in a less short acting medication but over time ongoing regular fentanyl use accumulates. So, when people are getting fentanyl on the streets especially with unpredictable dosing and ongoing use, we are seeing here that there is a protracted Fentanyl so using Fentanyl on multiple days, multiple times per day, each dose will wind up with a higher blood level. So, this has implications not only for the risk of death but for treatment. These individuals may be tricky to induce, and the patient is mostly using illicit opioids that probably need a substance use disorder induction as opposed to some of the more stable patients.

This is also a worrisome study and that is we've been talking about psychosocial risk, mental health risk, increase SUD risk, cannabis use, and myocardial in young adults. We now see in this study by the Canadian Medical Association that a history of MI was more frequent among recent

cannabis uses relative to nonusers. A history of MI was associated with cannabis use of more than four times per month with smoking as a primary method of consumption.

And another one another about if you can stop opioids precipitously without offering treatment for opioid dependence, in a study of veterans, once again your risk of overdose and suicide are going to increase after cessation. This particular study looked at both overdose and suicide, 57% of patients stopped receiving opioids during the timeframe, most had prescriptions for either less than 30 days or more than 400 days, so they were even looking at short-term prescriptions. Patients that stopped opioids prescribe short acting medication, 15% had a documented substance use disorder and received opioids despite that, 43% documented mental health diagnosis and received opioids despite that. Opioid discontinuation was associated with increased risk of death from overdose or suicide regardless of length of opioid treatment, although risk associated with longer the patient was prescribed opioids was significant and death rates for opioid overdose and/or suicide both after the initiation of, and with the cessation of opioids, but these risks reduced after three months.

Patients with substance use disorders and mental health diagnoses were at most risk for suicide or overdose. Does this mean you should not address people who were on opioids long term? Of course not, we need to add another option to that menu and can do that more easily now that anybody can get an X waiver offer for people who are struggling with the taper specially, or even at the beginning, offer an option for Buprenorphine. The data, when we look at some of that data, shows that the risk of suicide and or overdose from dramatically plummet when you do that.

That is my caveat here. We also know that when patients develop opioid use disorder they develop increased pain sensitivity, so we know from our case that it may be the opioids fueling this patient's wife's pain, more than anything else. So, this is a study looking at pain sensitivity in patients with OUD, a small study, pain sensitivity was measured in 20 patients receiving chronic opioid therapy who had not developed signs or symptoms of OUD after at least 18 months and 20 patients who did develop OUD. Patients without a diagnosis of OUD reported higher baseline pain intensity scores and were taking full opioids rather than Buprenorphine. Those who developed OUD showed increased sensitivity to a heat test of central sensitization, but not cold pressor test. For those tests, those who developed OUD raise the maximum intensity pain higher than those not developing OUD.

Scores measuring pain catastrophizing were not different between the two groups and did not mediate differences. So some measures of pain sensitivity are increased with patients of OUD, I found this -- [Indiscernible] that will dramatically improve especially if you split the dose, you may need other mechanism for dealing with that pain sensitivity in patients who do not respond to treatment with split dose Buprenorphine.

So, opioids and pain go hand-in-hand, you cannot forget about them, but this past year demonstrated that stress is related to COVID that has

worsened mental health, substance use and pain. Resiliency training for health care professionals, our patients and their families is going to be important as the pandemic continues to disrupt the lives of everyone. Understand the impact of increased substance use on our patients and their families is going to be critical as we deliver health care for all medical problems acute and chronic, and with that I'm done with my portion. Once again case discussion, we have 35-year-old man, problems at home, wife is using opioids she's getting worse, she's seeing multiple providers, he's drinking and developing back pain. How do we handle this? I am open for any suggestions discussions either related to the material presented in any of our presentations or the case to finish us up.

We know from literature things we need to do to educate the patient about alcohol use about future problems he's not anticipating. We have options for him, and we now know we can put this together in terms of trying to bring resilience in the family and create telehealth options perhaps to see them together for mental health providers. If appropriate and agreed upon and or to also offer options for his back pain and have him understand why opioids would not be a good idea and what other options are available to him. We talked a little bit about that.

Thank you all for joining me it has been a very very long year since we last met and I think last year when we met in September, we thought we were the through in some ways we are well along we know so much more than we did before, but not as much as we were hoping for. So, we need to really celebrate as far as we, understand the best mechanism for keeping ourselves and families and friends and patient safe and continue to pace ourselves because it looks like we have a number of months if not another year of really fighting to get this virus under control and also understanding the impact it has on so many other things.

I don't see anything in the chat, Troy do you see anything in the chat right now I am missing? No. Okay thanks all for joining me and you have a great rest of the week and if you have any questions, I will put my email here.

Thank you all for attending our fifth Annual SUD Symposium, this is our Workshop conducted by Doctor Ilene Robeck, Opioid Safety & COVID Workshop. Thank you all, have a great day.

Bye-bye now.

[Event Concluded]