Thank you so much for joining us. Before we begin, we wanted to take a moment to review today's platform. On the right side of your screen, you will see our engagement zone. There are four icons at the bottom you will need to be familiar with. First, is q and a. This is where you will submit questions for the presenters. Send in the questions at any time during the session and presenters will be able to respond. You will also be able to up vote, good questions that your fellowa teen's submit. Next is polls. Presenters will use questions to test your knowledge on key concepts. Third is react. This is a fun way to let presenters know how they are doing. Last is help which offers trouble shooting tips should you encounter any issues during the session. If your screen freezes during the presentation please don't panic. Just press f5 on a pc or command r on a mac. If you continue 20 have issues feel free to submit your issue under the q and a tab on the right or e-mail education at asam.org. Now onto the presentation.

This presentation is on alcohol, I will now pass it off to Dr. restrepo to begin the session.  >> Hello everybody. It is really good to see you.Another year using zoom. Maybe you are extremely tired and we hope that in 2022 we will see each other again. By the way, right now we are without a mask. I hope that you got your vaccines. My hope is that the world will have access to the vaccine pretty soon that we can travel back again and be together. Today we are going to cover a very important topic. I will try to cover a vast number of different things here, themes related to alcohol and you will see that I don't have any financial disclosures. I'm sure some you will know the information I'm sharing but remember the purpose is for the review of this thing. There is the outline. We are going to navigate the importance of historical view, of alcohol use disorders around the world. Some of the screening tools, how important it is kind of the bio markers and of course to move from the detox to the relapse prevention stage and FDA approve allege though at the end I will give you a broad outlook of other possible medications that maybe you in your practice are using for the patient and population that are suffering alcohol use disorder. Important guidelines. Many guidelines, recently asam came with a great guideline about alcohol use disorder and detoxification. I also pointed out to this one called the apa practice guideline. I encourage you all to explore this different -- access linked to information that is useful and we are going to kind of learn about what it says in those books in real practice. Well, the historical view. What an interesting thing that it almost took us 20 centuries to really match kind of alcohol use disorder and substance use disorder in general with the concept of disease. Of course that is not just a disease based on a single aspect. It's a multifactor situation that lead us to express us a different way our problems and some of unfortunately ended up having substance use disorder or other cormomidities. I just pointed to two important historical perspectives of alcohol. Take a look at the proverbs book in the Bible how after the flood noah got intoxicated with alcohol and perfectly it is described intoxication. In another time in the first years of our --let's say Christ era if we can say it in year 2050pliny the elder; perfectly described again the intoxication of alcohol. Why this is important because today we are part of the people taking care of these population

in a way that it took us 20 centuries to use medications and other type of approaches. Well, let's start to review from a real case that I'm sure you get familiar with. This is a patient of ours in our program where I work at the va hospital. Mr. Rr is close to his 60's. He runs a music theater in Los Angeles, California. He is being referred for evaluation to assess his drinking depression after his older brother who in the past had problem was alcohol, recommend him to go with it. Well, he presents as we review with depression, by when you ask more specifically he drinks because he has insomnia, and anxiety. A common aspect to see in our patients. Then when you ask more specifics he report that he grew up drinking. His first drinks was at age 4 when after party in his family home he just saw the little glasses full of some liquor and he starts to taste. Why this is important? This person at age 4, even without full development of his brain, a full development of judgment and insight suddenly starts to [Inaudible] and remember, that is so important in this field to know that the prefontal cortex, what help us to make decisions that make us take the right or wrong choice in addition to that limbic system that we need to talk about it, such as --plays a major role in relationship with the receptor. I will try to simplify things. Remember, when I drink I activate my opoid system and my opoid --activate the nucleus activates by dopomonine and then is when I have a vast output of excitement, energy, feeling good about. Remember that in this process that I'm sure [Inaudible] already cover in depth this mechanism of actions. When he need to be aware of the different ways that our brain works. Open though these are the transmitters in our system. In alcohol I invite you to look at the gaba and the glutamate. One is the main inh IB itor. Do not forget too much the opioid system. The dopamine and the serotonin that right now we are talking more in relationship to substance use disorders and in this case with alcohol use disorders. Well. I know that you are familiar with this. Let's imagine that nuerobiol OGC and the concept will lead us to understand the mechanism of action of how alcohol interacts in our body with our different transmitters and also why the medications can have a huge help if we understand these basic concept s. I'm drinking --and it opens in my terminal. Then the e --gets released and then the chloride channels open and then I have the famous depolarization and then I feel relaxed, less anxious, I'm able to socialize more and then I start to use this element and this breach of connection with my inner side and maybe outside context in a way that helps me to cope with many difficulties and as we know, comorbitidis are really closing the lines with the concept of alcohol use disorder. Then trying to see what happened with Mr. Rr he starts to drink more at age 12 on weekends and continues daily for the past 30 years. When you can him how much is too much or how much he drinks he doesn't know. He saids he misses work due to hangovers and driving while intoxicated. Risky behaviors, especially in la. He said no accidents, no dui's but he definitely is having some issues reported already to us. Well, you continue your good interaction creating good rapport with the patient that does the essence of our practice. Then he definitely told you that he drink the previous night and that what he wakes up he has diarrhea and shakes. When you ask more specifics he thinks that the anxiety lead him to consult with a primary care that end up prescribing alp are, azolam and it helps him. No other drugs or substance abuse history. I don't need to go into details of the biochemistry of alcohol. All of us know what are the parts of it. Important to review. Here we go with what I was

saying before. Let's imagine that today all of us in the room will have one glass of wine, maybe two maximum. Just socializing. One is the system that will be activated is going to be the main in it h IB itor system which is the gaba gets activated. We start to talk more. We start to relax. I start to interact with you. Even through zoom I don't see your face but I say, let me make the effort to run this session in the best way that I can and I have relaxed moment. Then if we continue drinking every day until next year, what is going to happen? Maybe I will develop tolerance with all of you. Maybe the two glasses of wine that help me relax. Now that's not enough. Maybe the glutamate energy system starts to activate and it downloads the regulation of the gaba meaning that tolerance starts to happen. We have symptoms based on the glutamat, waking up and starts to happen. That's why I start to drink more and if I don't drink more I will start to have shakes, maybe some sweats, maybe some diarrhea, such as Mr. Rr. Well, let's review some data. Look how impactful this disorder is. It's very high. 50 million adults in United States have alcohol use disorder. It's said that with the new data in 2019 average 90 to 95,000 people die from alcohol related disorders in the United States. It's the third leading preventable cause of death in the United States. The cost is very high. As we know in our practice, we see more and more people coming to emergency room visits and hospitalizations due to alcohol in the last ten years. I don't need to repeat what others mentioned but the combination of alcohol plus [Inaudible], the combination of opioids and alcohol is something we deal every day in our practice. We need to be aware of it. Of course as I said in here 50% of you are at [Inaudible] to alcohol misuse. Big pictures. Take the two sides of this slide. In the right side you are going to see that this the severity is in mild, moderate, severe. 12 months and lifetime. In general take a look. United States in terms of lifetime prevalance is higher. 29%. With severe alcohol use disorder in about half during the period of 12 months is equal to almost 14%. Is increasing by 450% the 12 month rate of the prevalance between the years 2001 and 2020. It's showing us the level we are having these days of alcohol. Important enough. We know the different demographics are affected by alcohol. We know the onset is a factor that can predict heavy drinking in the future. We know the ethnicity. We know that our native American population suffers from the problem of alcohol use disorder. Of course, talking about minorities pay attention to of level of prevalance he are lated with the 12 month problems of alcohol use. In general the population is drinking but more interesting what is happening in regarding gender. Right now the ratio, men to female 1.7 male, the r atio with women, 1. We are getting closer and closer each year. I don't want to go into the details of this but what I want to point out is that when we see someone with alcohol use disorder, let's be prepared to ask about other things. Really important to always keep in mind. Well, take a look that 20% of drinking population -- of the drinking population drinks 80% of the alcohol sold. Alcohol users in United States are around 40 million. This is almost a --seen to other chronic disease, hypertension, depression. Pay attention to the binge drinking and to the amount of people having heavy alcohol use as we are going to review in a few minutes.

A binge drink is four drinks in two hours for a woman, and five drinks in two hours for a man. Those two hours in some point are defined by sitting, of the population but four to five drinks in two hour is the

most kind of accurate data to define binge. Pay attention to the years. How much are -- how much drinking in 2002 and in 2013 how much it is and the binge drinking. I encourage you to get familiar with the NASA r. It is the three national survey on alcohol and related conditions. In 20 is the we have data from that time about the new evidence that we are drinking. Going back to what I was telling you about the women and men. Pay attention to the population drinking in the past year and in the past month and the number of days drinking in the past month by two genders. Here we go just to remind you that the ratio is 1.7% for men, 1 for women.

The population that we need to pay attention is all but basically age as we were saying is a known factor in heavy drinking. Pay attention to the three in 2015. Pay attention to the 18 and 19. College, students as we know have definitely the propensity to drink harmfully to develop an alcohol use disorder in the future. We know about the criteria these days, for alcohol use disorder or substance use disorder. You can translate this into context of any other disorder related with your substance. That is for the first time cravings as part of the diagnosis and remember that you can also add the severity based on the criteria with the different symptoms mild to severe in terms of the numbers. One interesting thing that is still -- 100 patient was very seen. Just ten of them get the appropriate treatment. Beginning to --prescribe medication. Are we getting the right medication to use the medicine in the practice? What is happened that we are not prescribing to our population what is needed? Imagine if this is United States you could imagine what is happening around the world when someone is suffering alcohol use disorder. Well, how much is too much? Again. Heavy drinking is designed as four or more standard drinks in a sitting, eight or more per week when related to women and the men is five or more in a sitting, 15 or more per week. Keep this many mind when we are going to assess our population with a different table that we have access to in our regular practice, and also let's be sure that we ask about how many drinks do you have in two hours when you sit down as we review the binge drinking is another important definition. What is a standard drink? All of us know this. It's important to keep this in mind. One standard drink is equal to 14-grams, ise wall to .6 ounces of pure alcohol. The average person metabolized about one standard drink per hour. In one side on the left side you are going to see the regular beer. In the right side on the screen you are going to see the whiskey or the vodka, single drink that many times we have. In the middle is the cup of wine that we usually see people drinking. When we pass this is when we need to pay attention. We review what is heavy drinking, what is binge drinking, matching with this graph will help us to kind of realize where the problem is going to be. We metabolize this every 60 to 90 minutes. Alcohol is with zero kinetics. It's a straight line like this from the top to the bottom. The men around --men metabolize20-milligrams per -- women was we are going to review what is happening the meta bolism takes more time though I have time that when I sit down with them I need to stop because with the two drink that I can tolerate they can tolerate four and five and they are women that have different genetics and they metabol is it different. There are three general reasons for women to show higher bac's and greater, intoxication; also is show that women have more propensity to have liver damage and they get alcohol disorder more frequently than men. In females a great

number of body mass is fat compared to the water. That is the reason that alcohol gets in and it cannot be diluted as easy as in men. That's one of the important factors regarding women. Also, remember that the alcohol in the stomach or gi systema --females have very little of this compared to men. This also leads us to have women with higher levels of blood alcohol levels. The next piece is the liver, adh, females have a less active form of this than men. In other words they don't metabolize as efficiently as men. Important factor here. What is the most preventable cause of mental impairment or retardation? This country? Alcohol and we can prevent that baby or that fetus will develop fetal alcohol syndrome. Around the problem is around 50 per 1,000. In United States it's said that 40,000 infants suffer from fetal alcohol spectrum disorder every year. Remember, it seems that pregnant women when they work out the -- in the 30 day window they are drinking more than 20 years or 10 years ago. It's something we need to bring to the table when we have a woman in a productive life willing to have family, to prepare the ground for them to be sure that they have clear understanding of the consequences of drinking. Well, what happened with Mr. Rr? You realize that he had history of pancreatitis that probably rings the bell to you. Has hypertension, gerd and medication that this person takes. Lisinopril, omeprazole and zolpidem. Two medication that in the future we will be talking about. Be aware that many of these population ended up developing probably -- disorder based on this type of evidence that help them to manage their withdrawal symptoms. Well we are going to start see bio markers. Take a look at the vital signs. It's elevated, the --as we know the ratio when we see people drinking 1.5. That's what it's --on the books sometimes. You don't see that. Important to keep that in mind and remember this. Cat. Cdt. Carbo. A score basically it is elevated and as we are going to see this is a proveddas one the few bio markers for alcohol use disorder by the FDA. There are evidence based treatments. These different situations. If you apply the -- in 50 minutes you screen you have a brief intervention and you refer the person to treatment you are defeating a big major step. The first one is the cage -- and in the cage questioner. It's really strongly associated with alcohol use disorder. This is something important to know and important to apply in our practice. This is the questioner that with more time you can take a look in depth. This can be done in five to ten minutes maximum. Hit around the number six or seven is possible that the person will need therapy in addition of course to other interventions and brief interventions. The role of bio markers. Many him time times we use them to show them how bad they are doing. Let's change that frame of approach and use them to motivate our population, to show them the consequences of drinking. To probably encourage them that maybe through different approaches and changes you can reduce and stop the drinking. Of course, it is a tool that we can use such as when we use h1ac for diabetes is kind -- in the same frame a what can we do to make this treatment better. Right? We know the levels of alcohol in our system and what they can cause. In certain occasions the majority of people go to a 20 to 99-milligrams, remember, that driving is.08 and then you will hit the 100-milligrams and that is when we are going to have ataxia and different impairment s. If you have seen people walking and -- they are in the 400's. That means they develop a toleranceThey are capable to drink heavy. The levels will be very high. They are able to relate with you and in a -- a kind of a assertive way. When you start to see these is so

important to approach the population with the possibility that we have for the treatment. Well, briefly, types of alcohol bio markers. Indirect tests. We have four different ones. The ones that reflect alcohol effects on other process is the one that I mentioned early. Only FDA approved alcohol bio markers. The direct test, the ones that reflect alcohol use are these three. Etg, ets, and peth. In general, they --the etg and ets in good or urine three to four days as we are going to see of drinking. How long it takes to this test to go to normal levels? Take a look. Some of them average in general four weeks. The mc takes double around eight weeks. And hope any these tools will help in your practice. Remember that this test is really good. People will why are we going to use cat if we have ggt? The only little thing or important thing to know is that cdt is more specific and has few shortage of false positives. They are able to capture as ggt, five rings or more for two to three weeks. By important to know as a big picture, what this test are all about. >> That's the reason that is a test that you should keep in mind. If you don't have access to it, let's use the ggt and the other ones. Shakes in the morning and he was --helped by medication prescribed by primary care. The phases of alcohol use disorder treatment are two detoxificatio. Many times we go with the detox and nothing else. What about the relapse prevention? This is when we need to integrate the strategy even though when the patient is in the in patient unit detoxing. The standard of care and some other possibilities. For alcohol. The -- apparently around the symptoms happening 13% to 71% of -- presents for detox. With less alcohol causing more symptoms and -- that's what the concept is. You can see these for example when a patient has a positive alcohol with less amount of drinking and with --repettive withdrawal symptoms. Managing of alcohol withdrawal we are familiar with this and remember it's so important to keep in mind of course the autonomic system. What happen if we don't treat it on time? We know that is essential to keep in mind that when we see the population we need to give them in addition to the ben SOP e, acid and multivitamin. Glucose and then we will lead that person to develop what is called the [Inaudible], nystagmu S&P aralysis of extra muscles. This come was mental disturbances. The mortality if you hit this level of the --of is going to be between ten and 20%. We know that alcohol withdrawal with come with seizure disorder. It's not a linear progression for this. What is key is that to keep in mind that the hallucinations that are more frequently visuaL. That is something that gets your attention when the person is withdrawalling from alcohol. You are going to see the seizures after 10% and most common in the first 48 hours. Then we move to the dt's. More frequently or let's say they happen in the -- with in the 72 hours after the last drink. Remember that is as the name says tremors, hallucinations. Important that this is a critical moment and you need to act like an emergency just to really note down it down as fast as you can with your entire team. I don't want to be redundant but the protocol is something that I encourage you to be familiar with. It is two minute test. It'll help you to minimize the use with the population that is suffering from alcohol use disorder. These are the different skills. I'm sure that you are familiar with them and what happened here in general. When you hit the c1 between 8 and 15 for sure you are going to need it or any other treatment. More than 15 is severe and for sure you are going to need an inpatient treatment. I don't need to repeat what we are reviewing but keep in mind that what you medicate your gaba, your energy system is something that you need to keep

in mind to monitor your patients. Well, with rr, you saw the person motivation a interview. You encourage him to get treatment. The patient was willing to start with you. You know that the person is ready probably to start treatment. You discuss more in depth what are the results and the consequences of the drinking and in his case you agree with the patient that you are going to start an outpatient treatment program. Probably an outpatient detox and then relapse prevention strategy. Remember that more than medications we are clinicians and we need to know about motivational interview. Remember the different approaches in our setting, 12 steps groups, incredible groups, motivational interview and et cetera. Well, we know that the first line for alcohol detox are benzodiazepin es. The most important key element is leave that it doesn't go through oxidation. That helps that your liver is going to work less if you go with this medication in the treatment of your patients. Of course you can use other medications but interesting enough they are long acting benzoes. If you want to be more gentle with the metabolism and avoid -- the person will go to a lot of efforts in the liver, you go with that. In the -- outpatient withdrawal such as Mr. Rr. Less than eight. Sometimes a little bit higher. Depends on the context. No history of seizures, no serious medical or surgical problems. No serious mental or drug history. Good social support and you have someone that iswatching the patient. History of dta's. Remember if you have --and you are pregnant those are aspects to consider the inpatient withdrawal treatment. Inability to tolerate oral medication. Major medical or surgical problem the person has a psychosis that can leaded person to not make the right decision. [Inaudible] in general these are kind of the doses that you can handle. And important to mention the isn't convulsions. Of course the advantages of these possible treatments during the detoxification are related to the system. The advantages is that they don't have the abuse potential. They keep the cognition. These advantages. Let's review the therapy. Important, just to keep your mind with the genetics. At some point we were talking about the opr and genetic variant that was going to be fantastic for those people with that gene to respond. Other studies showing that the opr and m1 for -- respond has not been sported. I put all genetics variants there. Probably in the test. Oprm1 is the one that is going to come up. You can see targets with different medications based on any chemists. What I want you to take from this slide is that people are trying to divide it with reward protective withdrawal and try to match it to the appropriate medication. Hopefully in a few years from now with genetic, with personalized medicine, individual care, knowing theGenes, probably we are going to be able to determine who responds better to what and to what situations. This is a slide that summarizes that and of course with more time you will take the time to review in depth these different parts that make this topicuseful. Primarily it modulates that -- that we review. That's the reason this population in general drinks less and when they relapse they have more tendency to drink less amounts of alcohol and have less heavy drinking. Very important tool to keep in mind. Use it, I just --site here one of the many studies done. Showing us how heavy drinking goes down. The dose five milligrams per day. Be aware to check liver function initially when you prescribe. You don't need to wait that the person will be sober to start. If you see someone willing to change. Add the naltrexon on board. [Captioners transitioning]

Long --is an injectable form every single month. 380-milligrams is a really effective medication multiple studies have been showing us how important these can is be for our population.

as I was telling you, check them initially, after one month, every three to six months in general. When they are elevated, that does not prevent you from prescribing Nalterexone . If there elevated four times, you see the picture with the window with the alcohol, and they have less heavy drinking, very important to keep in mind. I cited it one of the main studies showing how heavy drinking goes down, the dosage five milligrams per day, please be aware to check liver function initially when you prescribed. You don't need to wait that they will be sober to start but if you see someone willing to change, add the Nalterexone, be aware they are not taking opioids because if you give Nalterexone, that is on opioids, you will have withdrawal. Some side effects, the most frequent are abdominal pain, diarrhea, and insomnia. As I was telling you, after one month, every three to six months, in general. When the LFTs are elevated, that does not prevent you from prescribing Nalterexone . If the LFDs are elevated four times and you see the clinical picture with the window that the person will benefit from chronological treatment with Nalterexone, go ahead . Long acting Nalterexone is an injectable form, every single month, 380 milligrams is a really effective medication, multiple studies have shown how important they could be for our population. Remember the Naltrexone is approved for opioid use disorder but today we are emphasizing the treatment of alcohol use disorder. In general, try to be sure that your patients get the medication every 28 to maximum every 30 days because the levels drop so quickly. Here we go. The indicated doses, 380 milligrams. For protective withdrawal, be aware that people may be developed protective withdrawal, six months later, 12 months later, after they stop drinking, they have these symptoms. This is when we can proceed. It seems that the mechanism of action goes to the receptor and a system is stabilized. In summary, a reduced the negative reinforcement, basically the absence is creating the patient. The sad story is that Europeans show good results in general, Americans did not show the good results that the European study showed. There is a contradiction, but, in general, that is the flavor that we have. These are the medications that I will use if I have a person with liver damage and the person is willing to try something. Remember, you need to take two tablets three times a day of Acamprosate, that is difficult, it is metabolized to the kidneys, the person as creatine elevated, and you need to reduce the dose or maybe stop the medication. The other medication that I think is important, it is FDA approved, the disulfiram which inhibits the hydrogenase, the Asian population certain genes affect these and that is the reason why the Asian population does not tolerate alcohol, because it creates what disulfiram creates in your body. It basically accumulates the acetate and the acetate accumulation leads you to have headaches and nausea. Well, the studies on disulfiram have been placebo-controlled studies and, again, they have been showing us it is helpful when you have a partner or someone that is in charge of reminding you to take the medication. Most studies are negative but the supervision helps certain populations. The main study was done in the VA system where they give you the population, 250, 500 milligrams maximum, after 12 hours posted drinking. Be aware that when you stop the medication, you need to wait one to two weeks to really restart drinking, because if you drink

during that time, you will create an avalanche of symptoms already described. They can look at the liver toxicity. Be aware of viruses and pregnancy, do not give to this population this medication because you can create more problems. It has a lot of cross interaction with other medications that can lead to side effects or other conditions. Sometimes people combine both medications, is that effective? Sometimes studies show it is effective to combine them but other studies are not as useful to show that this combination helps. But in the clinical world, I am showing a study that the combination helped with the abstinence rates. But different studies are showing different information. Important to note that project match, in general, they compared treatment for 12 weeks related to twelve-step programs, motivational enhancement therapy. The results were the same. All three helped our population and this is a study you should note. Then, the combined study was another important study in the frame of alcohol use disorder. It basically stated that medication combined with CBI and medical management. The main point is that, look what was the group that was helped most, the Naltrexone with medication management had the best outcome. That is what I want you to take from the combine study. There is no significant differences among the groups in general. Other pharmacological agents that we will see in the future, probably more in depth we will review when we have more time. Just to finish, these are the main points. Important that we use formal logical treatments for the inpatient and relapse prevention stages that you use medications and your CIWA protocols . Maybe you are familiar with other formal logical approaches more than welcome to talk about them. Do not forget psychotherapy. It is a vast topic and I appreciate your time, thank you and I will see you then. Goodbye.

[Event Concluded]