>> Hi, everyone, and welcome back to our panel. This is the panel that will cover the four sessions of the day. I'm the vice chair of the program. First up, we have Dr. Jeffrey Devito.

Hi, everyone. You've made it this far. Which is terrific. And some folks that were awake earlier during my previous talk might recognize that I did get a haircut, although, probably not as much as I should've gotten caught. But I did get a haircut from the pandemic haircut , or lack of haircut, that I did have some for sometime. I wanted to address some of the questions that came up during my talk, and my talk was on epidemiology. Full disclosure, as I mentioned in my talk, I'm not an epidemiologist. Actually. For those of you who are epidemiologist, if I happen to say something that's not the correct vernacular, please let me know. But otherwise, let me go through these. I've got split screens with one on the question on it. I will toggle back and forth. One question that came up is, prevalences the existing case present in the total population. The answer to that is yes. Prevalence, if your member, the image that I had on the screen was this bathtub. And the water level in the tub represents prevalence. How much water, how many cases, are being held by the tub at any given time. So within the population, or within the system, or the infrastructure, how many cases are there? When did I talked about this, for better or worse, think of the tub itself. The actual tub is the public health and societal apparatus that is holding all of the people in it. And the tub represents the amount of water in the tub actually represents the public health burden of particular disease, at a particular time. So that can change in time. I can change by an influx of new cases coming in, which as you might remember, is incidents, for case coming in. And it may also be impacted by cases that have left the tub, either by mortality, people of fast way, or people have their disease , if it's a disease that has particular cure that they have gotten better, and I left the bathtub , so to speak. So prevalence, yes, is the number of cases in the total population at any given time. It's really a measure of the public health burden of disease. And recalling in the context of government, here, that this has been both incidence and prevalence have been particularly important concepts that have really taken on new meaning in the last couple of years. With prevalence being sort of the amount of --this is really what concerns hospitals, and hospital capacity. How many people have this, or are symptomatic, let's say, with COVID, at this particular time. How many people who have to support from a public health standpoint with active disease? It's important. In terms of allocation of resources. And on the other side, how many new people coming in , how many people are getting this? How contagious is it? How open is the spigot of water coming into the bathtub? Another question or, the came up says, also, correlation and causation was not address. With a comment here that schizophrenics also smoke tobacco, too. Absolutely true. This is an important point. Which is that in studies --for example, in the paper that I had used as an example in my talk where we discussed or looked at the odds ratio that exposure to cannabis could lead to the development of psychotic illness. That particular example, what we are looking at is an association. We're not looking at causation. Really, the gold standard for determining causation is randomized, double-blind controlled trials. Which, in some of the illnesses and addiction that was said, it's not feasible to do a randomized --it wouldn't be okay to be a trial where we take people, but

the mental laboratory setting, expose one group to massive amounts of THC C, as if they develop a psychotic illness. We don't have the luxury of being able to do that. So the way that we kind of get close to being able to talk about causation is to look at big numbers of people, and hope that in the size at the end, the number of people we are looking at, that we can from that, derive some sense of the Association and the strength of the association between some exposure factor, in this case, or that studies case, cannabis exposure. Relative to the outcome that we are interesting in, like psychosis, as it was in that city. So that kind of provides, I think, a little bit of backdrop for recognizing that association does not necessarily mean causation. You can get close to talking about causation, but it's really hard to definitively say the cause or that an exposure caused a particular outcome when we are looking at studies like this. That her cohort or cross-sectional studies looking backwards, or forwards. Based on people's self-reported what they use, and things like that. This owes going to be a question, there, about causation. And, yes, it's also true to look at these things and say, just because two things occur, in the same population, does not mean that one caused the other, necessarily. We do know, for example, and I think it's a great example. It was as if any do smoke more tobacco products. So the question their being, does that mean that schizophrenia caused the tobacco use, or does that mean that the tobacco use causes schizophrenia? We can't say that. Just because these two things exist simultaneously, does not necessarily mean the two --that one caused the other. Being mindful of time come here, I will jump forward. Another question that came up is, I will read part of this, here. Around hallucinogen use. I made a comment that in the studies that there was a -- the survey studies --there's been a prevalence trend of increase in hallucinogen use. I will be more specific. In LSD use, in particular, and LSD use in 12 to 17-year-olds. So I don't waste time toggling between different screens, if you look at the slide deck that I provided , at the end, at the bottom of my talk, because there's too much material to try to fit into the time. I did include some graphs that show some of the trends that I presented in text form in the top. So for looking at my slide deck, there's a slide that talks about what we actually see in LSD. These are modest increases in time, especially in 12 to 17-year-olds. What I'm about to say is highly speculative and not necessarily the official scientific take on this. To me, it somehow fits. Most of the individuals that I've worked with that use or have used LSD don't particularly talk about using this in a regular, everyday, heavy use fashion. They typically use it in an experimental or intermittent fashion. In some respect, that fits with adolescent substance abuse in general, and you'll get another talk about adolescent substance abuse. But you will see that for 17 --for people that are 12 to think to 17 years old, they use in a more sporadic fashion. I know time is short, and I try to address some of the questions that come up. I will pop back over to the other side, so I can also monitor the chat feature, hopefully, answer any questions that people might have from there. With that, I will pass it off to Jackie Landis, to take the next portion of the Q&A.

Great. Thank you, Dr. DeVido. All right. So we have a number of questions during our presentation. Thank you all for listening, and participating. We tried to get to as many of those as possible, but there were a few outstanding questions. I selected three that were similarly related to

talk about in a little bit more detail. The first question that I will talk more about was the following. What about becoming a nurse, or mid-level practitioner, is actively using substances, but seeking treatment. The person that make you know the person is still going to work and using? This pertains to the last slide of the presentation, and there's additional information in the handout that we provided. The resource document. But this relates to the ethical and probable legal duty that a practitioner has tour for someone who they believe is impaired. So remember, your have an ethical duty to report impaired healthcare practitioners, and you consult your state's medical practice act to determine if you have a legal duty to report. The standard, the legal standard to report is really quite low. In most states. It is a reason to believe that a person is impaired, or competent to practice. I will say, though, the what constitutes impairment is vague . It's often ill-defined, and subsequently, subjective. So in this particular scenario that was posed, I would consider the type of substance the person is using, it's known ability, whatever that might be, to impair. And then actually consider if it is impairing the person. Common clues here in terms of impairment can include, a variety of things. Maybe things such as errors made in patient care, patient complaints, repeated absences, and similar behaviors. So if you do have reason to believe that this person is impaired, in this scenario, I would then notify the appropriate entity . Which, again, are usually outlined by law, or within your employment setting. I also wanted to mention , we had a question about the ethical scenario that was presented in slide number 10. Just as a brief reminder, this was a scenario in which an anesthesiologist was replacing opioids with saline, and using them. And asked her colic not to report her, and promises that she will seek treatment. This case is clearly reportable. Number one, because the anesthesiologist is doing something illegal, which is diverting and stealing, and using patient medications. And also, it sounds as if she's using this medication on the job. So this, her colic, here, verbally to her employer, most likely, the medical board. And potentially, the authorities, again, depending on your state law. So I thought those were two related questions that came up. And then, another question that came up was, I thought this is pretty interesting. And very timely. So wanted to spend some time talking about a question related to --this is actually related to the A.D.A. So the question was, what about a physician who voluntarily presents with opioid uses, and what --but the medical board is not allowed the physician to use this prescribed treatment? And I'm not sure about the scenario. I don't know if this was a real-life scenario that inspired this question, or hypothetical one. But I would say, as this is presented, this would be a real problem under the Americans with disabilities act, the A.D.A. So as you recall, someone with a disability is protected under the A.D.A. from discrimination. Disabilities include substance use disorders. Current illegal substance use is not covered, but a substance use disorder is. And this question, or this policy, if it existed hypothetically, is problematic. Because it is discriminatory. And that this person who has a disability, which is opioid use disorder, is seeking treatment. His prescribed appropriate evidence-based treatment for their disability, their condition. And it sounds as if they are saying they will not allow them to receive the treatment. There was a recent decision , 2020 decision, were actually the EEOC found that a company which refuse to hire a woman because she was prescribed Suboxone,

the company's actions violated the A.D.A. I will read you an excerpt from that decision, because I think it's relevant to the question come here. And that said conduct violates the A.D.A., which prohibits disability discrimination in employment, including disqualifying a disabled worker from a job because the workers receive medical treatment for disability, such as use of prescribed medication when such treatment does not create a significant threat of potential harm to the health or safety of the worker or others. And note that the last piece, there, is also important. Because the treatment --if the treatment created a significant risk of harm, to health or safety of the employee or others, that's of the different situation. That potentially falls under an exception to the A.D.A., which is called a direct threat. For instance, if someone was taking medication, no matter what it was, and it made them extremely lethargic. And let's say they are a surgeon, and they can't perform procedures because of that side effect of that issue, that would be a different consideration. It would not necessarily be a violation of the law to ask that person to revisit that, essentially. All right. One last thing, then, to also cover. There were a couple of questions about civil commitments, and whether someone had to have a diagnosed psychiatric or substance use disorder to be civilly committed. Just very quickly, I want to differentiate between an emergency detention or hold, and civil commitment. All states have some form of emergency detention for someone who has been deemed to be an immediate risk of harm to themselves or others. There's not a requirement that the person has to have a diagnosed condition of any sort. It's really a risk assessment. That leads to emergency detention. But thereafter, the person is detained for a certain period, during that time, their team decides to pursue a civil commitment, which is a lengthier period of involuntary treatment, then laws will specifically spell out, not only will they have to show imminent harm of some sort, or threat, or risk of that, the person also has to have some sort of developmental disability, it could be a psychiatric illness, it could be a substance use disorder. All right. So that is it for my time. Thank you very much. I will now pass it along .

Thank you. Thanks, everyone for joining. So there was a bunch of great questions today. During my talk. I will try to address as many as I can. So the first one is that many, many people had questions about -- it sounds like in one of the lectures yesterday, there's a question about -- stated about using SSRIs, and books with alcohol use disorder, and distinguishing between Taipei and type B, maybe earlier onset, higher onset. I think a lot of that literature that looks at the worsening of apps call use disorder is actually looking at folks who specifically only had alcohol used disorder and using that as a treatment. Their recent treatments looking at polymorphisms of serotonin transmitters, things like that. It's a great question, but I think when you're thinking about using it for someone has MM DD, I think it changes the question a little bit. I don't know about specifically about what source of literature they are looking at. Type A or type B, for using something like an SSRI, and folks who do have that. But I would say that my instinct would be that you should certainly treat them major depressive disorder. It's always good to think through. And again, this is looking at folks who have alcohol use disorder. The next question. There's a question about looking at adverse childhood events, and how those lead to a variety of disorders. It's a bit of a competent question to answer at this time. I

think that's really --the question was, how to build resilience, and those who had those experiences. I think the best way to tackle that is make sure that someone is in really great --has a really great psychotherapy that has her therapist, and is addressing that psychotherapy. I think that's the best way to manage that. Okay. Other questions. Someone asked about the contradictions about using bupropion, in the presence of substance use disorders. I didn't mention that my talk, but I would say that the medicine does have an associated risk of seizures. If you're using it, and someone using something like alcohol or other sedatives, and they roughly discontinue them, and therefore, are already at risk of a seizure, the medicine could increase that risk. Okay. There's another question about looking at cannabis use disorder, and the risk of developing psychotic illnesses. This is a great point, great question. I think it's the use of cannabis in that developmentally sensitive. Of adolescents, when someone develops cannabis use, it's not the same in their 50s, for example. It's not the same risk of developing psychotic illness. Someone asked a great question. Some other folks here could even answer that. The stats for substance use disorders always exclude nicotine. I think they typically tend to, because what I'm thinking about a lot of the statistics that that I certainly use for folks who have co-occurring substance abuse disorders, they are not usually including tobacco user nicotine use disorders. Someone who is wiser about statistics and epidemiology may be able to answer the question better, but why that slipped out. Okay. Going to the questions come here. This is a great question. Someone asked about mania . From substance use when it sometimes hard to differentiate. This is one of those times were you think about the timeline. Often , it's super common for someone who is manic or starting to become manic to use substances . It's the nature of many of itself. Hard impulse control, and putting themselves at risk. To get collateral from family, that's the best way. Patients have our time talk about manic symptoms when they are in a manic episode. In this case, using substances. Asking collateral family, or other loved ones, people close to them, when they are manic, or maybe have hypomanic symptoms started, and those preceding the substance use. Also, you do look timeline. If you have a sense of how long, depending on what substance someone is using, how long the intoxication to Alaska music , many will be a longer time period. That's great question. And there were questions about folks using stimulants, and whether or not there's an underlying, undiagnosed ADHD picture. I think this is competent. Someone else's commented that a lot of people can have improvement and focus with stimulants. And that's true. There's a lot of diversion about stimulants for that reason. But really, I think, when you are having a patient that is talking specifically about really struggling with concentration, they are using substances that help, really need to further explore and do a more thorough assessment about thinking about their health. How is a functioning impaired? Their focus, is it in multiple aspects of their life? And thinking about developmental -- looking at develop mental history, looking at the broader picture. I think those are the most --a lot of the questions were really related to the medicine. I think most of the other ones I answer. Specific ones about medications. But I will turn it over to Dr. Sharon Stancliff.

Hi, thanks. Good answers to questions. From the panelists. I actually had fun answering the questions in the chat box. Most of them that I got were

about harm reduction, more than anything else. But I would pick three of them. And so what I would pack into a sterile injection kit, and unpack little bit. And talk a little bit about how what we give out in kits relates to the question I got about decriminalization, and how harm reduction is not compatible. Maybe you could think about that a little bit more, and a commentary on botulism. Am I okay? Okay. So what's in a sterile injection kit? What you need to know that your patients are doing when they inject? Because that's kind of a scary topic if you're not familiar with it, and I don't think most of us have ever injected illicit drugs. First, we want to clean needles. We preferably want needles that aren't detachable, because there's little wells where HIV and hepatitis C, and other contaminants can be in there. And we also don't want non-reusable needles. Because people can get enough syringes. We want them to use their own, and not use someone else's. There's the needle. We want them to have sterile items to but their drugs and prepare the drugs in. Here in New York, we give out bottle caps. Spencer often use. But we give out model --metal bottle caps so that they can mix the drugs up, preferably, with sterile water. It's horrible here, less so in New York now. But undercovered, things couldn't access anything remotely clean for water when they were injecting. Clean water is important. Sterile water is best. What people will do is put a little bit --I will talk a little bit about powder . I'm in a land of powder heroin. A little powder in, watering, they stirred up. If there's impurities in there. These something to filter it out. Ideally, we give them sterile cotton. There's dental cotton that works really well. But we don't want them to be using cigarette butts. There's all kinds of crap in there, of course, that isn't even about the nicotine that is going through. Preferably, not lint from sweaters. People should have purse used from a cotton Q-tip. Because it doesn't come apart. They will exit up, and put a turn it around the arm. It would be great if I could have one tourniquet per person. Because that will be reservoirs for thing . It gets a little bit expensive. And then, they were are going to inject. They are going to use the needle again, and clean the needle immediately. Hopefully, they won't share it. With anyone else. Bleach has variables . Studies on it, but at least, preferably, the bleach will be shared. Someone else brought it acid. That's for certain types of injections. Crack is based cocaine. That does not dissolve in water. So what they do, will they choose to buy crack, they're going to inject, the need to turn it back into the acid. Citric acid helps with that. We don't want people using limits. There's horrible infections that happen with injecting lemon juice straight into the lemon. It has a predilection for the eye. If people are going to be buying cocaine, turning it back into cocaine hydrochloride, or if they are buying black tar heroin, I believe, I know less about that. Or brown heroin, and this used to be common in the Colorado area. If they're going to be using lemons, we want to give them citric acid, so they don't use the biologically contaminated items out there. That covers most of what I'm thinking about, there. Whatever people are injecting, we really would like them to have a kit. It's really unclear how much fentanyl is actually in the stimulus supply. I don't know if some of the other systems are addressing that. But there --fentanyl has been found in the stimulus supply. One of the troubles, there is that we mostly test for drugs and dead bodies. At least, we very rarely test for drugs in the back spirit as far as I know, that is reserved for court cases. In the public doesn't get a lot of information on that. There are more things we

can know about that. But yes. Anybody that's using, injecting drugs, it's great if they have a kit with them. That's really important. I forgot to mention alcohol. We want people to have clean skin when they inject. I also use that moment to say --wash as often as you can. This kind of overview of what people are doing when they are injecting. It's not a very nice process, like what happens in lab where folks --or when we are giving vaccines. It's very messy , because people have to find hiding places to do it. Bathrooms are not clean places. And that's where people inject. Before I go to some of the botulism issues, want to come to a couple of questions I got about what about the criminal elation? The drug war is not compatible with harm reduction. Criminalization of drug use and substance use disorders certainly leads --I'm being told that there's a lot going on. What shall I do? Not being told , I will keep talking. Okay. I'm going to carry on. That being said, so many of the things that I just told you about our harm reduction in the face of criminalization. Many parts of the country, people can go to the pharmacy and bike clean syringes legally, but sometimes, stigma keeps them from being able to do that. Many of these materials could be more available if there were drug paraphernalia loss. That's harm reduction in the face of criminalization. I think there were probably always be overdoses. I wish gets a zero overdose. But people will use drugs alone. But if it weren't so highly criminalized and stigmatized, people with other people, somewhat more often, and reduce that risk of overdose. We need harm reduction for legal activities. The typical answer is seatbelts, and designated drivers, when people --symbols all the time, designated drivers when their struggle to use involved. That's for perfectly legal activity. But I think the criminalization of drug use stacks on the need for more harm reduction activities. There were those that would say that harm reduction is compatible with criminalization, because it reduces the harms. I hope that's a useful answer to some. But we do know the people that have decriminalized, whether it be Portugal, where people are in treatment that significantly reduced the deaths from overdose, compared even to the neighboring countries and in Europe, let alone this country. When other punitive policies for pregnant women that are using opioids lead to higher morbidity for the infants born, putting higher rates of natal opioid withdrawal. We have plenty of evidence that punitive activities lead to morbidity and mortality. I was going to go back to the question about wound botulism. So that brings me to the issue that what I just described to you about how people inject, maybe very well different than where you are. If you're on the East Coast, people might be injecting a black tar substance. So ask your folks what they are actually using, and how they use it. But anyway come out there, the black tar substance is more likely to actually --is where you find wound botulism, and some of the harm reduction thoughts from the Kings County, Seattle, Washington, health department distant suggests trying to avoid injecting into the muscle. It's risky to injected into the van, but has a lower risk of botulism. By black tar, Payless less long. Cocaine, hitting it while you prepare it doesn't kill the botulism. And many people know what some of the early signs of it are. If they get it, there's a small chance that they can get care before it's incredibly damaging. Finally, I just want to say, it's competent. Because there were much lower rates of HIV among the early days of people using heroin, black tar, and San Francisco, because they had heated up. So there are negatives and positives to this whole array of illicit substances that are criminalized. It's really

complicated. It's like, oh, we need to make sure that everyone has white hair went out West, because it's safer, because it doesn't botulism. There are other risks with it. I would say, really, get to know what is in your area that people are using. And I only talked about opioids. I talked a little bit about cocaine. And what your patients are doing. There's moments in their lives that you want to talk to you about how they use. There are moments that they will be really glad to teach you. How am I doing for time? I've got a lot of time left. If anyone else wants to answer some questions they skipped over, that would be great. I also got a couple of questions about using it on the subway. I think the key when there is, what do you do when you see people that don't well? I find it scary, but I've also approached people, watching to see if they are breathing, their breathing, that's enough for me. Have a lot of people on the street, here. But I have to say that every time I've been scared, that someone is not well, and I first talked to them, and if need be, touch them, to see if I can roust them. I've always gotten think use. I've never had anyone angry. And of course, I've twice used the rocks own , and EMS was on the way. I don't know if I save a life, but I said a few brain cells. Carry it if you can get it. Carry one, because you all get the call for help. I think I've had more than my share of time. Waiting for Dr. DeVido to come back on. Yeah. There we go.

All right. You got to watch me put my headset back on, here. And I'm guessing you can hear me hopping back on, here. I apologize for any technical issues that we are encountering. I guess, such as life in the same world. This is it evens him, so I shouldn't say that. Nonetheless, I'm back. I did answer a few questions in the regular --some of the questions that came up in the other chat feature. But I can also hop back, and address one thing that I think is --it came up another question of mine, that I didn't get a chance to address. Previously. It has to do with genetics, and genetic contributions. And this is a testable item on this exam, or other exams. I remember when I was starting to study for the exam, and I did take the exam, one of the testable questions was always about what is --I want to get the phraseology as best as I can. What would be the susceptibility of the genetic contribution to the susceptibility of drug addition. The number that has always kind of been on the various practice exams, and review books has been about 50%. Of the 50% is a number that I've struggled to understand completely. What that means. In terms of 50% genetic --50% contribution to susceptibility to developing an addiction or addictive disorder. But I think it's worth highlighting that there are --we are getting more information about certain things they can predispose or protect people against developing addictions. So one classic example of this has to do with variations in the alcohol dehydrogenase , or the enzymes, and genetic variations . Different versions of that enzyme that different subpopulations have. For example, for a lot of Asian individuals, we know that alcohol, or I should say, the dehydrogenase enzyme is less active than their genetic variant. There's a genetic variant in that population that is less active than it is for northern European populations. One of the hypothesized outcomes of that is that when people have a less active enzyme are exposed to alcohol, have a higher buildup of aldehyde. Basically, it's like a rejection -- reject . The drinking expense for someone who is having a higher level of this can lead to a situation whether the drinking expense is far less pleasurable. On the converse had, people who

have a highly active dehydrogenase may not get as bad of a reaction, or as bad of an response, because it clears out out more rapidly. You can see in your family, let's say, have particularly fit version of the dehydrogenase, you and your family might be Boris acceptable because of that genetic vulnerability, you might be more susceptible for the period that call drinking experience is not coupled with a significantly negative response, or negative expense. This is stemming from a question that came to me during my talk around familial or percentage of genetics link. Also, acknowledging that there are environmental factors that also contribute to the susceptibility of addictive illnesses, things like trauma, as others have talked about. And other environmental factors. They can contribute to the developing of an addictive disorder, in addition to just jeans. It's not just jeans, it's a combination of genes, environment, and behaviors that go along with that, that can lead one to be more susceptible. It's why taking a family history, think, is crucial, when looking at addictive disorders. We do know that they run in fact families. Another question I got was a question about , why was the 12th year of age cut off used in the study? I don't have it . I don't have a good answer for that. My conjecture answer is that to remember the survey is done through a combination of a computer-based interface with survey questions, and then, there's an in person or telephone component, as well. It could be possible that the data resolution starts to get bad for people under 12 from the standpoint that there might be literacy issues, or other issues related to grasping the material. That you have to start at an older age, so everyone can participate and have some degree of participation in the program. Again, that's complete conjecture on my part. And there were some interesting questions that came out about how some of the prevalences have change in relation to the introduction of different communitywide, or societal wide intervention, such as prescription drug monitoring programs. Has those change? As introduction changed the percentage of people report getting their drugs from friends or family , or from dealers or from prescribers? Has that changed with the advent? I don't have the data, but I think it's an interesting thing that would be important to be further studied. Presumably, they have been introduced as a mechanism to decrease access to substances unnecessarily from people going from provider to provider. It would be important to know if we have the intended effect. I don't have a data in front of me. I will maybe address one more, and then, I will pass it back. But the other question that came up is --for example, it's tied to this. Do we see a decline in opioid use --I mentioned it before. It is looked at prevalences of P.O.W.s. If you remember from a Todd Karli or, we have seen some moderate decreases and opioid use over the past couple of years overall, while overdose deaths have gone up, presumably, because the Fentanyl component. The question is, is part of the reason why we are seeing moderate decreases in opioid use is that we are getting more people on the thing. I would like to think that's the case but I don't have the data to support that association between the two. Certainly, in clinical taxes, I would say the more people you have, in time, on it, the less they are using illicit opioids. The less it would appear in the statistics that show we did opioid misuse, or illicit opioid use. With that, I will pass it back, -- great. Thanks much, Jeff. I appreciate you jumping back on. That concludes our panel session for now. With two more sessions for today. I just want to say huge thank you to both the presenters and the attendees. I know it's on day, thank you for hanging

in there. Our next session is at 4:45 Eastern time, and there will be one more live panel at 6:15 Eastern time. We will resume tomorrow morning with the final day of the review course but first thing in the morning at 9:15 a.m. It will go until 9:45. That is a study buddy networking event, we highly encourage people to take advantage of that. We will begin presentations again at 9:50, Aiken, Eastern standard time. Thank you so much, everyone.

[Event concluded] [Event Concluded]