Clinical Education Initiative
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STREET DRUGS AND HIV

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11/24/2014

Street Drugs and HIV

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- [Sharon] I'm Sharon Stancliff, medical director of the Harm Reduction Coalition. And I'm glad you're interested in the topic, "Street Drugs and HIV" because there's a lot out there. The clickers are mostly for fun. I just thought it might be interesting to find out who's thinking what in the audience. So it's not a quiz, yes- right or wrong answer, when we get to it.

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So I want to talk a little bit about- my phone is here not because I'm expecting more important calls than you guys, so I can keep track of time. So I want to talk a little bit about the interaction of street drugs and HIV medicines as much as we know about it. Understand not only the documented risks of substance use but a little bit about why do people use these drugs in the first place. Because we're always hearing the risks. But people get something from them. The effects of some common drugs and a couple of interventions a little bit. Now, overdose would be one of them. But I gave a talk on that last hour so I won't focus on that. If you're not scared of the front there's lots of room in the front.

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I find the most audiences don't need to know this but this is the first study in a long time that really looked at how many people they have HIV are using drugs. So this is multi-site adherence collaboration in HIV. They were looking adherence in 14 sites, 12 of them they looked at drug use in urban clinics up through 2009. So this was just published. So- and of 16 hundred people. Drugs, alcohol, or illicit drugs is about 60 percent. I don't think any of this will surprise anybody. 47 percent using alcohol. Actually only 2 percent using it daily surprised me a little bit. Illicit drug use- 38 percent using. And these are not mutually exclusive. Not surprisingly, cannabis is the most common of them. I'm kind of amazed that 2009 at 15 percent using heroin and 10 percent using cocaine seems a little bit more normal to me. And only 4 percent using other stimulants given the association we've seen between methamphetamine and HIV. But I actually can't remember the list of clinics. I don't know if they were really looking in the ones in California and other parts of the country. I think they were.

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So in addition to this is an ongoing thing that's been here throughout my whole career. We're having some changes now when we're prescribing controlled substances, we have to look at the prescription drug monitoring program. So we're finding out a little bit more about what our patients may be doing. And there's an awful lot of encouragement to check the urine toxicology of patients that are on pain medicines. People are finding stuff in there they weren't expecting: cocaine, marijuana, etc. So it's a whole new level of responses that we have to have. And some people are finding it incredibly stressful. They were just as happy not knowing. Others are finding it helpful. Well, in methadone programs looking at the prescription drug monitoring program people are like, "What am I supposed to do? I'm a doctor; I'm not a- I'm not a policeman," and trying to sort it out has been really challenging. Hopefully it will be for the better of the patients in the long term. As I talked about last session the legality of lay

administration of naloxone has been rapidly promoted, just as we have opiates changing from analgesics to heroin. And no matter which way it goes there will be some kind of medical marijuana in New York State I think, whether it's the governor's plan or Godfreys Bill. Anybody updates on that legislation? I haven't- I've just been looking at naloxone. So people will be seeing probably more marijuana use as well or become more aware of it.

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So my first question is just kind of curiosity and we can all see about each other. I don't know how to use- OK. Which of these drugs is most concern in your practice? Marijuana, prescription opioid/heroin, cocaine, methamphetamines, or other? And I hope I know what button to push is. Guess I'm not getting any feedback. Are people pushing buttons? May not be turned on properly. But maybe there's something that is to do. What? Well, we could do it by hand. I just thought people like to be anonymous. Oops, now I've totally lose it. But yeah well let's see what happens. Oh well. Let's- how many people- oh, it doesn't work. But that's, you know, it's OK. It's not vital to talk. But it's OK. I'd rather sort of go on with the talk. So marijuana- big question, big major concern? How about prescription opioids? Wow. Not surprising. Cocaine? And we've seen less cocaine around the country. And methamphetamine? Oh, it works now. Shoot. I don't know what to do. Now I can't seem to go ahead. OK. Go backwards so I should be able to go forwards. Somebody push a few buttons and see what happens. And it won't let them go forward. Okay, but I don't know how to- if you see that gentleman outside maybe he could- yeah I'm stuck.

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OK. I moved ahead. So hopefully it's not going to get stuck on the next one. So there's a few ways that drug use, substance use can impact the outcome of HIV. It can have an impact on the antiretroviral therapy, whether it be initiation, adherence, toxicities, or interactions. It may have a direct- it got stuck on the last one. I hope it doesn't get stuck when we get to the next one. It may have a direct impact on the immune system. We've seen some of that. And it certainly can have an impact on the general health, nutrition, comorbidities, and environment. So there is some kind of interplay and we can't look at everything but we'll look a little bit at some of these things.

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While some places like Johns Hopkins clinic has done a really great job at sort of regularizing who gets antiretroviral, used to be that there were racial differences, gender differences, and drug use differences, they've really pretty much made it pretty even across the board. But we're still seeing studies that find that people who use drugs or people- especially people who inject drugs are less likely to get antiretroviral therapy than nonusers. We don't know why- maybe they're less interested, maybe we're less interested in prescribing to them, maybe people are being realistic on one side or the other if you're cycling in and out of the local jail. That's a whole lot of breaks and adherence even when the jails are really good at providing medications. Patient choices- that's not clear but we are having reduced treatment of them and certainly they need to treat it both for themselves and for the public impact of treatment.

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Now I chose this old study specifically for a reason, not because my slides are outdated. Can they take antiretroviral therapy successfully? So this is from people that initiated care after 1995 when we had that the game changer of care, actually that the antiretroviral worked. And they compared people who inject drugs to non-injectors, who maybe a mix of people with no drug use, little drug use, or more cocaine use- crack cocaine. But I keep using this study because they looked at more variables and it's also when these regimes were hard to take. We didn't have any this one pill a day stuff. They were sometime around here that I don't understand the work.

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So what they found is that yes, the injection drug users had less success in suppressing long-term RNA suppression which at that point was less than 400 than did nonusers. But there wasn't a huge difference. I mean 43 percent is not so bad back then at all. So, and then this also translated into, did they get less opportunistic infections? Yes, indeed. So it had the clinical impact that we need on top of that. So there's lots more studies since then and they're actually not doing so many now. Can drug users take it? Because the answer is basically yes, it prevents- presents challenges. We know how to meet somewhere not so good at others. But I think, you know, we need to think about this kind of work we look at right now- what's happening with people that are converting to being hepatitis C positive that are currently using- there is a study out there that finds it to be cost-effective to treat early among users even if they have some common reinfection.

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There used to be tons of data out there. Does drug use impact HIV progression? Now these are sort of harder to look at now that we have good drug therapies. So again, these are more older studies. They find it all over the place. In the HERS study comparing injectors to former injectors to non-injectors, no difference in HIV declining diagnoses. And next when they compared drug use injectors to non-injectors to no drug use, in this study the injectors did progress more rapidly. Another study found that persistent crack users were more likely to progress to AIDS-defining illnesses than were nonusers. But none of them are huge effects. We certainly counsel our patients to get treatment to work on reducing their drug use. But we don't have as much control over that as we do whether or not they actually get the drugs in the first place.

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Drug interactions and I do my best to sort of pick up the literature and shake it to find out what's out there. There's not a lot. But do you find that patients will skip their medications and use drugs instead or alcohol instead? I certainly had plenty of patients that would tell me they would get their Dilantin in order to drink. And then I find- find people there's only really one study about it that I found- Sankar- but people are like, "Wow, well I'm going to use drugs but it's probably safer if I skip all of these medicines." I think it's fair to say about most of them, I can't be sure there's no interaction with the street drugs but it's probably safer to continue your HIV medicines even if you continue to use. We can't offer any guarantees because you can't say there's nothing out there. You can only find what's in the literature.

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Opioids are certainly synthetic with some sedatives which is one of the reasons we have so much overdose. Now with cocaine, there are actually no case reports that I've ever found of cocaine interacting with HIV medicines. And in fact, one- these are not HIV medicines- but two classes of drugs that have been used really extensively to see if they would reduce cocaine use, several classic antidepressants and anticonvulsants, none of which helped to control cocaine use. But none of them caused any problems, either. That was sort of an inadvertent look at it. Yeah? Really? OK. Is that publication in public Yeah, yeah, yeah. I mean, again I don't want to sound at all like I'm recommending people use cocaine but trying to find the safe balance there. But I will add that list. Disulfiram- Antabuse- does elevate levels and can elevate the adverse effects of cocaine. That being said there's a couple of studies where maybe it helps to decrease cocaine use. Propranolol has been sort of a yes/no, is it safe like cocaine or not? You know, probably propranolol shouldn't be your first choice. It does reduce primary sinus blood flow. And cocaine can lower levels of methadone. So that's a complicated interaction there.

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Cannabinoids may be synergistic with opioids to allow for reduced opioid dosing. So this is kind of important as I talk to doctors from around the state that say, "Well my patients are smoking marijuana and I see it in their urine. I will not treat them with opioids for their pain." And I can understand there might be reasons for that. But if the cannabis decreases the amount of opioid, it's complicated there. And I don't know what will happen with this. There will be a small number of patients on medical marijuana but just the 22 sites, I think. There seems small decreases in indinavir and nelfinavir but no increase in viral load. Certainly marijuana potentiate CNS depressants, may increase- I need to take the off one out of there- of theophylline but additive tachycardia and hypertension with stimulants and anticholinergics. I will come back to adherence in these later. Ritonavir may increase levels of amphetamines and ecstasy. These are basically case reports but people that are seeing a lot of methamphetamine tend to avoid the ritonavir in their- the regimes they're prescribing. And it may potentiate morphine.

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So people who use drugs do have some barriers to getting into treatment. Addiction is really a full time job for many people- getting the money, getting the heroin, using it, avoiding withdrawal- really can be very busy life. Cocaine- head into life in binges more often. But when I put people on buprenorphine, they will sometimes say, "First week- this is a miracle drug. I don't have use anymore." The second week just like, "What shall I do? I used to have all these challenges to meet every day. Now I have nothing." So not that we don't work on overcoming it but it's really busy out there. We already mentioned drug interactions, a lot of mistrust that's always been there between the medical profession and drug users. But really potentiated now with the demand for opioids that how many of people have that as a problem in their offices? Really, not so many- that's interesting. But there's always been a rocky relationship and I think part of it is because we don't learn much about it in our professional training schools and we didn't have that much time to use many drugs either before we got there. So we don't have a lot of information. The one- one rather conservative doctor said, "You know, it's too bad people

can't talk anymore." He's older than I. He was like, that, that "Residents could tell me about using ecstasy- I could tell them about when I used to use-" you know, it's gone now; I'm spacing it out. I didn't use too much of it. Quaalude- that's it. So it's true. It's very stigmatized to talk about.

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I'm sure you're all screening that it should be, you know, a neutral way of asking. I sort of changed from non-judgmental to neutral because we all have judgments about various things. But I think we can keep them under control to some extent in a neutralizing way. Mostly about the more common one starting for cigarettes moving onwards.

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But, you know, if people do admit to it and I don't think people often admit on the first visit- sometimes they do. But people, you know, you may need to build up some trust with people about it. People don't think they're going to get something positive, increased understanding of the reaction. They're always afraid, though I have no data on it, that people are going to treat them worse if they admit to drug use. And then they used to be told, "Go to drug treatment" rather than being able to say, "Well let's talk about her- here's some things we can do here." So if people don't admit to it the first time and then they admit to it later. It's not like they were really lying before- pressed the bell. And that it can be good to explore a little bit by asking if they see any problems with it which they may not. Do their family members around them see any problems with it, to begin the process of motivational interviewing which I won't go into here. Questions about the early part, or I'm going to kind of go into the specific drugs now.

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So marijuana as you probably know can be smoked; it can be baked into cookies, stirred into butter. I actually need to add vaporize. People are increasingly vaporizing marijuana now, which I don't know as much about as I should. But they are moving away from smoking, which of course carries its own dangers. We don't know enough about the vaporization but hopefully it's a little less irritating than smoking it. People do feel euphoric, relaxed, heightened senses. It does reduce nausea and some people like it as an appetite stimulant. Some people really don't like the munchies they get with it but it certainly does stimulate the appetite. Its metabolism is hydroxylation. Some involvement but not a lot of the CYP systems so hence we don't see a whole ton of interactions in that arena.

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It would have been better with the response system because maybe nobody wants to fess up. So for those of you that are willing to answer- if the bill passed tomorrow, how many of you that are prescribers will be willing to prescribe marijuana, and how many of those of you that were not prescribers would not? And how many are still thinking about it? Pretty evenly split. And I don't know how many prescribers we've got. But pretty evenly split among the people that voted. I find it really interesting to think about how to prescribe it. I mean, I'm not- I have certainly accepted that my patients smoke marijuana has some benefits from it. But how to prescribe it- maybe at the end if we have time you could mention how you would go about it. Yeah and hopefully the one I'm getting from Canada has

been fast tracked the nebulizer or the spray will be coming sooner because that seems to be a better replacement for marijuana than does Marinol. Do you have much luck with Marinol? All my patients that I prescribe Marinol to said either it doesn't work or they prefer to joint. Yeah. Yeah.

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So this is a long list but it's not horrible. Marijuana of course causes acute short term impairment or short term memory. It's not good to drive when you're on marijuana. It can cause really significant anxiety in some people. Chronic use is probably associated with some bronchitis from smoking- it's not when you eat the brownies. But smoking a lot can cause that. Some suggests in the literature of association with oral cancer but not really a lot. Nothing much in the literature is associated with lung cancer, albeit though most people that smoke marijuana, many of them also smoke cigarettes. Jamaica is sort of one place where you can find a lot of women that don't smoke cigarettes and smoke marijuana. So it's always kind of complicated.

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There is an association with the development of psychosis. It does not look like a causal but it does look like adolescent use of marijuana may bring on a psychosis sooner than would have been realized before. They're still looking at that. Be careful when you read what you're reading in the newspapers these days. It's so polarized- these people over here. Marijuana is completely harmless and don't do a thing and these people over here are, "You're going to die if you smoke marijuana." So, you know, reading the newspapers is- it's complicated. One thing that people should know is, there is a withdrawal syndrome associated with it. And a lot of people aren't quite aware of that. So the person who stops starts to feel anxious. They lose their appetite. They feel lousy. They're not sleeping. They may be thinking, "Wow, no wonder I smoke marijuana. It's horrible without it." They need to be reassured that this is going to get worse for the first couple of days and should begin to dissipate and disappear within a week or so. I imagine this affects people when they're applying for new jobs, actually. They're going to go in for urine testing. They suddenly need to stop using marijuana. What

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Recently I was asked to give a talk about why doctors should believe in decriminalizing marijuana. And I just want to show you these two sides from it. I focused on the rest. Both of these slides- and this is totally public information. I just didn't feel right about putting their names up anywhere so I put up little blobs on. This is a 24 year old young white woman in Augusta, Georgia. This is a 25 year old young black man in Augusta, Georgia. They've been arrested. They haven't been convicted. They have been arrested for marijuana and their pictures are going to be up on the web forever unless they, you know, they have those reputation fixers out there. But this is getting to be a major problem of people losing access to loans, to jobs because you can just google them and find, not even convictions, but arrests.

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So we're in the midst of this controversy about medical marijuana. It does have some proven value for sure. Moderate analgesic activity along the lines of low levels of opiates, particularly for HIV neuropathy. Definitely an antiemetic. Definitely, definitely an appetite stimulant, can help in reducing muscle

spasticity. And one study actually found that moderate amounts of marijuana were supportive in hepatitis C treatment retention back in the old days of interferon. A lot of marijuana use was not helpful. And- but they did better than people not using. So we do see some medicinal benefit of it. And, you know, maybe if that the thing goes ahead in New York with 20 centers they'll be some more research. Research has been incredibly hard because the National Institute of Drug Abuse hasn't really funded it. And when they do, you're supposed to use the marijuana from Mississippi which isn't very good. So I don't have a strong opinion either way but I think that we just need more data.

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No evidence of impact on HIV progression. Some studies find a bit of an impact on adherence. Others find no change in adherence. And we do know that some patients use marijuana to reduce their symptoms. Do you have patients that do that?

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Not much is known about synthetic cannabinoids and I can say this because I just went to a talk on it by the author of this paper. Basically they're plants that are sprayed with synthetic cannabinoids. You don't necessarily know what plant it is when you go down to buy Spice & K2. Some of them were supposed to be psychoactive. There's no quality control, of course because they're incense. Possibly more potent than THC. They do relieve the withdrawal symptoms people get when they stop smoking marijuana, though. There are a lot of case reports of anxiety, tachycardia, psychosis, metabolic disorders. Oh, I'm sorry- Spice is sold as incense in stores in various parts of the state. Anybody seen it in Rochester It's very common in New York City and it's being used- well I'll say why it's been used. But it's sold as incense. But everybody that's buying it knows that it's sprayed with some kind of a cannabinoid preparation, of which there are many that have been created and researched. So you can outlaw one and then the next one is not outlawed because the DEA and the FDA- DEA hasn't gotten around to it. So I'm really surprised that people aren't seen at all. I actually have time old-time heroin users in the East Harlem scene. These kids aren't spiced- they're crazy. K2 is another one that is sold that- it's called K2. And there're probably a whole bunch more of them. But one of the chief reasons people smoke it is that our urine tests don't keep up with it. So we see it in the military, we see it in when people leave their therapeutic community for a day. We see it among kids- they're getting tested. So it's given that we don't know a lot about it, this is qualified, yes. But I suspect it's worse than the real stuff.

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Little bit about cocaine. You know what, I gave a talk to a dentist the other day. It used to be sold for tooth aches and if you didn't have a corner pharmacy to buy it at, you could buy it through Sears and Roebuck catalog in the late 1800s.

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People sniff it, they smoke it, they shoot it for a very, very intense short lived euphoria, alertness- it's often associated with high sexual activity. You may begin to realize people are using when they've got a lot nasal irrigation, perforations, erratic behavior. When people really are using it a lot, weight loss is really common. People feel lousy when they stop if they've been using it, even if they just use it for an

evening they want more. But when they were using it continually the craving is as one of my patients put it, you want that next shot- you want it yesterday. So, because there's no physiological syndrome, it's hard to get people into detox. And it's true there's no medical thing you're doing. But now there's decreasing access to places for them to just get away for a little bit which may be helpful to some people.

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It's got more negative consequences than a number of other drugs. Short term agitation, psychosis, arrhythmias, myocardial ischemia with infarction, cerebral infarction- it can cause a deadly kind of hyperthermia where the temperature just goes up, up, up and they actually die of hypothermia, seizures. When I talk to patients about it though I don't focus so much on the deadly things. They may or may not know somebody that's died from cocaine but they certainly see the incredible impact of the financial ruin that goes with dependence- waking up every day and having no money in the pocket. So that's sort of the one I focus on a bit more if I'm trying to do motivational interviewing. Sexual dysfunction- it was like really fun at first but that can develop over time. And they have, you know, a long term effect of accelerated atherosclerosis but there's no documented interactions with any HIV med that I've ever seen, aside from what we've heard about in mice. But in terms of acute reaction, there is just not a whole lot out there that says, perhaps the HIV meds will be less effective that we're hearing. But there won't be a toxic reaction that we're aware of.

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Little bit about methamphetamine. It's a synthetic stimulant, which means that it can be made in labs. You don't have to ship it in from Bolivia. It's harder to buy the precursors in the United States now so it's most often shipped in from Mexico. It can be sniffed, injected, smoked, oral, and in some communities used rectally. The rectal mucosa's great at absorbing things but we don't use it that often. It's used for a longer term stimulant effect: euphoria appetite suppression, sexual enhancement. And sometimes it's simply used by people that are trying to work two jobs. I mean, I think in New York City and the sort of gay community it's used a lot for sex. But in much of the country, it's about using- working two jobs or losing weight. We've got a long history of women taking vary kinds of amphetamines for weight loss. Metabolism, as I mentioned, the CYP system.

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People look kind of like they're taking cocaine but they don't- it last- last a shorter time. Similar things- evidence of nasal perforation- I guess I did mention under cocaine. I'm always hearing about burns from smoking crack but I've never seen them. What about you all Yeah. Yeah. You see some? I just haven't seen that many of them. So there are safer crack kits which include a spark plug covered to protect the lips, and then a little bit of the stuff you scrub with- chore boy? A little of that to try to filter what you might be sucking in from the pipe. There's no evidence-based to go with them. But you know what? People want something when they come to see even a needle exchange. So when you got something to give, that can be a bit of a magnet as well.

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Similar negative consequences to cocaine- high risk sexual activity, hypertension, hyperthermia. Long term effects now, a few years ago we were hearing a lot about possible long term neurotoxicity with cognitive defects, possibly Parkinsonian syndromes with it. I haven't been- I'm not finding that much in the literature at this point. And it always kind of puzzled me because methamphetamine was incredibly popular in New York in the 60s and we haven't seen a long term epidemiological increase in these syndromes with that, nor same deal with the marijuana- that was very popular in the 60s and 70s and we didn't see a big increase in schizophrenia either. Still, I don't recommend using.

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Tolerance- it's interesting. Tolerance to euphorigenic- thank you- effects to feeling good does develop so people need more or maybe they just can't get there again. But the tolerance actually has a bit of a cardiovascular protective effect that they're a little less susceptible. Fun fact- not very useful that it's kind of interesting. Withdrawal is like that with cocaine- overwhelming craving, no particular physiological syndrome. So we don't, you know, we have a variety of things that we try to offer but there's not a cookbook to help somebody through the withdrawal. And again, there's not that many places for people to go.

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It's fine to refer people to treatment. But so far unlike opioids, we have no effective pharmacological agent shown to be effective for stimulants. People are using a bit of stimulants on a maintenance basis. Those are proving to be perhaps helpful. But I've been disappointed in these studies coming out. Psychosocial treatment helps some people but not everybody. And unlike some of the guidance we get that everybody needs treatment, some people stop on their own. But some people really have a hard time with it and we need to realize that it's not always our patients that fails treatment. It can be that treatment that fails the patient. I mean, I've certainly seen some people that it's just a huge struggle. The only time they ever feel good is when they're taking cocaine. Sending them back to treatment doesn't necessarily help a lot. But the other thing I've observed as medical director of the methadone clinic I would see people that every year for six years you know had cocaine in it, and suddenly it would stop, once you have been along. And I would ask why and they'd say I got tired. And I'd be like, "How can I put that in a bottle for the next person?" And they're like, "I don't know." But you know, I just- there's a level of sympathy we need to have. You know, if people have an opioid problem we've got great medicine. But the stimulants, even with alcohol, you know.

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What does this? Meth mouth. So we saw a lot of this in the literature. Certainly methamphetamine does cause bruxism. It cause poor oral hygiene. It causes a dry mouth, so it can lead to damage, but it doesn't have to. This is somebody that shot an awful lot of methamphetamine. But he liked to floss his teeth and brush his teeth. Now if you were dental staff, you would see the signs of the grinding there- the bruxism. But I just like to throw that out there that it's not necessarily just the drugs. It's the lifestyle that goes with it. And this person had a lifestyle that was more suited to it. He wasn't rich.

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Have you heard about bath salts? OK so that's more popular up here than spice? Yeah, again we don't have that much data. So there's these things that are called bath salts. You're supposed to take a bath with them, not sniff them. And then there's various kinds of plant food that people know are essentially have an effect like amphetamine. What would make somebody think to do this? That's a really good question. You know, there are sites out there, like I don't know about the manufacturer when they figured it out or somebody figured out and then the manufacturer sold more. But if you ever looked at blue light, blue light is a site where people share information about drug use. So they share a lot of harm reduction information. They share information that maybe you'd rather have a 15 year old not know. But it's out there and it can be a really interesting site to learn new stuff. What? Uh, let's see. I think it's- b-l-u- and then light- l-i-g-h-t. And it's- it's an interesting site. So that one is very, very, quickly changing. There's another one called Erowid which is really quality control that has a lot of information, too. Erowid- e-r-o-w-i-d dot probably org. I can't remember if blulight's dot org or dot com. But I'd find that people in DEA are reading Erowid to get the real information. I mean, that one is rather quality site. Blulight is back and, you know, just people talking. So anyway, people sniff it, sometimes they inject it, and they get an effect like methamphetamine and who knows what's actually in there. So- and people are finding this is easier to access. Again, it's harder in the urine toxicology. The urine toxicology companies can't really keep up with it. Before I go on to opioids, any other questions, thoughts, things you want to share about what you're seeing and your practices? Yep. Yep. I mean we all like to feel different at some point. Yep. But they get it that people like and they can get access to it. But people- people like to feel different and we don't offer much guidance on that. I mean I feel different if I go to have a talk, I forget all that fact that this and the other thing in my life are bad, but other people get that through drugs. And we even see that animals like to. I imagine they dissolve in the tub in some way or another but they're just basically being sold as bath salts and who they think. So I shouldn't snort my-? No. Yeah. But overall we're seeing more and more chemicals being used to get high that don't show up in the urine toxicologies. And DEA is running as fast as they can to catch up to them to ban them. But I think it's really hard at this point. Everybody's a chemist. So, you know, it's got to figure out some way to deal with this differently I think.

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So back to the 1800s, this is Mrs. Winslow with her two babies who she gives this soothing syrup with morphine for their teething. It did not get the good housekeeping seal of approval back then. That's actually very real. But Mrs. Winslow probably liked it a lot too. She was sort of the face of the typical opioid dependent person then- white, middle class women. And then we had a whole lot of changes in drug laws and it keeps shifting.

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So I'm going to treat heroin and prescription drugs as one and the same pretty much; there's a few differences out there. But they all can be used nasally, injected, smoked- not all prescription ones can be smoked and probably nobody swallows heroin, although it makes a nice cough syrup. But all the opiates are great, but methadone's birth- I mean heroin's birth was as cough syrup. I don't have the slide of that that it's like, take aspirin for your fever and heroin for your cough. Oh, you have patients that swallow

heroin? Huh? OK. Because that- oh, oh you mean to transport it. Oh, I mean they don't swallow it to get high because it's very, you know, it just- it's not very- but, yeah. The people that are swallowing it to avoid it, carrying them on airplanes. Yeah. So it causes a very serene kind of euphoria, reduces pain very effectively. But eventually most people using heroin use it to avoid withdrawal. Their tolerance goes so high, they need a lot to get high and they're just always trying to stave off withdrawal. So it's not a very fun life. Heroin has a pretty straightforward metabolism; I won't go into the interactions of methadone. Methadone is the most complicated of the opioids but even when you're HIV clinics you can manage that. All the interactions are really powerful.

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Tolerance develops more quickly to the euphorigenic effects- euphoric effects of heroin than to the analgesic effects. So that's why we see much more rapid escalation in the street use than in the use that we have for pain. Actually, the- the tolerance to the respiratory depressive effects lag a little bit behind the pansy tolerance or the pain effects so that's something to keep in mind when in increasing doses out there. I think you all sort of know the withdrawal. Yawning, runny nose, aggressive diarrhea, hypertension, fever, incredible anxiety and a sense of doom. So people either feel like they're going to die or wish they would. Not life threatening unless there's an underlying condition.

00:40:24

Just real quick we're seeing this huge increase up to 2010 and people dying of opioid analgesics- you've already heard this part.

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We're seeing a pretty rapid switch over to heroin in many, many parts of the country right now.

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What about HIV providers? How much of a problem for this is? This is looking at Kaiser Permanente and Group Health over the years among HIV and HIV uninfected patients. Of HIV prescribe- HIV providers were already prescribing more opioids than the uninfected. But you don't see the incredible increase along the prescribers there. So you know, you're in on this but it's not such a big change. The associations for HIV positive are female, history of injection drug use, and the higher comorbidities score.

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I mean I certainly used to have people when I was in the more HIV- when I was doing HIV, people that probably should have been on methadone but I just sort of managed them and it seemed to work out. So I was prescribing buprenorphine. Yay. Anybody able to do so? How many nurse practitioners and PAs here would do it if they could? I don't know if I have nurse practitioners or PAs. And some of you not registered that could? I won't make you raise your hands. How many of you are thinking, "What's buprenorphine?" We'll come back to what buprenorphine is in a couple minutes.

00:42:02

Negative consequences of opiates. You know, long term use is relatively safe compared to basically all the other drugs I'm been talking about. But it does cause dependence. If misused or used by mistake it causes respiratory depression and death. We've seen a huge amount of injection related illness related to it. Impurities can get in there, whether it's rat poison or extra fentanyl can be a problem. Now for the most part, dealers don't want to kill their customers. That's kind of dumb. But stuff does happen. If we don't know what leads to some people relapsing over and over again and others not, if everybody in this room took opiates for a week on around the clock we'd all get dependent. Most of us would be able to stop and just go on with life. There're probably one or two that would have a long-term problem. What's that about? Probably some genetic predisposition coupled with environmental factors. We don't know it very well.

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Just briefly, because I already mentioned in the last one- people with HIV are more prone to overdose, probably because of things like liver disease that's associated especially in hepatitis C, and structural things in communities that they come from and live in.

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So this is one set of drugs that we really have reasonably good treatment for. With agonist maintenance treatment, methadone is one of them. So methadone is a long-acting, full agonist opioid that we've been using for about 40 years; give it to somebody every day. And buprenorphine is a newer one. Now it's a complicated drug because it's a partial agonist. The key point there is somebody has to be in withdrawal to start it. And also it's really much harder to overdose on. It can be done especially in children but it's harder. So we've got these that can be used for either detoxification- take somebody from heroin and give them these meds till they stop, I mean until they're off, or more likely and more successfully for longer term maintenance because the likelihood of relapse is very high. Anybody using naltrexone? Naltrexone is a newer medication- well it's an old medication. If you take it once a day it will block the effects of heroin- other opioids you can't take. You just won't feel it. Now we- nobody liked it. In fact, incidents of overdose when people were on that was higher because they would skip it and overdose with no tolerance. Now we have an implantable one that last a month. We don't really have any good long term studies on it. We don't know what happens when people don't come back after a month. We don't have data that suggests that it reduces the risk of HIV. Hopefully it does some of those things but we really don't have the data yet.

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So in terms of whether we're talking about methadone or the buprenorphine, now just for the benefit of the people that don't know about buprenorphine, methadone essentially can only be delivered in very regulated clinics. You have some in Rochester. Anybody know how long the waiting list is? OK, so they're able to keep taking. Some parts of the state, the waiting list can be six months. Buprenorphine can be brought, prescribed by any physician who takes an eight hour course qualifying him or her and then there is a limit on the number of patients they can have. And they know that in Rochester it's hard to get buprenorphine. One doctor I talked to, takes people out of detox and puts people on buprenorphine

with the goal of moving them onto- to other providers in this community. If they smoke marijuana you can't find other providers that will take them. You know, we're talking about a deadly disorder of opioid dependence that could lead to overdose. So I find that to be a bit disturbing.

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But the goals of maintenance- this is the most effective treatment there is. People on maintenance- most of the data based on methadone but increasingly for buprenorphine are three to six times less likely to become HIV infected. Because even if they continue to inject they can wait until they get a clean needle, even if they continue to trade sex for drugs or for money, they can wait until they've got somebody that's going to use a condom. The other thing is that they give up those things very, very often. Far less likely to be hospitalized HIV infected or not, especially with HIV-infected, they get to the clinics more regularly. Their life is less chaotic. And they're more likely to access HIV medications. Some studies suggest higher adherence. That's probably the case but there's only one really small study on that that I've seen.

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So what are the goals? You want to prevent drug withdrawal. You have to be in a little bit of withdraw to start buprenorphine. But once you start one of these medications you theoretically should never have to through severe withdrawal again. Reality is that there's lots of places where you can be taken off them, like the correctional system, which is a problem- not to pick on you guys; I think you guys didn't do it. If people take other opiates on top of them, especially buprenorphine, it will block the effects so it's like, you know my patient comes in and said, "Well doc, you know, I try buy some heroin; I tried to use it. It was really a waste of money." So, you know, a little negative reinforcement there. But primarily it block- blocks the craving or the intense urge to use that many people that have developed an opioid dependence have for years. So that's really the key there. So it reduces the harms of illicit opioid use. Some people call it, "Well it's just a substitution." So is insulin. And some people think that maybe there is a defect in our- the endogenous opioids system of people that really keep going back to it. So maybe it's physiological substitution. Again, not solid data on that but it makes sense.

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So as I said, methadone is maintenance in the highly licensed clinics. It also reduces the risk of overdose by 80 percent. People that take an opiate every day don't lose their tolerance to other opioids but they do use on top. And gain, a lot of them to stop taking other opiates- it's hard to get enough to get high. It's really hard to get enough to overcome the tolerances there. Buprenorphine- we actually have really good data on that one too especially from Baltimore. So giving an opioid every day helps people avoid overdose. That's interesting. But we- you know, this is the kind of thing that we need to think about in addition to naloxone and the prisons is in Baltimore; they've done some studies of starting people on methadone or buprenorphine just as they're exiting the prison, so that they don't go out in the community and relapse. That have been looking pretty successful. I personally think it should be within the prisons because it's a real medicine and, you know, it- it doesn't feel like a real medicine to people when they say, "Well you don't need it when you're in the prison system." I realize it prevent- it presents huge challenges. In Australia it's used in the prison and I have a friend who's a nurse that used to deliver

it and it's a big deal because everybody that's not on it wants it. So it's challenging but it's the right medicine.

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People even there wanted the naltrexone. She couldn't figure that out. So buprenorphine is sublingual- not a big deal. It can be prescribed by anybody that chooses to get the qualifications that physician assistants and nurse practitioner are not allowed to be qualified to do it by order of Congress. No good reason. They can prescribe all the OxyContin they want, but not medication for it. And it's probably as effective as methadone in reducing use in risky behaviors. It's only been licensed in this country for 12 years and methadone's been around since the 60s.

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I want to end, although I only have one person, and don't have a lot of people in the audience that are thinking about it. But in kind of bringing this up in various settings, we have this guidance that came out before the drug- or just as the drug was available. And the guidance suggests that if our patients continue to use other drugs while they are on the buprenorphine, we should move them to another level of care, that, you know, we shouldn't keep them, and the guidance even says, after six weeks, they use other drugs. It also suggests that if they absolutely must have counseling and if they don't, again, it's fair to dismiss them from care. Given what we're seeing now with the influx of more and more opiates, I think it's time that we look back at the literature. The literature says that counseling is great but it's not a necessary component of it that many people do very well without counseling. And the literature doesn't- well there's not a lot of literature but there is literature. And from Scandinavia that saying, people on methadone or buprenorphine that continue to inject drugs are less likely to have overdoses, fatal overdoses, criminal behaviors, shared needles. So I think it's time that we somehow step back and relook at it. What do you think? You're my fellow prescriber. Yeah, I can understand that but you know, more frequent visits, and yeah. But the other thing is I do not condone diversion and I try not to have that happen among my patients. But if anybody's gonna find an opiate on the street, guess which one I'd rather they find. And heroin's ten dollars a bag. Right. So that's- yeah. Oh. Ha. Oh right. Yeah I mean, Suboxone is pretty easy- you can find up on the street to treat yourself with. And it's very straightforward. I guess, I'm kind of referring to the idea of the methadone clinic counseling- drug counseling has always been a required part of that. And so that was sort of where buprenorphine went. And even in trials where you're getting really- nothing against methadone programs, I was medical director of one- but you don't have to have a lot of qualifications to become a counselor there. In studies of buprenorphine where they've had much more qualified counselors, they just didn't find a lot of difference in the people that got counseling and the ones that just saw the physician. That being said, I in my pilot study didn't require counseling at all. And most of my patients eventually- well, some of them thought I was counseling them, which you know, I'm a family practitioner so that's true a little bit- but many of my patients took themselves to counseling after they've sort of stabilized and began to realize like, "What do I do with all my time?" So I think there's many psychosocial treatments that are should- can be part of this but I don't know that we have a one size fits all. I mean I understand wanting to offer comprehensive care but I also know that when people are not able to be treated with Suboxone or methadone, their risk of death is pretty high. And so I think it's time to sort of relook at the priorities

that we've got about that. Yeah, yeah. And I think that counseling should be available to people. As I say, my patients- most of them, especially my really young kids that wouldn't go near the place, not young, over 18- but that's- that wouldn't go to the places offering adolescent treatment, I got them started on this just sort of low threshold thing at a youth agency. So they always had a place to go if they wanted to. Not necessarily to sleep but a place to hang out during the day. But even a lot of them ended up in much more traditional programs after they decided where they wanted to go. They also say, "You can't- you're not going to tell my parents, are you?" I was like, "No I can't. That would be illegal." Dad recalls, "I just found your name on a bottle of something called Suboxone on the kitchen counter. What is it? So all these little ambivalence about whether or not they want to tell their parents. But yeah, I mean I think it's great to offer the comprehensive package but I think we're looking at something deadly so we need to look beyond it to a lower threshold model a little bit. Anyway, I kind of figured I might be able to make a few people mad at me.

00:55:01

I'm pretty much to my side. We have five minutes. Questions, comments

00:55:13

Actually can I just say one more thing? I just want to make sure that because we mentioned that this morning, but this is where hepatitis C is going in this country at this point, many parts of it. That's the baby boomers in 2002. That's all of us going with their- our hepatitis C. This is Massachusetts in 2011. These are the 20 somethings that are being infected and we're seeing this all over the country. So don't forget to talk with your patients about where to get clean needles. There is a needle exchange at Trillium, but also pharmacies. It's very disturbing. All right. Now questions and few slides later, here we go.

00:55:59

Yeah, I mean some of the data is really skewed by the fact that drug company did it. But if you have adequate doses of methadone, adequate doses of Suboxone, retention appears to be a bit higher on methadone. And that's because the withdrawal is much more- I mean, my guess, one reason would be is because the withdrawal is more intense with the methadone. Suboxone doesn't suit some people and methadone doesn't suit some people. I'm told that in Australia where the administrative requirements for each are the same, people go back and forth and it sort of settles about 50 percent over here and 50 percent over there. But I think I have some guesses as to why some people do better with others but we really don't know. At first we were saying people that have a low level habit with- with prescription opioids, you get Suboxone and then the other ones should get methadone. That really hasn't been borne out. I've had people with major problem- major, major habits that didn't do well on methadone do really well in buprenorphine.

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Are there data about the use of poppers within Correction? Anybody know? I don't know. I mean that's kind of hard to get data on anything used illicitly in corrections, isn't it? Anyway I think session time is up. I'm happy to answer a few questions. I've got two minutes left. Questions

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The question is, if Suboxone has a ceiling effect at 16 milligrams, how come you can prescribe up to 32? There are some studies showing that retention is higher in the 32, maybe because they can go sell it- I don't know. But that they have better retention which is what we want ultimately. But there's also one study and I have had the clinical experience that people on higher doses of buprenorphine do better with their alcohol problem too. Now I know some people say, "Well alcohol would increase the risk of overdose." But I've had a couple patients that had alcohol problems that do much better at 24 to 32. In fact, one when decreased to 24 went back to drinking. And I have one patient who says, "You know, I used to really like wine with dinner but I just can't drink alcohol at all anymore." Yeah. And yeah I don't think we know all about all the receptors that buprenorphine has. There's a lot of questions still out there, I think.

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You know, with methadone, we found that people that went to methadone, 80 to 90 percent relapse when they leave. But maybe that was because most people that go to methadone have already a really long term habit. It's not like somebody who goes there after six months. But this study where I got the counseling data from, two was on people that were prescription opiate users in several different ages and places. Most of them had very little heroin use so they did a study with two arms. One was I think, it was a four-week study of onto the Suboxone, buprenorphine whatever, stabilized for a couple of weeks and then get off. All that like 5 percent of them relapsed. So they were- they were able to go into the second arm of the study which was a longer stabilization period and then detox. But about 90 percent of those people relapse to it. It's really not good news. I mean, I really- certainly I know people that have done really well after a long term opiate problem for many years. Some of them eventually relapse, some don't. But we need to be considering it is certainly a viable long term treatment for a lot of people and make it again easier somehow. And I have it- it was a consult that recommended Kaiser but I haven't been for a number of years, actually just-. So I had no commercial interest in saying that at all. I won't even do it anymore because now there's competition.

01:00:09

So yeah. I mean, I think all my patients which I just have a small number, all think they're on a long, long term detox except for a couple that have learned lessons the hard way. So I don't argue with it. It's like fine, keep coming. Let me know.