Webinar transcript: Acute and Chronic Disease Management in People with Substance Use Disorder

Dr. Alysse Wurcel, September 2018. Updated October 10, 2018. Contact the Montana Asthma Control Program at asthmainfo@mt.gov for more information.

Montana Asthma Control Program (MACP) Host: Just as a reminder, this presentation is being recorded. Staying on the line implies your consent in participating in that recording. Thank you guys so much for being here and Alysse, if you're ready, go ahead and take it away.

Dr. Alysse Wurcel: Okay, can you hear me?

MACP Host: Sure can.

Dr. Wurcel: Okay great, so, hello everyone, I hope you're doing well, my name is Alysse Wurcel and I'm in Boston, Massachusetts. I have never been to Montana but I'm ready for an invite if anyone wants to take me on. I have two little kids. Today I'm going to present to you about acute and chronic disease management and people with substance use disorder and I really look forward to any questions that you might have. I really want to make this interactive. Okay, so I do have some funding, but I do not have any direct funding from pharmaceutical companies, and that's always important.

So, now I'm going to start out with this Scrabble board, which I'm very proud of, my husband and I, we went to Mexico and we decided to play Scrabble, I had like four bingos, which means I used all seven letters and I was very proud about it, but the whole purpose of this is to get you in the setting or the mindset of thinking about games and games that people play, because that's how I'm going to keep you engaged for this talk and keep you interested. So, there's this game I used to play when I was little, it's called Kerplunk, and I'm going to use this. I don't mean to be insensitive and suggest that anyone who's in the throes of opioid use disorder that it's a toy or a game or something laughable, but just as a way to frame our discussion.

So, this is Katie, she's a real life person her name is actually not Katie but she's 33 years old and she lives in Cambridge with her mom, so that's kind of one of the suburbs outside of Boston. Her mom has substance use disorder. Katie and her mom together use heroin and cocaine, she has two kids but they're both actually staying with relatives, and she came into the hospital with some fevers and some shortness of breath and we diagnosed her with her an infection on her heart in May of 2017. So we got the surgeons to do a heart valve repair and then she was started on methadone, and she said she was not interested in buprenorphine, which is one of the medications that we have to treat opioid use disorder, and she said, I could just sell it, I know I'm just going to sell it, so I don't want it.

She was actually sent out to a rehabilitation facility for medical care, not a rehabilitation like a drug rehab, and she did well in the rehab but she was sent out with methadone and instructions to see a methadone clinic. When she showed up, first of all, the prescription was written incorrectly, so she could not get methadone for four days, but once she did she put it in her safe, but her mom took them, she called police and filed a report on her mom, and then moved in with a mom of her ex-boyfriend...all

of these things just are trying to show you that the lives of people with substance use disorder are quite chaotic. Even when we try to make a plan for people that sometimes does not work out.

Then she finally got to the methadone center, this actually happens quite a bit, the methadone center said that her EKG was not appropriate for methadone so she couldn't be on it. These have hooked her into a primary care doctor, we used dilaudid to slowly to taper her off meds, she had this newfound intense religious interest that was quite powerful and a good force in her life. Finally, we actually got her on buprenorphine and actually treated her Hep C, so I've got rid of her hepatitis C, which is one of those infections that we think about as being syndemic or going along with opioid use disorder, and then one month after that, after the Hep C is gone, she sort of walked out of a CVS and someone offered her free dope, which is actually quite common, and good advertisement if you can think about trying to get someone hooked on into becoming a repeat customer, so she came in and she had endocarditis again and then she got her aortic valve replaced, so we're talking about two valves replaced now and then she comes back again afterwards and there was something that her roommate brought her, she brought her some clothes and she had a fentanyl patch in the clothes, she eventually was caught shooting fentanyl into her PICC line and multiple times trying to get her back in, but basically third time in December she came in with prosthetic valve endocarditis.

The goal of that is just to say this is a young woman who over eight months had two valve operations and three episodes of endocarditis, and watching her go through this I saw that I really didn't have any control of the situation. I could try to have control, there are a lot of other people that could try to have control, and so I used this New Yorker cartoon just to really demonstrate that I just needed a few minutes with the Auto sensor to regain my illusion of control, because there were so many things going on and it really felt hard. Opioid use disorder, drug use disorder, it's not new to us as humans, this is actually a really interesting pictorial representation of someone with what they call the drug terror. I sometimes make the joke that you never know if this is the patient or the provider who's taking care of the person with drug use disorder, because obviously the patient's in a lot of pain, but as the provider taking care of this patient sometimes we can get quite frustrated as well.

The goal of this talk is to really review some of the accepted terminology of substance use disorder, highlight infections in people who use drugs, I will touch upon some pulmonary specific complications because I know that's where you alll have your area of interest, and then I'm going to actually talk about some evidence for treating substance use disorder.

The words that we use are important, and I want to encourage you to use the right words for this population, so I have words that you can use. Our people who inject drugs are people who use drugs, substance use disorder, opioid use disorder, addiction is sort of an acceptable term and medication assisted treatment is a little...it's an appropriate term for now, although some people say why can't we just call it medication, because that's what it is, it's not medication assisted treatment but we're actually giving someone medication. There are some words that still hang out and I think a lot of us are trying to get rid of them. I know people can often refer to themselves at as an addict but in doing that they, it is a derogatory term, they could be owning it, but I try to avoid it. The term abuse, substance abuse, or that they have a habit. We use clean and dirty to talk about urines a lot, but you can imagine that, you know, we, it really kind of makes the person appear dirty, if they have a dirty urine, and then this idea of poly substance abuse or poly substance, you know, someone who drinks alcohol and does meth is not the

same person who smokes marijuana and does heroin, they're two different people doing two different drugs, so I actually like to identify people by the drugs that they're using.

So what do we do with these drugs? I found this this great quote. "A prerequisite for dealing rationally with a threat posed by any drug must be a well-informed view of the nature of the beast, and the question is whether crack, the Beast in question, is a toy poodle, a tiger, or some beast in between." That's actually from 1989, and so doctors have been struggling with how to help people with opioid use disorder, substance use disorder, for a long time. Let's just talk a little bit about the actual drugs that are most prevalent, although there's this, not all of the drugs by any means are opioids, you can never go wrong with using the word opioids. Opioids encompasses everything, but if you use the word opiate you're not talking about everything, because the opiates have to actually come from the poppy plants, whereas the opioid is, it can be anything like a semi or a fully synthetic, so opioids are usually the safe word to use. Methamphetamines or meth or cocaine, crack is also known as freebase cocaine, benzos which sometimes people refer to as pins or zani bars, and gabapentin which are known on the street as Johnny's, so people have their own words abusing them and actually knowing these words can really get a better rapport with the people, with patients who have these illnesses.

So, let's talk about infections in people who use drugs. Really interestingly, back in 1944 the most common illness in people who use drugs was malaria, and malaria in New York City was being passed through people who were injecting and sharing blood, so what they did at the time is they actually started cutting the cocaine and heroin with quinine which kills malaria, and that got rid of this epidemic of malaria in people who use drugs. But, I just wanted to give us some historical perspective on where we were in 1944 and where we are now. So, infections in people who use drugs. Skin and soft-tissue infections are the most common, and then you have these disseminated infections, which are like infections when the cellulitis of the skin goes to the bones or the heart, HIV virus and I know in Montana actually similar to us and in Massachusetts you have an HIV outbreak related potentially to reusing needles, Hep C, sexually transmitted diseases are linked to people who use drugs because sex work or exchange sex is quite common in people who use drugs and they can't negotiate safe sex, and then tuberculosis often goes in communities with homelessness. So, those are how that works.

Okay, so basically you start with the injection of the drug and then it usually starts as a skin and soft-tissue infection, but it can actually just go into the blood and then it could either go to the bones or it can go to the heart, and then from the heart can go to the lungs and, especially for our lung crowd out there, especially if you're seeing people, these are what septic emboli look like, they look kind of like fluffy cotton balls in the lungs, they're usually out towards the periphery of the lungs and sometimes they have cavitation, so you can see in this one there's like a little cavity there, so this is just how often our skin and soft-tissue infections—unfortunately, Montana is not represented in this, however you have some people like in Denver, which might be your closest example of your experience, but this is the prevalence of skin and soft-tissue infections and you can see up to, you know, in San Francisco, 75 or 70 percent of people during their lifetime have said that they've had a skin and soft-tissue infection of cellulitis or an abscess. In Boston we did this and we actually published this stuff recently, and we found that about 40% of our young injection drug users, so we classify them as under 40 years old, had a skin and soft-tissue infection. So, it's highly prevalent.

An important thing to consider is, in Detroit and actually in the western part of America, the type of heroin being used is sometimes black tar heroin. It's much muckier, it causes skin and soft tissues

infections more often than in Boston or in the Northeast where we have China white heroin. Skin and soft tissue infections can result from the local trauma to the skin, introduction of the bacteria when the needle enters the skin, the sharing of sterile equipment, injecting contaminated drugs, or even the local effects of the illicit drugs. So, in injecting cocaine there's a vasoconstriction of the vessels that limits the body's ability to fight off infection, and that's why sometimes you see it, if people are injecting cocaine, cleaning the skin with alcohol before using is associated with a decreased risk of skin and soft-tissue infections. I think that's a huge take home, if you talk to someone who uses drugs, to tell them to wash their hands before they inject.

Then there's certain drugs that are linked, like a speedball, which is cocaine and heroin, and snowball, which I think is methadone and heroin, and then as I mentioned before black tar heroin. There are certain things that happen that people do that can increase their risk, like licking a needle, using a non-antecubital, so not in the kind of, crease of the elbow, and skin popping, which is the injection underneath the skin that sometimes people do when they can't find a vein.

Self-treatment in people who inject drugs is incredibly common. In Washington, DC in 2004 they interviewed and found that 94% of people who had abscesses would lancet or would, you know, deal with their own abscesses so that they did not have to see a clinician. Even in San Francisco in 2000 they bought antibiotics on the street or used antibiotics on the street, all of this because a lot of people who use drugs have had very negative interactions with people in hospitals and clinics. These are the most common causes of infection staph aureus, MRSA, and then streptococcal species by far. The other ones are a little, are exciting but they're not that common, severe Clostridium and gram-negative.

Just a little side note on needle licking, I actually asked all of my patients about needle licking. It's a way to actually invoke harm-reduction. About 1/2 of people who use drugs actually say that they do lick the needle and questions well why do you lick the needle, because they clean the needle, they feel like it's actually cleaning the needle, if they enjoy the taste of the drug, to make sure that the drug is satisfactory, or that the needle is not too blunt, and these are things that you can actually offer and say hey instead of licking the needle maybe think about another way of working on these things.

So, just moving along with my toy theme, bone and joint infections are quite common, and it's also related to where people inject, so you can see in this you have about 33% are in the extremities when they have a bone and joint infection, and so where people are injecting is going to be related to where they get the bone and joint infections. Interestingly this study only saw about 3% vertebral but I actually think the rates are much higher, especially what we're seeing now.

So, endocarditis is by far the most dreaded complication of injection drug use and there was just an article out in Colorado like last week that many of the major press about this, but this is a study I did showing that the rates of endocarditis in people who inject drugs are going up, and this study stopped in 2013 but since that time it has continued to skyrocket, and the reasons why it's skyrocketing we don't really know. You'll notice something happened between 2008 where things were going down in 2010 and most of us think it was actually a crackdown on drugs prescribed by doctors, so people who were able to live on pills had to actually move to heroin which had a higher risk of causing infections, so the percentage of infective endocarditis cases that were from drug use actually increased from 7% to 12%, and in places like Kentucky and North Carolina and even Boston are seeing rates of about 30 to 40 percent and I have a feeling Montana is not much different.

The hard part about the valve repair situation, well you need a valve often when you can't get rid of the infection, and so this is stunt work done at Boston where it also showed that in 2014 30% of the valve repairs that were being done for people with endocarditis were related to injection drug use and again, you can see actually, interestingly, this one and this one have the same drop and the same sort of peaks making me again think that the drop was actually potentially related to, the peak was related to less people being able to get pills and having to switch to heroin or fentanyl or injection drugs rather than pills, so that's what a lot of us think.

This was a really great story, it's from this guy in Boston, you can see his Celtics t-shirt, and there's been a lot of debate about whether surgeons should offer valves to people who have a history of drug use and there's less debate about the first valve but then once someone gets to the second or third valve we've seen surgeons say you know this is futile and try to come up with plans, and I'm going try to stay out of that ethical debate, you can probably guess what side I come on, but one thing that I want to point out is there was a surgeon from Boston who wrote that contracts are an important thing we should use with people who use drugs to improve outcomes, and I'm very much against this idea of contracts.

You can imagine if someone's sitting in a bed and the surgeon comes to them and says well I'll give you a new heart valve if you sign this contract that you're not going to use drugs. Well, any of us would say, well I don't want to die, and I, actually most people who are sitting in that bed don't want to use drugs anymore, so they're going to sign it, but that contract doesn't hold up in that person's mind when they're out potentially with untreated substance use disorder, that contract doesn't mean anything. The surgeon can sometimes say well, you signed a contract, so I'm not going to replace your valve, but I think we have to push back. This is a statement I wrote, that, instead of contracting with patients to compel them to avoid injection drug use, a more useful contract is between surgeons and other inpatient clinicians, with medical psychiatric and substance use related services outside the hospital, to assist patients with the transition from inpatient to post hospitalization care.

So, treating infections can be really challenging because often we, as an infectious diseases doctor I say that they need to have IV antibiotics, but then they place an intravenous line and people have to often stay in the hospital, and there are risks often that if they leave the hospital with this intravenous line that they're going to inject it. I have to say I know I've presented a patient who did that, but that's not every case, it's not every case of a person who's going to use their intravenous line. So, I am still supportive of the right person going home, especially if people have substance use disorder treatment.

Just a little comment about non-infectious complications. So, I actually just saw a patient, this is not the patient I saw last week, but I saw a patient in the hospital last week with something very similar. Levamisole is an anthelmintic drug that was developed to give in the veterinary world to cats and dogs to prevent them from getting worms. It's white and it's a powder, it looks very similar to either heroin or cocaine, and so at least in the North East a lot of our cocaine is cut with levamisole to make it look bulkier. Some people even enjoy doing cocaine with levamisole because it can potentiate the effect of the cocaine. But, when someone comes in with something that looks like an infection, sometimes it's not infection, so we have to be careful that we don't always assume that this is infection. Levamisole cocaine can cause these ulcers and cause other interesting syndromes as well.

Okay, now on to what you all think about a lot, which is the pulmonary manifestations of drug use. So, I just, again I love historical, to give some historical perspective, but actually methamphetamines were

used at some point to actually treat diseases of the lower respiratory tract. For those of you respiratory therapists, and you could probably educate me on the pathophysiology or the or the mechanism of why that would happen, but no longer. So, pulmonary manifestations of drug use can include a crack-induced or an acute asthma exacerbation that's a local area defect. It's actually not from the pharmacology, crack lung, subclinical alveolar hemorrhage, bronchospasm, and then few other things, pulmonary edema, pulmonary granulomatosis, and pneumothorax.

This is a cool chart that I found which just talks about the types of drugs. So, here you have heroin injected, crushed pills injected, cocaine injected, and then you have inhaled drugs, and what I'd like to point out here is that injection drugs can actually cause a lot of lung issues including acute bronchospasm, airflow obstruction, a diffusion impairment, so it's not only the inhaled drugs that cause that airway inflammation. I guess that makes sense because they're not inhaling, they're injecting, but when someone comes in and they're having an acute respiratory issue or if they already have asthma the thought that injecting is maybe safer, but it is not without risks.

I thought this was a really interesting case. This is someone in England who came in and this was their original chest x-ray, I can't really see all of it but their cat scan showed diffuse ground-glass impairment, and it was all related to acute crack, what was called typically crack lung, and this is their chest x-ray about a week later showing without any antibiotics or other treatment other than taking them off the crack this is what happens, so if, you know, without the history of that I might have thought well that's got to be infection, that's got to be HIV, but it's pretty impressive that crack can do that.

So, let's talk about the underlying chronic illness, which is addiction. We should really change the frame of mind. So, addiction is an illness, it is not a moral failing, it is not something that happens to poor people or black people or other people, it happens to all of us, and I had this really interesting conversation with a dad recently, actually a surgeon at my hospital, who sent his son to me and said he was clean for 18 months, why did he have to use again? I just don't understand. And I said, well, a person with type 1 diabetes needs insulin to survive, right? So, I hope that one of the things you can take away from this is an analogy to type 1 diabetes or any other chronic illness or type 2 diabetes that we, you know, that this is a chronic illness.

Most people who have substance use disorder don't want it, they don't want their lives to be falling apart, they don't want any of the terrible things that have happened, so if you can think about it differently...Now, I said this to a nurse recently and she said how dare you compare someone who uses heroin to my four-year-old who has type 1 diabetes, and I'm not trying to say that that's the same thing, the four-year-old, but it is interesting that we blame people for some sort of, we blame people more for this illness when it is a biological, pathophysiological problem in how the brain works.

So, treatment of substance use disorder. Management of the underlying addiction is the key. Medical assisted treatment, counseling for depression, anxiety, and there are other options like Narcotics Anonymous. I'm just going to let you all know if you don't know already that sometimes AA or NA meetings will require people to not be on other medications, whether it be treating their depression or being on suboxone or methadone, and so it could be quite isolating for people, even though it's a good form to go there, and they're often ostracized if they are on any other medication to treat their underlying opiate use disorder.

So, here are the options. Naltrexone can be in pills or in intramuscular release, I have two patients who are on that, it basically stops a little bit of the craving and will prevent you from feeling the high if you do use. Methadone has to be given out at a methadone maintenance center, it can go usually up to like 100, 150 milligrams a day, is dosed daily. Suboxone or buprenorphine is what I'm licensed to prescribe, it can be up to three times daily. There's implantable suboxone that I think the original implant and these monthly injections I haven't seen people using that much but I actually think that's going to be the wave of the future. There is randomized controlled trial evidence that buprenorphine is much better than naltrexone or placebo for reducing heroin use. There is randomized controlled evidence that buprenorphine treatment reduces illicit drug use.

If you take away anything from this I want you to look at this, this is a study that was done in Vermont where they randomized people to either get buprenorphine or not, and this is the participants abstinence is on this column, so you can see that if you did not get buprenorphine but you wanted it there was a 0% chance that you could remain off of heroin. So, here you can see that buprenorphine works and that's one of the elements of suboxone.

The last thing to talk about is what we can do as providers to mitigate risk. Someone may not be ready to stop using drugs, but how do we help people use drugs safely? So, I mentioned before, cleaning skin with alcohol or washing your hands, avoiding black tar heroin when possible, avoiding reusing syringes, and I'm very supportive of needle exchange programs, that I understand in Montana there may not be that many, avoid multiple attempts at one vein, so you can actually tell someone not to poke at one vein several times, to try a new stick, and disinfect, when possible, the syringes.

This is a cool little book that Australia came up with showing how to inject what if you are going to be injecting, so don't be fooled by the direction of the arm and check the way the blood flows, avoid injecting into the hands, stay away from the femoral nerve and artery, avoid injecting into the feet. All useful resources, but I think in the end it's about patience and understanding, supporting the patient's, supporting each other, and supporting new research on new treatments. Anyway, that is what I have to say, thank you very much for your time!

MACP Host: Great, thank you so much, Alysse, we really appreciate that! This has been something, I know it's not necessarily asthma-specific, but it's something we've gotten a lot of questions about, so I think it's a really important topic just to address something that I think people across whatever it is that they're experiencing are seeing with their patients. If anybody has any questions you're welcome to either unmute yourself on your phone line or your computer line, whichever, however you're accessing audio today, or feel free to type any comments into the chat box while we're sitting here waiting. I will go ahead and present that slide I was referencing at the beginning of our talk with my contact information as well and hopefully you guys are now seeing a PowerPoint slide there we go with my contact information, abradley@mt.gov.

As I mentioned we will be sending everyone who is registered a link to take an evaluation and then that's how you're going to access your continuing education credits for attending today's webinar. But, we do have plenty of time to answer some questions if anybody wants to type anything in or ask anything, so we'll just give a couple moments for you all to do that in case anything comes up. Here we go Alysse, somebody's asking for the link for the resource you mentioned. Let’s cut and paste, and I can also send that out with the evaluation information in case anybody has already logged off. I would imagine that that is mostly helpful if you have somebody who you know that they are going to be using

drugs or specifically injection related drugs then it's something that you can give them for safer practice?

Dr. Wurcel: Right, you have to meet people where they're at and especially if they're in there and they want, they may want to please you, and say oh I'm done, I'm done with it, but then just say you know just in case in the future, you know, it ever comes up again here's some suggestions, so they don't have to say that they're going to use again. A lot of times actually people will say they're not going to use just to make us happy.

MACP Host: Sure. Well, I'm not seeing any other comments or questions showing up in the box and so that might mean that we are all done for the day. Alysse, thank you so much for joining us and with your patience for whatever technical glitches we were experiencing, and everybody have a great day! Thanks for joining us!