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ECHO: SEXUAL HEALTH AND HARM REDUCTION

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[video transcript]

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A pleasure to introduce Dr. Urban, who's Medical Director for University of Rochester center for community practice, and a professor of medicine in the Division of infectious diseases at the University of Rochester School of Medicine and Dentistry. She currently directs our New York State CEI sexual health center and continues to serve as the medical director of the Monroe County STD clinic, a position she has held since 1994. For her continued dedication and commitment to HIV medicine and prevention, she was awarded the 2019 Linda lab Enstein award by the New York State Department of Health. Happy to turn it over to you Dr. Irvin.

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Okay, thanks very much. So I have no disclosures today, and our learning objectives will be to look at some of the epidemiologic links between drug use and the reportable STIs. And some new screening recommendations regarding syphilis, which is a rising problem. So again, the this is my title, sexual health and harm reduction. And really, I kind of struggled a bit of how to frame that. And I'm going to try to focus on the the intersection of our practice communities. As you heard, I've been in this STI world for many, many years. And, and there's a lot of overlap. So I thought I'd start with a definition of sexual health in my world that as I, as Jeff mentioned, I started in this position in 1994. It really was venereal disease, and then sexually transmitted disease, then sexually transmitted infection, and then sexual health. And that term sexual health came into play really, in the last five years and more solidly in the last, I'd say, two to two to three years. And the New York State Department of Health has embraced this concept of the promotion of sexual health as a sort of sex positive, more positive way to, to approach living, as opposed to disease treatment or disease prevention. And they've defined sexual health as the ability to embrace and enjoy our sexuality throughout our lives. And here, they they list six concepts that kind of informed that definition. And you can see those bolded areas, and they're really the key features. Sexuality is a natural part of life, that it should be a desired activity, it's not a subject to force, that it's important to be able to communicate that there are certain rights. And here's what I'm going to focus about today, really, kind of the role of public health for many years, even even still in this embracing of sexual health, is to make an effort to prevent unintended pregnancies, and particularly sexually transmitted infections and their complications and allow individuals to seek care and treatment when needed. So what's the other half of the title? What's the harm that we're hoping to reduce? So, you know, some of that may be obvious is what are the symptoms of STIs. But those of you not not living in this world might not realize that actually, most sexually transmitted infections don't have symptoms. In fact, the great preponderance are asymptomatic. And despite that, they have significant health complications like pelvic inflammatory disease, epididymitis. They're associated cancers, there's fertility issues, there's disseminated infections and complications. And all of those things listed in that list are things I've personally seen in my patients even in the last couple of years. So there's

significant outcomes to having a sexually transmitted infection. And in some individuals, there's also some other risks such as acquiring and transmitting HIV. And traditionally, this has been said to be a two to five fold increase, although that has now been greatly impacted by our understanding of the dynamics of HIV transmission. When people are effectively treated, so the so called u equals u undetectable equals on transmittable. So if an individual living with HIV is on meds and has an undetectable viral load, they cannot sexually transmit. So that's not quite as big an issue as it was many years past. And of course, sexually transmitted infections are contagious. So there's transmission to partners and there's the potential transmission to newborns and the complications if those individuals acquire the infection. And even though stigma has been known for many years of and its association with HIV and Drug User Health and some other conditions. I'd say it's relatively new in the in the sexual health world where we're coming to appreciate the importance of stigma and the potential negative consequences on health. And then unfortunately, or forever, there has been a certain element of violence associated and subset of individuals we see associated with sex and sexual relationships. So what we tried to do is prevent the acquisition, prevent complications and prevent transmissions. And we do that in a variety of ways. Some of which embrace kind of the traditional harm reduction principles that you're all familiar with. We do it in one way through screening for STI. So not just doing diagnostic testing and people who have symptoms, but because you know, the great majority don't have symptoms, you have to test those without symptoms, and you need to make some decisions on whom to test and we'll go into that in a bit. And there are ways to do that, that are fueled by by health departments through funding public STI clinics, and in New York state and every county, there is access to some sort of public STI clinic, sometimes they're contracted out to other facilities. But by law, these have to allow free with no cost to the patient access. In every county. These clinics are governed by stricter confidentiality laws than even reg usual medical confidentiality or even HIV confidentiality. And there have been a number of ways to increase that access, such as changing laws to allow for minor consent for screening and treatment, and a variety of ways to conduct outreach when individuals have have difficulty accessing usual points of care, or even clinic points of care. And this is something we've used particularly in my area, with the community who uses drugs doing point of care testing for syphilis on the street. There is also early treatment to prevent complications and transmission. So this is somewhat fueled by screening. And there are a number of ways that health departments in particular, but other organizations as well try to facilitate that. And a big way is the use of partner services. This is something that many in the medical field were unaware of really before COVID drew so much attention to contact tracing. But contact tracing has been a feature of STI care, really since around the 40s. And there are public health representatives sometimes called disease intervention specialists who do this for reportable STIs, which include gonorrhea, chlamydia, syphilis, and HIV. And in addition to notifying the contacts to get testing, they another feature of prevention is to offer post exposure prophylaxis. That's the term we use in the HIV world, and even in the hep B world. But in the STI world, this was always called epidemiologic treatment of exposed partners. So it is a recommendation that anyone who has been exposed to a communicable STI be treated, even if they test negative because they might be incubating infection. And now there are laws that allow this to be done in a manner that doesn't require the partner to come in for that treatment. So that clinicians can deliver what's

called expedited partner therapy, where you as the clinician, give your patient diagnosed with the STI meds or a prescription for the patient to give to their partner. And that's now allowed in New York State for gonorrhea, chlamydia, and syphilis. And then kind of a newer area, I think, in the dedicated STI world, as I mentioned, is addressing stigma, addressing other social determinants of health, which have tremendous impact on risk for STI, and addressing some dynamics. And that's really where this talk comes in. Because STIs and, and drug use would be considered synthetics. So what do we know about drug use and STIs. If we look at sexual behaviors, there's a fair amount of data really dating back to the early HIV days. But because it's addressing sexual behavior, the risks may be applicable to other STIs as well. And the data largely show that sexual behavior is impacted by the use of drugs or alcohol. So you may have sex while intoxicated. There's a loss of inhibition. And there's lots of information about transactional sex have sex for money, drugs, housing or some other some other kind of barter of necessity generally, poly drug use is generally common in these studies. But the data are not always generalizable. Most are done in very discrete populations, such as adolescents, or the population of men who have sex with other men, or a population who's homeless or incarcerated, etc. And there's some variability by drug. The most data are out there about alcohol, there's a lot of lot of information about the impact of alcohol and sexual behavior and STIs. And less common our data about marijuana stimulants, or opioids, there was certainly quite a bit about HIV and injection drug use in the 80s and early 90s. And then there's kind of a falling off of studies until about 2018. And it starts to pick up again, and now really exponential growth, I'd

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say in the last year or two. And I could just do sort of a whole epidemiologic talk on because there have been a number of studies presented about those. And in general, alcohol is associated with increased sexual activity, sex occurs more often with intoxication, marijuana, it's a bit mixed results, stimulants, similar increased sex with intoxication and loss of inhibition, sometimes, sort of increasingly, even somewhat dangerous sex with a with potential for some physical harm, and opioids not so much are really there that the data show more of an increase in exchange of, of transactional sex. So having sex to acquire drugs or for money or, or some other barter. The association with STIs is, is a little bit newer, that we did know about HIV, of course, and viral Hepatitis in the in the 80s and 90s. And there was a large syphilis outbreak in the 1980s, mid 1980s. Right, when HIV was starting to take off, this was a change in the pattern of syphilis became a heterosexual epidemic. And really tremendous increase and that was actually my first job in the STI world I, I took a job out of residency doing an HIV and syphilis study at the Philadelphia STI clinic. And I sold about 25 cases of syphilis a day, this was in 1990. So that epidemic was a really responded to all the interventions about HIV. And syphilis hit a record low after that. And then there wasn't much information. There was some information from needle exchange programs about other STIs other than HIV, one in Camden and 2018, showed high rates of GC and chlamydia. And more often not so much in Drug User Health programs. But more often in in dedicated STI clinics, there will be reports of high rates of drug use, not always defined, and high rates of transactional sex associated with higher rates of the reportable STIs. Then in 2018 2019, things start to take off. And we get more data. And this is

one sample of a study that was published in 2019. I saw presented at a conference in 2018. That was a national study, it was a survey of families, nationally, and it was it included questions about STIs, and even laboratory testing about STI is looking to link STIs in the opioid epidemic. And it compared persons with injection related behaviors abbreviated there as IRB, or no behaviors, with STI diagnosis sexual behavior among young web, women and men, and I'm sure showing the female data here these were all sex recorded at birth. The male data are similar, but not quite as strong with not the P values not being quite as strong. But there were high rates of association of sex with another person who injects drugs, sex for exchange of sex for money or drug for sex, and a diagnosis of chlamydia, gonorrhea, and syphilis. And this was quite remarkable in 2018, when it was first published, so the data were even a little bit earlier, because syphilis was, was really at record lows among females at that time. And then, at that same conference, where I saw that report, I saw a report about the syphilis outbreak that really caused me to take notice in Oklahoma, and this was a case of, they called it a dangerous trifecta. So in 2016 to 2017, they had six cases of early syphilis and in the juvenile justice setting, there had been no cases in the prior five years. And if you're familiar with syphilis, as STIs go at tends to skew older. So it'd be quite unusual to have teens with syphilis. In 2016 2017, they investigated those six cases. And that linked them to another 78 cases, which allowed them to declare a formal outbreak which allowed them to do sort of enhanced investigations. And that those cases were associated with drug use, and sex for money and drugs. So sort of a social network that had those features. And by 2018, they then had 239 cases of primary and secondary syphilis. So that's very new syphilis occurring in the case of primary and the, you know, acquired in the prior three months secondary prior acquired in the prior six months, an early latent acquired in the prior year. So they had an outbreak in real time, all syphilis acquired in that last year. And more than half of these cases were females, which was extraordinary at this time, because that naturally was really record lows, a number of those were pregnant. And as I mentioned, quite quite a high association with drug use and injection drugs, trading sex, transactional sex, and in this case, membership in a gang. I returned from this conference. And about a week later, we had our first case in a juvenile justice setting here in Rochester. And I'm going to go through a little bit of the epic epi of syphilis now, to just show you what's happened since that time. So this is sort of the big picture from the CDC, that top gray bar is total syphilis. And then the red and blue bars are syphilis that's present for less than a year, either early or primary and secondary. And you can see way back in the 40s, total syphilis was we had no effective treatment, so it was quite high. And even syphilis acquired in the prior year, was quite high. This was during World War Two, penicillin was developed, and we have a dramatic decline. And then we have this outbreak in the in the mid 80s. That was associated with crack cocaine that I mentioned. And now again, another take off in just about 2018 2019. This was not uniform. So here we have back the the crack cocaine epidemic back here was almost a one to one ratio of men to women, we had a gradual decline of syphilis. And we actually had record lows in 1999, with a plan to eliminate syphilis in the continental United States to make it only an acquired through travel disease. And then in the very next year, it started to go up and it's gone up every year since then, with the exception of 2020, which is presumably related to the shutdown to COVID. And the takeoff was not equal, it was almost uniformly among men, until sort of 2015 2016. And you start to see a gradual increase among

women and a decline in the male to female ratio. And with that increase in women, these are all this is all sex acquired it to find at birth, you also see an increase in congenital syphilis. And that has become an increasing problem really, really, I would say, kind of approaching crisis level. The CDC for the first time in when they published 2019 figures, which are the latest figures that are available, included a report about injection drug use, so this had never been done before. And you can see this associated. This is women, Msw is men who have sex with women, and MSM is the population of men who were largely fueling the syphilis cases.

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Prior to this point, it had been almost universally among men who have sex with men. So you can see there is a rise in those who, who are using injection drugs in this new population that's acquiring syphilis, women and men who have sex with women, whereas those among men who have sex with men were fairly flat, similar rise in having sex with the person who injects drug, similar rise even even more striking in those who report methamphetamine use, and those who report heroin use. These are New York state data, and they look at syphilis present for less than a year. This is divided by men and women. So you can see back in the 40s, the similar peak that the dramatic decline. They show their data a little bit different way so that you can see syphilis has the feature of having these ebb and flow, which actually correlates directly with public health funding to testing for syphilis. But we had that dramatic rise in the mid 80s, early 90s. And again, You know, sort of a historic rise happening now, New York State also officially only has 2019 data released. But in a Dear Colleague letter, they released data up to 2021. So I've grafted in here, it's not exact, but it shows you the increase. So we had increased between 2019 to 2020. From 1582 cases, to 1820. cases, this is not including New York City, which has mirrored the rest of the state. But the bulk of that increase is among females 52%. Among women. This is my data locally, where I know the numbers and you can see a gradual increase. And if you break it down by gender, by sex, so it was almost entirely men in 2017. And now you can see 2021 We really have significant cases, and women. And a New York State also published data. This just came out in August of this past year. And they looked at drug related risk behaviors among females diagnosed with early syphilis compared to men who have sex with women, and men who have sex with men. They included transactional sex, which the CDC didn't, and they had even higher rates of those reporting those behaviors. So this all led to, as I mentioned, congenital syphilis is increasing. So there was a dear colleague letter that maybe you got, or in June of last year, this was followed up this January with sort of kind of an increasingly alarming letter about the rise of syphilis and particularly syphilis among women and men who have sex with women and in particular association with drug risk related risk behaviors, and a plea for education. Because many providers who are not in the HIV or STI world were much of syphilis had existed have not seen syphilis for years and years. And then New York City issued an alert just in February, just last month, with similar concerns. So I'm going to sort of end my my talk here about just going through kind of a syphilis 101 Very quickly, because you are a group who see patients who are now I think, would be considered at risk. And in our practice, in our STI clinic, which is walk in the last five cases, we've seen in the last two weeks of complicated syphilis have all been in women who are, who are who are using drugs, and have had some complication related to difficulties in their life that is somewhat

complicated by drug use. I will warn you, I'm not sure how many on here are not clinical providers, I do have some graphic pictures of just lesions that you might see or that patients might describe to you. So you would know to be alert that this could be syphilis. So just quickly. So this is sort of a cartoon of sort of the natural history of the infectious disease. So like any germ, there's a period of exposure, it's important to know that that exposure doesn't necessarily manifest to a clinical finding for up to 90 days, the average is about three weeks, but you might not have the first manifestation of syphilis for three months. So that's a long period of potential incubation. That first manifestation is an ulcer, it heals spontaneously generally doesn't hurt. So people ignore it once it goes away. And then you have a dissemination of the organism through the whole body, I'll go into detail in a minute, that also goes away. And then you have a long period of latency where you feel fine, have no physical findings, but have positive blood tests. And then in the pre antibiotic era, about one out of three untreated patients would go on and have a late complication of syphilis that I'm not going to get into today. You're considered from a public health perspective potentially contagious for that whole first year. That's why we sort of arbitrarily divide latency into early latent and late latent because we consider you contagious if you've had the condition for less than a year. This is a more accurate cartoon. And it shows you just how complicated this infection can be. So these findings of dissemination of secondary syphilis can recur during that early latent period if you're not treated, so that can happen multiple times in that first year. And you can actually have a spread into the neurologic system system. And particularly, ocular syphilis and ODAC syphilis happen in this period of the first year. As I said, you're potentially contagious to partners in that first year, and for the entirety of the infection potentially contagious. to a newborn. So the clinical diagnosis is pretty tough because of how complicated it is. And it's led to all sorts of sayings like to know Syphilis is to know medicine. It's complicated because you can't see the organism. So you can't diagnose by finding the organism culture isn't available. So we ended up using antibody testing or serology to make the diagnosis. And even that is complicated because you can't have one test, you have to have two tests to make an accurate diagnosis. There's a non treponemal nonspecific antibody that most often is called an RPR. And then there's a slew of specific antibody tests that are used to confirm that they have a number of initials, but they're all specific to the organism T pallidum. And you need both of these to make a diagnosis. So I mentioned primary syphilis develops, on average about three weeks after exposure. But it can be three months, which is really important, particularly in pregnancy. When you're thinking about rolling out syphilis, to know that you have that potential three month window before you might have a positive test. The first lesion is an ulcer, it starts as a painless red spot, typically as clean, has a clean base clear exit date, is the most helpful physical finding as the edges are integrated. So if you try to oppose them with your, you know, grab the lesion and oppose the edges, it resists you a little bit. This is very different than herpes, which is the most common cause of an ulcer. And often there's a unilateral painless lymphadenopathy. Very early in the lesion. Still, those blood tests might be might be false negative, it takes a little while to develop that antibody. So so in that in epidemic times, like like we're having right now with really rising rates, you might want to consider empiric treatment. So I have some pictures now. This is a classic. These are all pictures from our practice, clean base, healing lesion, clear clear exit aid, not very angry looking, but you as a provider only see it on one day. So it might be well on its way to healing.

doesn't always look like this. This looks actually frankly her paddock to me. This lesion looks bullous this looks a little purulent. Again, sort of her paddock and multiple lesions. Again, kind of shaggy looking.

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This patient used a lot of Neosporin and changed change the appearance. These are all because mostly we saw a men. For years, we had hardly any any syphilis and women. And it's only in the last few years that we've started seeing cases in women. It's harder to get good pictures with these are from CDC and some other atlases but similar you can see how they're sort of integrated and can be a variety of appearances. All of these lesions could be internal could be vaginal or cervical so so if you didn't do an internal exam, you would miss it. And they could be very anal or inter intra anal or they could be oral and again, you could see it'd be quite easy to miss these. Typically these don't hurt and heal on their own so the patient may not notice them. And then the organism disseminates. This occurs, you know, some weeks to months after primary and may recur for that first year. It spreads everywhere through blood and lymph. And there can be many, many clinical signs. Essentially anything you can say itis to can happen with syphilis, but the thing we most think of is rash or dermatitis. And even that is very, very easy. You see the patient on one day but the rash evolves, so it starts macular becomes papular becomes papular squamous, which means kind of scaly and itchy, and then resolves over weeks to even months. Were taught in school to think about Palmer and plan or lesions because most other infections don't do that. And sometimes you'll hear nickel and dime lesions referring to size of the rash. But there's also generalized at an apathy mucous patches wordy like lesions, alopecia, and as I said, Any itis I've seen, we've seen actually a lot of Hepatitis this year. I've seen Frank arthritis nephritis proctitis, I write us meningitis, UV itis otitis, really any itis is possible. You can also get sort of an acute HIV acute viral syndrome type illness like so. pharyngitis malaise, headache is generally aseptic meningitis, even weight loss and fever. Here's some rashes so you can see this looks a little bit almost urticarial you'll often have this kind of big patch, almost like a hurl patch like pitter iasis. These are the nickel and dime lesions that can appear on the palms and soles, the tongue is mucus patches and they're all from atlases. This is in real life. So you can see it can be much more subtle. So this you can see a little bit of a scratch mark. This is a bit scaly, these are all different. Patients this is kind of scattered lesions. There's that single Harold patch. This was more of a pustular lesion. This was quite different from any of those, this patient had an extensive workup for psoriasis. And you can actually find that quite a bit in the literature of people being treated empirically for psoriasis who actually have syphilis, even with immune modulating drugs, immunosuppressive drugs. So something to consider. These are some of the other things so that's the ad and apathy. This is patchy alopecia. These are subtle tongue lesions. These are the warty like lesions known as condyloma labrum. And again, palms and soles. And then you get latency. So so now you have nothing on exam, no physical finding no symptoms. And it's really just a positive blood test. And deciding Have you had the disease less than a year or more than a year. And we do that by a history of signs or symptoms by negative tests in the prior year, where if we can link the patient with the latent syphilis to a contagious case, then we know that within the year, if you don't have those things, you have latent as this treatment for syphilis hasn't changed in many years long

acting benzathine penicillin at these doses, I won't go into detail, but it's one dose if it's less than a year, or three doses over three weeks, if it's more than a year. doxycycline is the alternate. We do post exposure prophylaxis, so it's important. So if you see a patient in your clinic, to be sure that those who are exposed to potentially contagious syphilis, get that post exposure prophylaxis if they were exposed in the incubation of less than 90 days. neurologic symptoms I mentioned could occur at any stage. And we've seen a lot of popular syphilis and ODAC, syphilis and even symptomatic meningitis, particularly during secondary syphilis. I had a call two weeks ago about men and go vascular syphilis of a patient presenting with a stroke, and even cardiovascular syphilis of someone presenting with an with an MI, and pregnancy I've mentioned. So the CDC guidelines recommend screening and pregnancy in the first trimester, the third trimester with risk factors and at delivery. And they've expanded the risk factors in July of 2001. To include those features, I mentioned sex with drugs use transactional sex, drug use itself, or incarceration or unstable housing, they're all new criteria to test during the third trimester. And this matches what our New York state guidelines for testing in pregnancy. New York City actually requires third trimester testing and doesn't use risk factors. And the reason for this is this rise in congenital syphilis, this is sort of a complicated graph, but I'll just call your attention to this teal. So this the bottom is over years of congenital syphilis. And the teal are those who actually acquired syphilis during pregnancy. So they tested negative early, and they develop syphilis during the pregnancy. So this is a big concern. And this is largely happening among women who have some connection with drug use, maybe not use themselves, but a sexual network, who use drugs. So that has led the CDC to change their recommendations for screening. So they have new recommendations for heterosexual, which which weren't present before. And they include a history of incarceration or transactional sex. They have new recommendations in pregnancy, which I just mentioned, and they have new record recommendations for transgender and gender diverse people. So previously, it was limited to pregnancy, men who have sex with men and those living with HIV. So I want to end there. Hopefully, I didn't take too much time. So there are data emerging and really kind of emerging rapidly. There's there's kind of a exponentially increasing literature about the association of drug use and STIs. And particularly syphilis. It's a complicated relationship that varies by population and particular drug class. And it's impacted as everything is by other social determinants of health, incarceration, poverty, there are some studies looking at food insecurity being linked to drug use, and STI so, so lots of interactions there. There are sort of harm reduction principles embedded in many public health responses to STIs. In particular, Syphilis is now rapidly increasing among men who have sex with women, and particularly women after record lows and those populations. And that's associated with an increase in congenital syphilis. And there's a very strong association among these cases with drug use. So there's a push to increase awareness among Drug User Health providers in general practitioners and obstetricians. One of my sexual health nurse practitioners just took Got a second job at a methadone clinic, and actually does HIV testing, Hep C testing hep based testing, even pregnancy testing, but does not do any sort of STI testing routinely in this clinic. So I think we have some room to grow there. Here's some references. And I'll put if you're interested in this, this is a great review that came out in July called collateral damage, damage, damage and narrative review on the epidemics of substance use disorders and their relationships to STIs. In the US. This is a CI line

where you can reach the Drug User Health group or our group. Here are the Drug User Health Clinical cards, and we actually have STI treatment cards also if you'd like and you can get those at that. cei training.org, or at that QR code. So I'll stop there.

[End Transcript]