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PREP: TRANSLATING WHAT WE KNOW TO CLINICAL PRACTICE

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PrEP: Translating What We Know to Clinical Practice
[Video Transcript]

[00:00:11] OK. So, I'm going to be explaining the rationale behind PrEP today. I'm going to review guidelines and studies and their implications for practice and I'm going to try to address some of the controversies. Today I'm going to be trying to answer the following PrEP questions. Who needs PrEP? Is PrEP effective? Is PrEP safe? Does PrEP lead to increased risk behavior and STIs? And what's in the PrEP pipeline? Just a couple of definitions to make sure everybody is on the same page. The difference between HIV PEP and PrEP, PEP is medication taking after an exposure to prevent HIV infection.

[00:00:50] It's a short-term short term 28-day thing PrEP is medication initiated for an exposure and taken throughout the time of risk whether that be weeks months or years on a daily basis.

[00:01:08] And let's begin with the case.

[00:01:10] Jamal is a 24-year-old African-American gay male initially seen five months ago for PEP after an encounter of condom use anal sex with a partner of unknown HIV status after a night of heavy drinking. He comes in today again presenting for PEP another condomless of encounter.

[00:01:29] He says he's been mostly consistent with condoms, but sometimes I just get caught up in the moment. What do you recommend about PEP? PrEP?

[00:01:38] I would I would recommend he start PrEP today. I would recommend PEP, but I would not recommend PrEP at this point because he's not high risk. I would recommend PEP and then immediate transition to PrEP if he agrees. Or I would recommend PEP and then refer him for counseling to reduce his risk prior to considering PrEP. Please vote for what you would do.

[00:02:13] OK. We're going to come back.

[00:02:20] So the good news is that since 2008, HIV infections have begun to decline in all risk categories. The biggest drop has been in injection drug users thanks to clean needles and safe injecting injection practices and syringe exchange. Seventy percent of new infections are still in men who have sex with men. OK so rates are dropping but who are rates not dropping in and who are they rising in? If you look at this graph from the CDC, you can see that actually in fact this is by age if you look by age you can see that the rates are actually steady or declining in most age groups. But there's one age group that bucks that trend has very high rates of rise still and that's an MSM age 25 to 34. Last month or two

months ago now the CDC broke that down and even smaller age categories and actually found that in fact it's the 24 to 27-year-old age group where those rates are rising.

[00:03:26] That's clearly a category of folks we want to focus prevention efforts in on top of that while rates have been dropping in general rates have not decreased in black MSM and have actually risen in Latino MSM.

[00:03:44] And while rates are dropping in heterosexual's 66 percent of new infections in heterosexuals are in African-Americans. Clearly all communities disproportionately affected by this epidemic. And I think this graph really shows it well look at the rates in black MSM compared to white Latino MSM are also very disproportionately represented given their rates in the population versus the rates of whites in the population. And look at the rates for black women. So why are the rates dropping. I think the rates are dropping partly because of our shifting and changing and additional prevention strategies. Up until about 2008 our prevention strategies were: education, behavior change, condoms, and clean needles. Now those things are still really important. But we've added some things to our armamentarium of prevention. First and foremost, treatment is prevention. Getting people onto treatment to drive their viral loads down to undetectable so they don't transmit. We have HIV testing and linkage to care. We routinized testing right so the change of testing from testing people at risk perceived to be at risk to routine testing of all sexually active individuals finding out who's positive in the community and linking them to care. We have then PEP and PrEP as additional prevention strategies. So, it's been a few years now. It was 2012 that the FDA first approved tenofovir emtricitabine of being for use as HIV PrEP in adults who were at high risk of HIV infection. There's

[00:05:22] Dosage 1 tablet once a day with or without food.

[00:05:29] So the guidelines the CDC first released guidelines on the use of PrEP in 2014. And they updated them of course in 2017 but they were just released like last week. So, trying to incorporate that into the talk was a little challenging. The guidelines are great they're really provider friendly it's very worth looking at. But I'll tell you this one chart summarizes the whole thing. This is a really great chart and it breaks it down. It's kind of hard to see but essentially it breaks down to who needs PrEP, to how you decide who's at substantial risk, and then says who's clinically eligible the testing you have to do to figure out if somebody can take PrEP safely. Then you give a prescription for a 90-day supply or less and then you see people every three months. And what you do in those and what you do in those sessions you HIV test, you do counseling and education, STI screening, pregnancy testing, etc. We're going to come back to the STI screening in a little bit, but this is essentially it for PrEP and you know it's really, it's really really simple it's very straightforward and medically this is a very easy thing to do. Yet it's really emtricitabine. I travel around New York state talking to providers about becoming PrEP prescribers and people are just terrified. They're like it's an HIV medicine. And I say well do you prescribe; do you treat diabetics? Yes. How do you treat hypertensive? Yeah. You can do this. It's one medicine. This one

medicine with very straightforward and easy to no side effects. And in fact, this is a this is a treatment that actually can be done by a team of people that are rapid PrEP clinic. We have our primary care clinic where we see PrEP, but we also have a rapid PrEP clinic for people who are not engaged in primary care or have outside PCP who won't prescribe or they're afraid to ask. And it's most of the visits done by the counselor and the nurse the provider sees the patient for just a couple of minutes.

We heard a great talk yesterday from Iowa. There is telemedicine project to reach rural Iowans to offer PrEP through telemedicine and that's a pharmacist-based intervention.

[00:07:37] This is something that is definitely definitely feasible for anybody to do. In spite of the ease.

[00:07:53] There is still a significant provider patient barrier. This was a really interesting survey and I think talks about what the issues are this in this survey they surveyed users of a gay pick up website. 42 percent of the and these all were people they identified people who hadn't identified primary care provider. They said they were engaged in primary care. 42 percent said they weren't comfortable discussing sex with their PCP. Over 80 percent had not yet discussed PrEP with their PCP, and 75 said 5 percent said they didn't think their PCP would prescribe it. If they asked for it these individuals' 48 percent had had condomless anal sex with three or more partners in the prior three months. Clearly a high-risk category. This is something that is really important. And this I'm speaking to the converted in this room but for our friends or our colleagues or other providers we need to be asking people the questions and making it really clear to people we're open to answering it and we need to be bringing up PrEP.

So, let's move on to the science. I'm going to talk about the studies and then I'm going to focus on iPREX because I think it's kind of indicative of some of the other studies. This is a large iPREX was a large international study looking at tenofovir FTC versus placebo in MSM or transgender women. Primary outcome of HIV and the risk reduction the outcome the reduction in new HIV infections was highly statistically significant at P P less than point .002 but the overall reduction in new infections was only 44 percent. And that was incredibly disappointing. We thought PrEP was going to be much better than a 44 percent decrease. But then the investigators looked further and broke it down and you see some really emtricitabine things. If you first look at me see if I can make this point if you first look at the placebo there and to see whether there was drug detected. So, in the placebo group nobody had drug detected which is a good thing. So, there are placebos and there were 64 infections. If you look at the group on tenofovir emtricitabine being 33 of the 36 had no detectable drug. So now if you look at relative risk reduction about whether based on whether actually the drug was used you've got a risk reduction of 91 percent that's much better. Those are the kinds of numbers we are hoping to see with an intervention like PrEP and in fact I'll tell you the three people who did have drug in their system did not have therapeutic level of drug. They had some drug but not therapeutic levels of drug. So, in study over study after study we've been seeing that works if you take it. In this graph when you look at the x axis of

efficacy man the y axis of detectable drug levels you can see the further you go along in detectable drug levels, the more effectiveness you see in PrEP. And in fact, at the highest levels of detectable drug we see the highest levels of efficacy. This drug works if you take it. At the lower end. We see these four studies down here all of these studies were in women. Now does that mean that PrEP does not work for women. Well no, because we know in the TGF 2 study that was up here that PrEP did work in the women in that study. The problem is women face some specific challenges which I'll talk about in a minute. But also, these studies were really some kind of plague but with some trust issues between participants and and the trial sites and also these women had very low self-perceived risk of HIV. So, the women just weren't this was really about that women weren't taking the drug.

[00:11:51] So how much adherence is enough?

[00:11:57] In this I practice open label extension. So after the study was over they did an open label extension continuing drug over time and when they broke it down into as they broke it the drug levels they saw people who got HIV and they correlated that the number of doses a week they would have taken to get that drug level and all of the infections that people got were seen in people who took one or two tablets a week or zero to two or two to three. There were no new infections in those who took four and more tablets a week and that was really good news.

Because it told us that actually in fact PrEP adherents had to be good, but it didn't necessarily have to be perfect which was great at least for rectal exposure. Unfortunately, drug concentration varies and mucosal tissues and the same cannot be said for vaginal and cervical penetration of drug. And in fact, it is estimated that women need to take six to seven doses per week for efficacy. So, the rate of adherence for the bar is much much higher on adherence for women. There’re also some other interesting factors for women. There was a great plenary Ackroyd this year some of you were there may have seen it by Nicole Platt who looked at the role of the vaginal microbiomes in women in terms of getting HIV infection. And so, a healthy vegetal microbiome is elected bacillus predominant microbiomes and it's very important to HIV infection. Women who have vaginal dysbiosis that's a key factor in vaginal inflammation this epithelial barrier integrity breakdown and a much higher rate of HIV acquisition. So, the natural microbiomes are an important other risk for women in getting HIV. They also found in the hip also found that actually dysbiosis bacteria can metabolize tenofovir and dipivefrine another antiviral. And so, when you have despotic bacteria the drug is getting broken down faster which is kind of amazing. And they looked at the investigators have broken down the CAPRISA study which was a topical gel in women. The overall rates of efficacy for CAPRISA were thirty-nine per percent efficacy. But if you break it down by lactobacillus versus not there was 61 percent efficacy in that tenofovir gel if you had a healthy micro biome and only an 18 percent efficacy if you had dysbiosis vegetal micro biome clearly there's a lot more we need to do for women in prevention in understanding and learning more about this and how to help develop more healthier microbiomes vaginally for women and helping with adherence. Adherence may also need to be significantly higher in injection drug users. The Bangkok

tenofovir study in injection drug users did show efficacy rates of 70 percent. But you had to have very very high levels of adherence in order to reach the same protective levels as from rectal exposure.

[00:15:03] So again the bar for adherence is much higher with injection drug use. Time to time to protection is a really important parameter when we're talking to people about OK when I if I start PrEP today when am I protected? And that also is very different based on site of exposure for rectal tissue it's seven days you start PrEP today and seven days you're protected. For blood and cervical vaginal tissue that is closer to three weeks.

[00:15:33] We have no data on penile tissue, and we have no data on neo vaginas.

[00:15:44] So I said before that in the iPREX study no one who took four or more had levels consistent with four or more doses a week got HIV. And in fact, up until 2016 I could have told you that there has not to date been a single case of somebody who had drug levels consistent with seven day a seven day a week dosing that got HIV. HIV seemed to be fully protected if you are fully adherent.

But in 2016 that narrative started to change, and we actually saw our first two case studies at Kory and a little bit later of two MSM both of whom had their adherence checked by by dried blood spot and by hair samples and both despite their good levels of adherence got infected. But both of them got exposed to a virus from partners who had extensive mutations.

I think we all expected to see this sooner or later and these were the first times we saw this that there are people out there with HIV who have viruses that Tenofovir is not going to be effective against.

[00:16:52] Last year we saw our first case study of something different. We saw we got a report of HIV acquisition despite adherence in a 50-year-old guy who eight months after starting developed HIV sero conversion, but his virus was wild type.

[00:17:08] This was unexpected. It was like OK what's going on here. And so, this is the first case report we have of somebody where tenofovir should have been emphasizing should have been effective and it didn't seem to be. And it may be that he had some special factors going on there the investigators reported that in fact this was a guy who was highly sexually active 38 to 70 anal sex partners a month. He had a STIs, drug use, and it's very possible with all that sex and the STIs together increased inflammation may have made him particularly susceptible. But this was our first case report of wild type virus acquisition despite adherence so what are the PrEP effectiveness takeaways.

[00:17:52] Perfect adherence is a pretty excellent but not perfect predictor of success.

[00:18:00] The sight of exposure dictates the degree of adherence that's required and the degree of forgiveness.

[00:18:08] Tenofovir resistance, luckily tenofovir resistance in HIV positive individuals is rare. We don't see many people who are fully resistant to Tenofovir emtricitabine of being. But when it is present that can overcome HIV protection from PrEP using tenofovir emtricitabine have being. Let's move on to weather PrEP is safe? So, in terms of tolerability we're all very familiar with this drug we know it's well tolerated no surprises there. In terms of renal safety which is of course the biggest question we always have there were no cases of renal tubular acidosis in this study. There were 10 folks who stopped because of creatinine bumps all return to normal when stopping drug and nine actually chose to reinitiate drug in state and study with normal kidney function really not much signal there.

In terms of bone safety, it's also what we know very small increases or a very small net decreases in bone mineral density no differences in fracture rates. But in terms of renal function we do have I just want to give a caveat and this was again the open label extension of iPREX looking at people and following them over time on this drug and in this study the investigator looked at the probability of the GFR dropping to less than 70 a year after after starting PrEP. So, what are the chances that if you start PrEP now, you're GFR will drop to less than 70 in a year? And that what they saw was clearly the the risk increases with adherence. Right. You take the drug you more at risk of having to affect your kidneys. So, if you look at fourth quarter versus first quarter will you see the rates of GFR dropping decline. But it's also a by age. The lower bar is less than 40. If you're under 40 even if you take your drug all the time the chances of your GFR dropping to less than 70 is very very low. Whereas if you're over 40 the chances are not insignificant up to 20, 21, 24 percent that you EGFR will drop to less than 70 after a year of PrEP. And I think this just means that in the real world in our folks who also may have hypertension, diabetes, or other risk, or drug use, or other risks for kidney dysfunction maybe we want to monitor those folks more closely.

[00:20:28] OK. Back to Jamal. Again he's back again for PrEP after PEP five months ago.

[00:20:37] And really most of you got what I consider to be the right answer. The only answer that is completely wrong is the first answer you can't start PrEP today because he's had an exposure. So, he needs post exposure prophylaxis before he has pre exposure prophylaxis. Number two I think he's also is high risk. He's 24 years old he's had to with encounters in five months.

[00:20:58] This guy needs to PrEP. In terms of number four, I would recommend PrEP and refer him to counseling to reduce his risk.

[00:21:06] Absolutely. The part that's not right to me is prior to initiating problem because we all know behavior change takes place over time. Behavior changes not immediate. Changing habits around

smoking, diet, sex, condom negotiation, those things are things that evolve over time. So, risk reduction. Yes, but get people on PrEP keep them safe keep them negative while you're working on behavior change.

[00:21:37] Let's move on to James. James is a 42-year-old gay man who comes in asking for PrEP.

[00:21:45] He says he's tired of feeling anxious. He's going to get infected every time he has sex. He's tired of using condoms and wants to experience the intimacy that comes from not using them.

[00:21:59] Would you prescribe PrEP for James? Yes, I would prescribe PrEP. No, I would not prescribe PrEP he doesn't meet the CDC guidelines for high risk. He hasn't. He's using condoms and he hasn't had an STI. Or three I don't know what I would do.

[00:22:17] OK.

[00:22:20] Oh my God. Let me see if anybody else who's going to say anything. I love this room. That's not what I usually get. So often when I asked this question there's a little bit more of the No, I would not or a lot of I don't know what I would do.

[00:22:36] But you know James is telling us a story that is really the story of a lot of people which is that he's having condom fatigue. Right. Condom fatigue is a real big thing. Almost no one wants to use condoms. We use condoms because we need to. Not because we want to. In fact, I would ask you in the room and you don't have to raise your hand or put it into the keyboard. But how many people in this room have used a condom since the first time they had sex. And then every single sexual encounter up until today including with your intimate partner in an intimate monogamous relationship. Yet that's what we ask MSM to do. We told them you must use a condom every time you have sex.

And in fact, if you don't use it and you get something well it's really your fault. You could have prevented this. Nobody wants to use condoms. And they do affect intimacy and the anxiety of getting HIV is real is amazing for reducing the anxiety. You have this wonderful thing which is sex and you have this horrible thing which is fear of HIV and you can now diminish the fear of HIV with medication and actually get somebody to enjoy sex in a different kind of way and that's great. And one thing that about James but something I always like to add in you know PrEP gives a control of HIV prevention to a receptive partner. If you are receptive vaginally or anally the only way before this, you could count on not getting HIV is getting your partner to use a condom. And condom negotiation is not always an easy thing and not always possible for people. But if you now have PrEP you can take control of your own

safety and not rely on your partners. And I think that's a powerful thing. OK. I think Bob Grant said it best when we're talking about who needs to PrEP. He said PrEP is a demand driven intervention meaning that the indication for PrEP is that someone asks for it. This implies that people are good at determining their own risk, and that overly tight criteria for offering PrEP are unnecessary because people will self-regulate in terms of use. I think our job is to assess risk so we can offer PrEP. But if someone comes in asking for PrEP trust their own sense of their own risk. All right. Let's move on to James six months later. James says he's doing really well with PrEP. He's got a system and is not missing doses. He has no symptoms so then he feels great. On routine screening he's found to have anal chlamydia.

[00:25:11] So does PrEP increase risk behaviors and STIs? So according to iPREX, no. In practice what they found is that most anal sex rates declined. They found the same thing in the large IPERGAY study. The proud study. There were no risk compensation people didn't decrease their condom use because they were on PrEP.

[00:25:34] Now remember that was when we didn't know if it worked.

[00:25:37] Now we're in the real world and people know that if they take their PrEP, they won't get HIV. Pretty good chance they're not going to get HIV. And so, the desire to decrease condom use is clearly there.

[00:25:51] But OK now this is a busy slide. I want you to stay with me. But if you look at this if you look at the FDA data from two community-based programs New York City Sparke was our Callen-Lord project and then there was the demo project. Look at the rates of STIs pre-PrEP 21 and 25 percent. People stopped using condoms before PrEP and rates of STIs were rising before PrEP was a thing.

[00:26:21] Now if we go down to STIs on PrEP STIs date high on PrEP.

[00:26:27] So look down here. So, at the initial initial contact there were more symptomatic STIs. Blue is symptomatic, orange is asymptomatic. There were more symptomatic STIs people coming in for PrEP because they were coming in for a trip, they were coming in for a rash, and we said hey get on PrEP and they said OK. Whereas after that most of the infections are asymptomatic right. Most of them are asymptomatic.

[00:26:55] And extra genitally almost all of them are extra genital. There are penile and vaginal STIs but most of these are anal and pharyngeal STIs. And so, the initial CDC guidelines said ask about symptoms every three months and screen routinely every six months.

[00:27:24] The conclusions from these two studies was that not screening extra genital sites, and everybody says you must screen to genital sites but particularly only following the CDC's current STI screening guidelines would miss or delay many many STI diagnoses.

[00:27:40] So the CDC took all this into account and they actually did update their guidelines. Their 2014 guidelines they just said the 2017 guidelines liberalized some and said test every three to six months. My guideline, this is the Rona Vail guideline. Are we need to flip it and not say test every three months in high risk? I think we need to say test every one every three months and consider every six months for folks at lower risk. But the standard should be three-month STI screening regardless of symptoms. Because that's when we're going to affect STI rates. This is a great modeling study from last year's CROI. I love it. I love it. I love it. This modeling study is fascinating is that is that it shows that Plup PrEP plus screening could actually decrease STI rates over time not increase them. They say that increasing PrEP coverage increases screening getting people into care. So are you getting people in for PrEP you're getting people in for care you're screening them. And that increases decreases the rates of STIs in this modeling study. They said at 40 percent PrEP coverage so 40 percent of people who could benefit from PrEP if only 40 percent of them got on PrEP and even if they stopped using condoms by 40 percent you would still decrease gonorrhea and committee rates by over 40 percent in the next 10 years. If you then that was with the Q Six month monitoring if you now screen quarterly you have 50 percent further reduction inSci. rates then you can see that in that first in this first graph the more frequently you screen the quicker the rates of STIs come down. They said that even with an 80 percent risk compensation of 80 percent of people stopped using condoms altogether you would still decrease rates of STIs. So, the bottom line in this is yes, PrEP may be causing more people are leading more people are happily having people not have to use condoms.

[00:29:41] But by getting people into care and screening that's how we decrease STI rates. One year later James comes back. Everything is going great, but he says he finds that he's not that sexually active right now and it's hurt that medication can be taken intermittently. He wants to know if he can take PrEP only when he plans to have sex instead of taking it every day.

[00:30:02] And the answer to that is it's complicated. So, the IPERGAY study was a great study out of France and Canada and it was called intermittent or On-Demand PeEP and the dosing schedule was like this. You you were planning to have sex on Wednesday. So, two to 24 hours before you took two pills. A day later you took a pill and a day later you took a pill. And that study was highly effective rates drug 86 percent decrease in nature in HIV rates over placebo. However, the men in this study were having very frequent sex and so they were taking an average of about four pills per week. What do we know about four pills per week for erectile exposures? We know that that's probably enough. We still don't have good evidence about whether this will work in people with less frequent sex. We have no evidence that this will work in women or injection drug users. And so, the CDC still said that this is not something that should be done at this time. Now that doesn't mean we can't do vacation exposures. So, I'm a strong believer and somebody comes in and says I'm really good but when I go on vacation, I have more sex. I

drink a little more a party a little more. That's when I get into trouble. And I'd like to be on PrEP while I'm on vacation.

[00:31:19] OK start to PrEP a week before or three weeks before to attempt depending on your risk and do it through vacation and after and then you can stop if you choose to. So that's different than this. I'm having sex tonight. I'll start my PrEP today. I think that that's risky also because people don't plan for sex very well. You know last anal sex plan 51 percent and most of those were minutes. But yes, I planned it minutes before. OK.

[00:32:00] Let's move on to Milagros. Milagros is a 26-year-old transgender female who recently discovered her boyfriend is HIV positive by finding a pill bottle and looking up the medication on Google. She's anxious about confronting him. She's worried about getting it but she's also worried about getting HIV. She doesn't feel like she can ask them to use condoms at this point because they haven't been using them prior. Which of the following statements is false? So, three are true and one is false.

[00:32:28] Transgender women have higher rates of HIV infection than MSM? PrEP was as effective in trans women as in MSM and the iPrEK study? There is less awareness of PrEP in the trans community than in the MSM community? Concerns about interactions with hormones leads some trans women to prioritize hormones over PrEP?

[00:32:46] Please vote don't forget you're looking for the false statement.

[00:33:05] OK. So, half of you got this right in the iPrEK study which I'll go over in a second. I did not work as well and trans women in fact it was not effective. And we'll talk about that. Trans women do have higher rates of HIV infection. There is less awareness and there are concerns. So, it is really important that we also be looking at trans women as very important targets for HIV prevention. Trans women have about a 21 percent HIV prevalence 34 times higher than the general population.

[00:33:42] Very high risk though that the risk that that multi-level the risk for HIV is such such a multi-level issue. There's stigma, social discrimination, there's violence, victimization, limited access to housing, lack of employment opportunities that lead to higher rates of sex work. Very complex reasons that trans women are at higher risk. PrEP uptake and awareness amongst trans women has not has been low. Adherence in iPrEK was 18 percent and so and it wasn't correlated with risk and other PrEP studies they found the more risk you had the higher your adherence rates and in trans women that was not true.

[00:34:21] They didn't increase their adherence because they thought they were at risk and concerns about interactions with hormones do lead some women to prioritize hormones over PrEP. We know even less we know a lot less about trans men.

[00:34:38] Very few studies studies estimate HIV prevalence to be between zero and 3 percent prevalence of STIs from 6 percent to 47 percent trans men have very diverse sexual practices. Thirty percent will have in this study were reported having sex with females only 30 percent with males only 34 percent with males and females. So sexual practices are diverse both anal and vaginal sex and lower rates of condom use. I think it is really important that we look at our trans men and look at their risks for HIV and engage them in HIV prevention. So, I'll just end by talking about the fact that we really need to improve outreach and address the social and structural barriers to PrEP. This was a great slide from the CDC that said that 44 percent of people who could potentially benefit from PrEP are African-Americans but only 1 percent were prescribed PrEP.

[00:35:43] Twenty five percent of people who could benefit from PrEP are Latino. Only 3 percent of those were prescribed PrEP. I'll spend a minute talking about the pipeline.

[00:35:57] So today PrEP is synonymous with tenofovir emtricitabine on of being that is PrEP but that is not the only thing out there and there are a lot of things in the pipeline. There are topical like vaginal rings. There's interesting studies going on about monoclonal antibodies. Looking at TAF for PrEP versus TBF that's not ready for prime time and TAF should not be used until we have the data. I think the probably the most exciting for a lot of people is the long acting injectable cabotegravir. So, there are new things being looked at and probably on the way in the coming years.

[00:36:32] So in summary PrEP is now a part of a menu of evidence-based interventions to prevent HIV transmission. Awareness, interest, and demand has risen dramatically in the past couple of years and we need more providers who are comfortable prescribing PrEP. Let's convince all our colleagues they can do this. We need to do better in reaching out to younger MSM communities of color and trans men and women.

[00:36:57] Thank you.

[Video End]