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# PEP AND PREP: THE LONG (ACTING) AND SHORT OF IT: THE NYS HIV PRIMARY CARE AND PREVENTION ANNUAL CONFERENCE

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**PEP AND PREP: THE LONG (ACTING) AND SHORT OF IT**
**[video transcript]**

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Aviva Cantor is a primary care physician assistant at Callen Lorde Community Health Center, a health center that focuses on the health needs of the LGBTQ community. Aviva is the HIV quality coordinator and works closely with the HIV management team. Aviva is also part of the New York State AIDS Institute Clinical Quality of Care Committee, and her work is rooted in increasing healthcare access, improving health outcomes and educating future medical providers and the community. Thank you so much Dr. Aviva Cantor for joining us today and presenting and I'm gonna let you take it from here. Hello, everyone. My name is Aviva Cantor, I use she/her pronouns. I am a PA and HIV specialist and I am proud to be a primary care medical provider in New York state where reproductive rights are protected. I am speaking today from a place of concern for those and other areas of this country who now have less access to preventative health care, and have lost the right to make healthcare decisions about their own bodies with their trusted medical team. I have no disclosures. However, there will be off label medication use discussed in this presentation. The learning objectives for this talk. After this session, participants will be able to explain how to identify and treat patients at risk of HIV with PEP and PrEP, review the current available PrEP options including possible side effects and monitoring and discuss long acting injectable implementation strategies and clinical settings. What I want attendees to be here with today is that it's not about which patient should be taking PrEP. But which PrEP option is the best for the individual patient? And also to get everyone thinking how can we reach more people and utilize the resources we have available to us to prevent HIV in all communities? Question one, which of the following statements is false, a) HIV incidence decreased by 9% between 2015 and 2019. -HIV incidence is falling among all age groups. -HIV incidence is falling among African Americans and -HIV incidence is rising and transgender men and transgender women. Answer which is false who is B. Incidence is not falling among all age groups. And the other options are in fact true, including that incidence is falling among African Americans and rising and transgender men and women. So, new HIV infections fell eight to 9% from 2015 to 2019, after a period of stability. According to the latest estimates from the CDC, which are right before the pandemic, there were approximately 34,800 new HIV infections in the United States in 2019. This is an overall decrease, although certain communities continue to be disproportionately affected. There continue to be racial disparities and inequities and new HIV diagnoses. HIV diagnoses decreased 8% among black and Afro American people overall, Black and African American men and sex with men continue to be affected by HIV more than any other group but rates have stabilized and are no longer increasing the group with the largest increase in HIV diagnosis or Latin X men that have sex with men. New diagnosis data by age group, good news and our youngest populations rates are decreasing in the younger than 24 age group, the age group with the highest rates of new infections and an increase in incidence or the 25 to 34 age group. Our current prevention tools

including HIV testing, and linkage of people with new diagnoses to care, with the focus on getting people seen by the medical team and rapid starting or same day starting HIV treatment as soon as the patient accepts treatment. In addition, we have education and counseling around behavior changes and harm and risk reduction techniques. We have PEP or post exposure prophylaxis, we have PrEP or pre exposure prophylaxis. And finally we have TAsP or treatment as prevention where we engage and retain patients in care, helping them achieve undetectable HIV viral loads where they are therefore not able to transmit virus, otherwise known as U=U or undetectable equals untransmittable. There are an estimated 1.2 million people living with HIV in the US as of 2019, with about 13% not being aware of their HIV status. This makes prevention important and necessary as people are not aware they're living with HIV, and therefore not aware they could be transmitted transmitting virus to others. The CDC recommends everyone between 13 and 64 be tested at least once gay and bisexual men and transgender women who are sexually active with multiple partners and or who are having condomless sex should be tested more frequently. Look at the basics of PEP first, no exciting updates or changes here just good effective prevention as long as people are able to access medications within 72 hours of exposure. Just a reminder as to why we know that PEP works, there was the 1994 AZT study that showed AZT reduced and prevented maternal to child transmission of HIV. We also have decades of evidence from occupational exposure or open up and we have an animal study that showed PrEP needs to be taken for more than 10 days in order to be effective. The highest risk of HIV acquisition is in receptive anal sex and in needle sharing. In addition to type of sexual exposure. Other factors that increase risk of HIV acquisition include whether the source person has a high viral load whether the mucosa is intact, whether there is frank blood or bleeding during exposure and if there are genital ulcers or lesions or other STI is present at time of exposure. Question 2. A 54 year old cisgender man that has sex with men here today for en PEP due to having unprotected no receptive sex with partner of unknown HIV or health status 12 hours ago, last unprotected sex two weeks ago, no medical history no medications uninsured, uses poppers and sildenafil recreationally. Should this patient be offered PEP today? a) yes check HIV fourth gen and STI screen first and repeat HIV fourth gen testing in four weeks. b) Yes, check HIV fourth gen, add an HIV viral load check the STI screen and repeat HIV fourth gen testing in four weeks and c) No wait for the results of the HIV viral load testing and opera PrEP. So, the correct answer is B. This person should definitely be getting PEP and he should get a viral load to cover the session the sexual exposure prior to the most recent exposure. And there are some drug interactions to consider here, but nothing that would affect the current firstline PEP treatment options. With PEP options, there have been no significant updates in the last few years. New York state guidelines were updated in November 2021. And the CDC was last updated in 2016 TDF FTC or Truvada and integrates makeup the first line options New York State differs from the CDC here with an alternative option a co formulated TDF FTC with boosted by Elvitegravir as an alternative. There are studies going on looking at co formulated TAF FTC with elvitegravir but there's no data yet. There's no

changes and recommended labs for PEP initiation and follow up the same renal function testing HIV testing, Hep B and C testing. One thing to make sure that we're doing is at initiation and then again at PEP follow up there should be a discussion about PrEP and starting PrEP after the completion of PEP otherwise known as PEP2PrEP. Some important interactions and side effects to keep in mind with PEP side effects most commonly include gi with nausea and also headaches and dizziness. You can offer symptomatic treatment to encourage completion of PEP. Drug interactions to be mindful of if prescribing Raltegravir, decreased Metformin in our patients who are taking Metformin for diabetes or pre diabetes. To decrease risk of lactic acidosis if patients are taking magnesium or calcium and binding meds such as antacids, supplements and multivitamins. They should be taken a few hours apart from integrators. And finally with boosters Ask the patient to avoid recreational use of poppers and PDE 5 inhibitors, but also consider holding high dose statins. Check hep status if not already known, and be prepared to continue happy treatment if needed, and avoid TDF with kidney dysfunction. Just a reminder that raltegravir is no longer considered teratogenic. And finally, abacavir should be avoided due to risk of hypersensitivity. Patients are able to access PEP if they know about that, if waiting for prior authorization or patient assistance approvals dispense three to five days of meds while waiting. Updates to the New York state guidelines in 2021 include, if patient is presenting for screening and treatment related to sexual assault, the patient should receive the full 28 day regimen. Also, all adolescents younger than 18 should receive the full 28 days. Who doesn't need PEP. These are our patients taking PrEP consistently incorrectly. People whose partner is undetectable if the partner or source is confirmed to be HIV negative or undetectable. And just a reminder, it's okay to start path and then stop once you have more information. So let's get into PrEP. And we'll dig into the different tried and true oral options. TDF FTC or Truvada and TAF FTC brand of Descovy and our newest option Cabotegravir long acting injectable brand aptitude. We'll also look at the New York State PrEP guidelines updated last month, and in particular highlights of differences between the New York state guidelines and the CDC guidelines. Question 3: Which of the statements below is true? a) The CDC estimates that PrEP is 99%. Effective and preventing sexual exposure to HIV when taken as direct. b) On demand dosing of TDF FTC has been shown to be an effective strategy for anal and vaginal sexual exposure to HIV. c) Same day rapid initiation of PrEP is not safe prior to receiving lab results. And d) if a patient misses their quarterly HIV PrEP visit, if they miss their their quarterly HIV testing, PrEP should be held until an HIV negative status can be confirmed. Correct answer is A, PrEP that is 99%. Effective when taken correctly. B was maybe slightly slightly Trick question on demand dosing is not known to be effective for vaginal exposures, but it is okay for for annual exposures. But again, it's not known to be effective for vaginal exposures. Same day PrEP is safe even without lab results. And we should try to be working with patients to keep them on PrEP as much as possible, even if they're late for follow up visits. Well next talk about oral PrEP effectiveness dosing options and follow up. First, we'll start off with a super brief PrEP history which Tara touched on. We are 10 years into TDF FTC for PrEP. In

2019, the FDA approved TAF FTC for PrEP. On Demand PrEP with TDF FTC was supported by New York state guidelines and 2020 and the CDC followed suit and 2021 Cabotegravir for PrEP was approved in December 2021. And also a very important note in the timeline here TDF FTC became generic in late 2020. And over the next year, the price decreased dramatically. At our 340b pharmacy, it's now available for around $30 a month, down from nearly 2000. So, we know that PrEP is 99% effective if taken correctly, we know that PrEP is most likely to be taken by white cisgender males and is less likely to be prescribed with the highest risk groups. This doesn't mean that medical providers are consciously not prescribing. Although that can be part of the picture. It's more likely related to decrease medical care access in certain populations and communities. And the systemic racism and homophobia that pervade every part of society will continue to affect medical care and outcomes. Here we have information on PrEP use by sex. Here, PrEP is overwhelmingly utilized more by males than in females. However, the PrEP utilization data available from New York State does not include gender identity, as this data is from a prescription In database for gender identity information is not collected. So I can't comment here on PrEP utilization and transgender medical. Refuse by race. It's clear based on this medication utilization graph that PrEP access and prescriptions are significantly higher in white patients. TDF FTC, we know it's effective in all at risk populations, including sexual risk and needle sharing. It's effective quickly and men that have sex with men and it does take longer for protection with receptive vaginal sex and intravenous drug use. Protection is assumed in MSM at less than seven days and daily dosing. But we say seven days to be safe, or with on demand PrEP, which we'll talk about, it is safe as soon as two hours after taking the first two pills. People having receptive vaginal sex can also reduce time to protection by taking two pills up front. What we don't know are the exact correlates of protection with vaginal sex. There are differences among experts and in other countries guidance states that protection is achieved at seven days rather than the 21 days we recommend a New York State. Seven days may very well be enough time we just don't have the data. So to be safest, we continue to recommend 21 days to protection for vaginal sex. TAF FTC was approved for PrEP based on the Discover trial, which did not study people having vaginal sex or IV you. TAF has a higher plasma stability which makes it more potent than TDF and therefore less drug is needed, decreasing adverse effects on kidney and bones. Like TDF FTC, it is excellent at preventing HIV if taken correctly. Like TDF FTC, it is a recommended PrEP option. However, New York state considers TDF FTC the preferred oral option unless there is CKD, osteoporosis or an intolerable side effect profile with TDF FTC. And then also TAF is now widely understood to cause some weight gain. PrEP is 99% effective if taken correctly, we've said this a bunch of times, I say to patients what this means is that PrEP is more effective at preventing HIV than birth control is at preventing pregnancy with perfect adherence, and MSM. This is true even with as few as four pills per week. Looking at the outcomes of the listed studies where adherence was low, effectiveness was low as well. When assessing adherence to PrEP, it can be a good opportunity to look for possible larger issues affecting adherence. Are there access issues with the pharmacy or their

insurance? Are there is their mental health stable is disclosure and issue and are they concerned about having pill bottles or bringing pills with them on trips or with traveling? Is parenting or caretaking preventing them for caring for themselves? Why are they struggling with adherence? A look at on demand or event based or 211 dosing currently approved for TDF FTC and MSM only. You take two tablets to 24 hours prior to sexual activity. And it's continued for at least 48 hours after sexual activity. So again, you take the two pills to to 24 hours before and then you take one pill 24 hours after that first dose and then you continue taking a pill every day until it has been 48 hours after sexual activity. I find it useful and necessary to remind patients of the dosing schedule for on demand PrEP at every visit. There is conflicting data regarding the effects of estrogen on TDF FTC levels. It's recommended that transgender women and non binary persons taking estrogen who are not able to take daily PrEP that a risk benefit discussion is had regarding on demand PrEP. If the choice is no PrEP, or On Demand PrEP, certainly from a risk reduction point of view, this option will be indicated in some patients. This chart just shows another way to look at on demand PrEP where the risk is ongoing, where one would continue daily PrEP until it has been at least 48 hours since the last sexual activity. We also this is also known as sort of to 1111111 so plasma levels of TDF do not match drug levels and vaginal and serve mucosa and require longer periods to protection than an erectile tissues. The effectiveness of On Demand TDF FTC as PrEP for vaginal exposure has not been established. Data suggests that vaginal sex requires nearly 100% adherence to daily PrEP to achieve protective levels. Without more data on demand dosing cannot be recommended for vaginal sex. Same day oral PrEP initiation can be offered when there are no signs or symptoms of acute HIV infection. There's no history of renal disease and no concern for HIV exposure and the previous 72 hours requiring that same day start for oral PrEP is approved and included in both the New York State and CDC guidelines. Both same day start and waiting for lab results prior to prescribing utilize the same PrEP initiation labs. Question for a 54 year old cisgender bisexual male here today for PrEP follow up. He has been taking TDF FTC daily for five years. His most recent creatinine clearance is 55 This is his second creatinine clearance less than 60 His primary, his medical history includes osteoarthritis and mild asthma. He takes ibuprofen 600 milligrams no more than once a day. Almost every day. He goes to the gym and lifts weights five mornings a week. He has a protein shake after every workout. Regarding options for PrEP. Which of the following statements is false? a) He could switch to on demand TDF FTC. b)He can try stopping protein shakes and taking less ibuprofen prior to discontinuing TDF FTC. c) He could switch to on demand TDF FTC and d) he has the option to switch to daily TAF FTC or Cabotegravir long acting injectables. So, we are looking for the answer that is false. The correct answer is C on demand TAF FTC is not an option. Just because it's not available for on demand. It's okay to switch to on demand TDF FTC, it's okay to stop the protein shakes and see if his kidney function improves. And he does have the option to switch to Cabotegravir and speaking of which, we are so excited that Cabtegravir for PrEP is here. We've been waiting, the data is exciting. And now we can say that we are ready for real life in practice patients to receive long acting injectable

medication for HIV prevention. However, with this excitement comes some significant administrative issues and hassle. We should have realistic expectations regarding difficulties with patient eligibility, obtaining prior authorizations, developing policies and procedures and finally actually getting the medication into the patient and managing any side effects. The Cabotegravir studies or the HPTN or HIV Prevention and Treatment Network both three study which included over 4000 men that have sex with men and transgender women, and HPTN 084 that included over 3000 cisgender women. The study design was double blind with everyone taking multiple pills and getting injections. Half of the study received Cabotegravir pills and injections alongside placebo TDF FTC, the other half received TDF FTC and placebo versions of Cabotegravir tablets and injections. The study included an oral lead in with Cabotegravir tablets for four week for five weeks and initiation dose of Cabotegravir and a second dose in four weeks, then injections every two months for about three years. After that period everyone in the study was switched to daily TDF FTC tablets for one year. O83 found Cabotegravir to be non inferior and O84 found Cabotegravir to be superior. Let's take a moment to discuss the significance of superiority here. Statistically superior does not equal clinically superior study participants still needed to be adherent to the tablets in order for TDF FTC to be effective. So, if participants were missing doses TBF FTC, they would not be as protected as someone in the Cabotegravir injection arm, who was essentially receiving directly observed therapy TDF FTC is 99% effective that hasn't changed here when taken correctly. Regarding whether both arms had the same HIV risk, both arms found gonorrhea at similar rates, which means there was similar HIV risk and both groups. Failures did occur in the studies. And although they were rare, they are important to know because of the integrase resistance that developed in baseline and incidence infections. One in four of the baseline infections had integrated resistant that developed four out of the nine incident infections had developed integrase resistance, and there was no integrase resistance while study participants were in the tail phase after stopping injection. Regarding side effects and injection site reactions, there were discontinuations and the only three groups, but notably there were no discontinuations and O84 related to injection site reactions. So, with Cabotegravir revere the pros of long acting Cabotegravir are few but significant, long acting injectables may be the difference between your patients starting PrEP or not. Fear of disclosure around taking PrEP and the stigma and worry of being perceived as promiscuous by the community or medical providers is still a big worry for some people, and having pill bottles around it makes them really nervous. We know PrEP only works if you take it and adherence difficulties continue to be a struggle for many people. Having this long acting injectable option is a total game changer for the predisposed. There are many challenges with this medication, but they are mostly related to administrative and coverage issues. We are hopeful that as insurances change formularies over time, these issues will dissipate some of the more straightforward challenges with long acting injectable Cabotegravir is that it is expensive. The occurrence of injection site reactions. medical monitoring visits are every two months rather than the every three months with oral PrEP and that it is contra indicated in people with

silicone or fillers in the buttocks and there is no protection against Hepatitis B. Patient counseling on Cabotegravir can happen at the time of the patient expressing interest in injectables at their initiation dose visit and should happen at all follow up appointments. The most important discussion points are understanding injection site reactions and the importance of not missing follow up injections. Cabotegravir for PrEP is one deep ventral gluteal three milliliter injection into the buttock initially on day one, four weeks later than ongoing every eight weeks. I included this visual here to show the location of the injection and how it differs from a straightforward I am injection. Also a note here about how much cabotegravir is getting into the body. The Cabotegravir is slowly absorbed as the suspension forms a depo or a little pocket of medication in the muscle, and it's slowly absorbed from the depo site into the bloodstream over eight weeks. Injection site reactions are the most common and most important side effect with long acting injectables. Most were grade one with grade two reactions most common in the first few injections and becoming less frequent in subsequent injections. Injection site reactions look like localized tenderness, warmth and redness, you can counsel on using warm compresses and NSAIDs. And for some patients preventing injection site reactions with NSAIDs, one to two hours prior to the injection may be helpful. Even with the most significant injection site reactions, most patients will prefer to continue injections. So, your patient did not show up for their injection. Depending on the patient and their ongoing risk of HIV acquisition, this can be a big deal. There is a lot here but I just want to highlight that there is a plan and an algorithm for when a patient misses their injection visit. It may include taking oral PrEP for a period and or if it has been long enough, they will need to restart the injections with the initial two injections one month apart before returning to every two months. And again, there's just this is part of the algorithm and it's different based on whether the missed dose was the initiation dose, or it was a follow up dose that was missed and how much time has passed since the last injection The most common side effect is injection site reaction. However, headaches GI symptoms and depressive symptoms have been reported. The most significant drug interactions are with anti seizure medications. Although an oral lead in is not required, all patients should be offered an oral leading prior to injections, especially for those with a history of multiple significant medication side effects. And for those patients who are apprehensive about long acting injectables. I can say that in our case here, most people are not interested in the oral didn't but we always offer it. Here we have a patient or maybe a fellow healthcare worker who is excited about long acting injectables. And this is likely what our patients are thinking long acting injectables are something like it's so easy is just a shot in whatever area of the body the patient thinks it's the easiest for them. So, this is the process of Cabotegravir and getting it into people. This is what it really looks like. It's currently a significant administrative burden that requires changes in clinic scheduling, medication storage, time spent managing prior authorization and ongoing trainings for providers and nurses. I put together this very basic flow flowchart of what the process may look like for any clinic or office. This will change for your agency or clinic depending on how many patients are getting

Cabotegravir, the number of involve staff and other factors. Mail Order pharmacies will need to deliver to the office for certain insurances and you will need flash storage, appointment scheduling support and injection tracking is vital to ensure patients are not lost and follow up. And that outreach is done in a timely manner. Patients need to have an appointment before they leave the visit. Most of the time, and this flowchart is actually spent in the areas in the first row highlighted in black borders. Many health centers have not started cabotegravir for PrEP yet, due to difficult medication authorization and approval processes and difficulty guaranteeing insurance coverage and reimbursement in New York State many insurers are covering as a medical benefit, which is more complicated and is not a straightforward reimbursement process, like the easygoing pharmacy benefit, although this is updated and changing constantly. So, you have your patients PrEP initiation labs and the medication has been approved and your patient is here for their first injection. When are they considered to be protected from HIV. Plasma concentration is predicted to be above the required protective concentration in 90% of people by three days, and then 95% of people by one week. However, concentrations in target tissues are not known with cervical and rectal tissues having a range of concentrations. Most patients should be considered protected by one week. Although likely sooner than that. To be safe, you can say seven days but again, the exact time is not known. So PrEP initiation labs done either same day as in same day start for PrEP or within seven days of start for oral PrEP or long acting injectables. If it's been more than seven days, you should repeat lab based HIV antigen antibody testing and HIV RNA testing. The little yellow star highlights differences between the New York state guidelines and the CDC. New York State advises viral loads in addition to HIV antigen antibody testing at all PrEP starts and the CDC recommends viral loads are added to initiation labs based on an algorithm that considers recent viral symptoms recent PEP use PrEP in the last three months or have injected injections in the past year. New York State recommends viral loads at all initiations to prevent missed recent HIV acquisition or baseline HIV seroconversions and to take the pressure off of the patient and assessing their own recent risks. A reminder that clinicians should not wait to initiate PrEP and individuals who may be in the window period for seroconversion when an HIV test cannot detect infection, doing so risks additional exposures and significant delays and PrEP start making no changes here to New York State PrEP follow up routine lab recommendations. However, the CDC is advising HIV RNA assays every PrEP follow up visit including oral PrEP, which is different from New York State. Why does New York State not recommend viral loads and oral PrEP follow ups but agrees with viral loads and heavy injection visit for Cabotegravir we'll start with explaining why New York State does advise viral loads at vol Cabotegravir revere inject in visits. We know that when is that when a person is on antiretrovirals, the seroconversion process is suppressed with delays and HIV antigen antibody detection. We see this with oral Tenofovir to a certain extent, but there is a significant delay in antigen detection with Cabotegravir injections. In the HVTN O83 study, there was a median delay of 62 days from the time of infection to HIV diagnosis were unrecognized baseline infections and individuals on

Cabotegravir and a delay of 98 days per incident or true breakthrough infections, with the development of integrase resistance mutations in those individuals. Because of these delays, and in antigen antibody positivity, routine HIV RNA testing has an important role and timely detection of breakthrough HIV infections. Eshelman at all presented at CROI. This year, that viral load testing with cab LAI would have averted several previous cases of failure with integrase resistance as elevated viral loads were detectable prior to antigen antibody positivity. viral loads are not considered necessary and follow up visits for oral PrEP and per New York state guidelines. Because the time to detection is shorter and development of resistant virus is rare in these cases, as opposed to the integrase mutations that develop in Cabotegravir failures that significantly affect HIV treatment. When failures happen in TDF, or TAF FTC, the most likely mutation is the M 184B, which has no impact on firstline HIV regiments, the case 65 our mutation is certainly possible, but it's extremely rare. Most enough of your base PrEP failures were in people not taking correctly and resistance did not occur. Although there are a handful of documented true failures based on hair and serum drug levels. But again, hundreds of 1000s of people have taken oral PrEP. Certainly in someone with shaky adherence or symptoms consistent with acute HIV infection, a viral load is indicated otherwise, however, oral PrEP follow up viral loads are unnecessary are an unnecessary cost to the healthcare system. A few notes on STI screening recommendations and some differences between the CDC and New York State. New York State means more towards frequent bacterial and syphilis STI screening, essentially an every visit unless a patient declines or discloses zero risk since the last visit. Screening really drives public health care, which is the foundation of the guidelines. There have been finding that PrEP use has increased the incidence of diagnoses of STIs however, it's been found that the STI frequency was likely similar to rates prior to PrEP in general, with some significant increases in STIs in a small subset of certain populations, and that regular screenings while I'm PrEP has likely diagnosed more asymptomatic STIs than other testing programs. The CDC recommendations are less frequent STI screening, and you can see here their recommendation screening periods are sometimes twice as long as New York State. This is a head to head look at Oral PrEP versus Cabotegravir. I revere and note on comparing TDF FTC to TAF FTC when switching people where there's no clinical indication this will likely increase healthcare system costs without providing any real improvement in outcomes to patients have Cabotegravir injectables is is of course expensive. But it turns out to be similar in cost to TAF FTC when looking at by monthly injection costs rather than the monthly cost of TAF FTC. We can also compare effectiveness expect insurance coverage, hassle, interactions and side effects as well as known metabolic concerns and renal bone toxicities. Some patients may get some benefit from a chart like this, but I would probably use this chart more for training other providers and staff in your office. When looking at what these medications have in common for both TDF and TAF FTC, I expect and I expect to see with cab patients report that being on PrEP allows them to feel less anxious about sex and less anxious in general, and they report more fulfilling sex lives without worrying about HIV. I have several patients as I'm sure many of you

do as well, who are monogamous with their partners living with HIV who are undetectable and find that even though they know they are not at risk of HIV from their partner, being on PrEP has improved their sex lives and decreased not only their own fears, but their partner's fears as well. And these patients were uniquely you equals you messaging is not enough. PrEP has been almost revolutionary for their sexual health, mental health and their relationships. Question 5. 33 year old transgender women and men arguments relationship with sis male living with HIV taking medications and undetectable should this patient be offered PrEP? So, she should understand your options and make a decision based on her personal risk and choice. The point here is that all patients should be offered PrEP, and people are requesting STI screenings at any time, entering new relationships or ending previous relationships. PrEP should be part of the discussion in the same way that birth control and STI screenings are offered. The reasons why patients may discontinue PrEP include side effects changing kidney function or drug interactions, loss of insurance and most commonly due to change in sexual activity or reduction risk reduction and risk. Stopping PrEP is okay. And hopefully as providers we can affirm their choices while also counseling on how one would restart PrEP if and when the time comes. Cabotegravir concentrations remain high for a long time after the initial eight week therapeutic coverage period, which makes it great for a long acting injectable. But it is important to note that lower levels of medication can remain in the body up to a year or more. There is a risk of integrase resistance in patients who sero convert during the tail phase. And although integrase resistance has not been seen, yet, there is potential in oral meds should be started in patients who are having condomless sex with multiple partners or new partners to prevent possible development of resistant virus if exposed to HIV. Big picture we have these great options for patients but we are not reaching all of those who could benefit from medical HIV prevention. If we look at the social determinants of health, people may not have access to medical knowledge or have a belief system that does not that does not include trusting long acting medications. They may not understand the importance of keeping appointments or for follow up. Inconsistent insurance coverage or access to patient assistance programs affects all aspects of preventative health care, and in particular sexual health preventative care. Lack of knowledgeable providers decreases access as well. LGBTQ plus people have historically been mistreated, marginalized and refuse treatment by the medical community, which has led to mistrust of medical providers and the healthcare system as a whole. We need to continue to address negative PrEP associations, such as the common community misconception that people on PrEP, have more STDs, and will need to continue to address the false narratives from the massive social media campaigns. From around the time of when tab FTC was approved for PrEP that made it seem like TDF FTC was causing harm to people. In general, there is still a lot of work to do in order to get PrEP into the hands of the people who we are not reaching. So here we have a basic chart you can use to quickly assess which PrEP is approved for your patient. You'll see them maybe in their regarding trans feminine patients taking estrogen for on demand. And then although not approved for on demand PrEP, there is more and more data

that supports the use of on demand PrEP as a real risk reduction tool that is safe for this population at a higher risk of HIV acquisition. Here is a chart comparing oral PrEP and Cabotegravir taken directly from the guidelines with a lot more nuance than the previous chart and is looking at not just who is approved for use, but also includes consideration of patient's preferences such as injections versus pills, frequency of visits, ongoing protection versus on demand. You can use this chart with the patient to decide which option is best for them. In the PrEP medication pipeline, we have current studies looking at lenacapavir a capsid inhibitor and accused six months subcutaneous injection form. Islatravir a nucleoside reverse transcriptase translocation inhibitor is being studied as an implant with a design similar to next one on and drug concentration potent up to 48 weeks. Studies are also looking at an oral monthly option of Islatravir. The vaginal ring is not likely in the US, but other future options may include biodegradable hydrogels and microneedle patches. Just want to say thank you to CEI, for the opportunity of speaking about PEP and PrEP here today. I also want to thank Dr. Rona Vale, the lead author on the New York State PEP guidelines who helped with this talk today and why I'm so fortunate to call my colleague and friend. And I hope you leave here today with a few more PrEP tools and a better understanding of those tools and how we can better meet the needs of our patients and larger communities by not just offering PrEP, but by offering people to waist and better options for success and better health outcomes. I look forward to your question. Thank you so much, Dr. Cantor, for your presentation today. And thank you again, everyone for joining today. We have time now for some questions. And so I kind of want to go over again, something that maybe people might may have a question about in the future in terms of habitat review, or maybe they don't even have an implementation plan at their workplace. But you were talking about some of the logistical barriers for the full implementation of Cabotegravir and home care setting. Could you kind of go back and talk about possibly something that has happened in your workplace or a real life instance where you noted those two blocks that were the majority of the issue? come from those two, if you want to go back to that slide, Dr. Cantor? Maybe we can hear more about that instance, and kind of how you're resolving it. Yeah, that one? Yeah. So here. Yeah. I mean, I have to say we have a pretty robust, Cabenuva program for HIV treatment. And we are just getting started because the approval for Cabo check for average user for Cabotegravir, you know, happened in the last few months. We have a system set up for long acting injectables because of Cabenuva and we have team setup, and we've been preparing for this, we have our finance, we have all these people ready to handle this. And we are having trouble with these two boxes, right with getting insurance companies to guarantee reimbursement of this medication. We found with Cabenuva, for example, that we were having trouble getting reimbursement for our medical benefit patients. So they'll say they approve the medication, but that they actually, you know, I'm sure we've all seen these approvals before that say, you know, we we approved, but we can't guarantee payment, right. And that's really going to make people nervous. If you are as the, as the clinic, you're financing the medication upfront, and then waiting for that approval, you know, this

medication is 1000s of dollars, right? So we are, the way that we're doing it here is where we're really testing one patient at a time, where we start a patient who we've gotten an approval for. And then we give the injection and we submit the request to the insurance company. And that is how we're doing I'm sure other places are having better success and doing this in their own way. Depending on which insurers they work with the most like, you know, some insurers might be more likely to cover as a pharmacy benefit. And our particular group of patients who is interested in this right now, most of them, it looks like our medical benefit, but in other places, they may have more insurances that are doing pharmacy benefit, and it'll be more straightforward. Great, thanks for kind of talking through that. And we have a question in the chat that says, can someone on PrEP stop using it if not sexually active? I'm sorry, let me open it up. So, I can see what the question is. Can someone on PrEP? Stop using it? Oh, of course. Yeah. PrEP is a tool, it's there for if you if you need it, I mean, in the same way that we would like, tell someone they need to take birth control forever, if they're not sexually active, and they don't want to be on it, right? It's there for you if you need it. And we you know, we want to tell people about that time to protection so that they decide in the future, they want to restart, they know what their options are, so that they can be protected beforehand. And so, another question I have here is, what's the most common question that you receive from your patients? Whether that's heterosexual or homosexual, who may feel apprehensive about PrEP? Can you talk through kind of a scenario where you've had that and, and maybe waves of how you've navigated that? So, at our health center, we do a lot of PrEP. So it'd be sort of hard to, I have to sort of group it by what, what, who's apprehensive about what I can say that for Cabotegravir, in particular, that the concerns that have come up are people being really nervous about scarring on their buttocks like what what is it? What does it mean? Like just really afraid of like the, the, the aesthetics of what injectables might mean for them for some of our patients who have had lots of bloodwork over time, and maybe they've noticed that they scar a little bit differently. So we've had people that are concerned about that, and we don't have good answers, except to say that wasn't reported in the studies, but that we can, you know, pay attention with each injection and what the response is, or Oh, PrEP options and concerns. Aye, aye. Thank people, we had a lot of concerns when the big social media campaign came out that basically scared people that they were on the wrong medication. And they were, you know, afraid that if they started TDF FTC, they would get kidney function, get kidney issues and sort of educating on how TDF FTC can unmask or worsen or any underlying kidney issues that has been a big education talk that we've had to talk about? A lot? I would say that comes up the most. Okay, I see a question. With the therapeutic tail of Cabotegravir, and how do you plan on counseling patients around this? So based on the studies, which they have, you know, they've had, you know, it's like, 8000 people, right. There haven't been any integrase resistance that has developed in those patients, we brought up, you know, there hasn't been any integration that developed in people who acquired HIV during the tail phase. Right. So there's this potential. And I, the way that I counsel patients is I'd say, it's possible, right, and I think the

most difficult conversation is going to be for those patients that cannot or will not take pills, right? Because they're going to be in the tail face, for whatever reason, they don't want to be on cabotegravir and now they are unprotected from HIV. For those patients who are willing to restart pills, if their risk changes, then I would say, please start please, please start PrEP, who started World PEP, like during this this space and try to explain to them why, but it will be a more difficult conversation and what the talk more about, you know, letting them know that barriers or whatever they have for protection, they're going to have to try to use to help protect themselves. Again, there's no integrase resistance, but it's, you know, that potential is there. We have another question here. You mentioned weight gain, this can be a barrier to use by females, how much weight gain and pounds increase have been recorded? I have to look up the exact number I think it's two kilos. It is it is significant. Like it's it should not be taken lightly. And it is something that is one of the reasons why it is not firstline to be honest anymore because it is significant. We've seen it in in people being treated for HIV as well with Descovy to do with TAF FDC to another degree because it's in combination with with integrators that also increase weight. But it is something that I definitely bring up. It isn't, you know, you don't we're not really sure at this point, if there is weight gain, what it looks like after you stop the medication either, right? But we don't know that the weight necessarily comes right off if you discontinue TAF FTC but then the exact weight and I think it's I don't have it off the top of my head. I wish I could look it up during this talk, but it's very easily accessible. Right Yeah, that's a good question to know or to ask, you know, for your patients so that they can be they can choose the right option for them as well. Again, thank you so much, Dr. Cantor for presenting today.
[End Transcript]