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More Important Than Embarrassment: Talking to Patients about Sexual Health

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SEX. One of the most loaded words in the English language. Societal messages subliminally and explicitly convey messages that sex is something you do, not something you talk about—especially with someone who is not your sexual partner. This creates a challenging patient-health care provider dynamic that can be counter-productive in caring for all of patients’ health care needs and ensuring the health of communities.
More Important Than Embarrassment: Talking to Patients about Sexual Health

Current Provider-Patient Communication

Although international health care standards have called for the need of complete and accurate information about patients’ sexual histories in order to provide appropriate screening, counseling and care as early as 1975, conversations between patients and providers about sexual health are still lacking. Surveys of physicians have found that only about 44% report talking with patients about their sexual health during routine exams. This percent was closer to 34% when a patient did not present with a sexual health issue as their primary complaint. Surveys of patients show an even lower level of communication with health care providers in that only about 25% of U.S. adults report being asked about sexually transmitted diseases (STDs) during routine medical exams.

Barriers to Communication

In general, and perhaps not surprisingly, discomfort (both intrapersonal and perceived patient discomfort or offense) was the most commonly named reason by physicians and nurses for not raising the topic of sex during routine check-ups. Interestingly, physicians reported believing that causing discomfort or offense could be potentially harmful to the physician-patient relationship while nurses generally did not perceive a similar threat. In addition, nurses tended to feel more strongly that sexual health was integral to patients’ holistic health than did physicians, although this did not translate to increased reported frequency in discussing sexual health with patients.

Provider discomfort or fear may be even more of a barrier if the proverbial elephant is not obviously in the room. Over 71% of primary care physicians in one study reported a lack of a genital complaint as a reason for not discussing sexual health with a patient. This reasoning is particularly problematic given the overwhelming prevalence of asymptomatic STDs, such as chlamydia. Even potentially hidden or mild symptoms of syphilis may not warrant mention to a medical provider. Additional barriers reported by providers include presence of a patient’s partner, lack of time during an exam, and insufficient training.

Certain demographic factors also appear to negatively influence the likelihood of health care providers initiating “the talk” with patients. For example, providers are less likely to take a sexual history or talk to patients about STDs if the patient is over the age of 45. Assumption or knowledge of patients having a non-heterosexual orientation may also dissuade physicians due to feelings of ignorance about lifestyles perceived as “other”, sexual practices and appropriate language to use. The widespread lack of culturally competent health care services, and even discriminatory practices, available to transgender patients indicate that these barriers may be even more pervasive for these patients. In addition, perceptions and assumptions about sexual attitudes and openness among certain racial and ethnic cultural minorities are also reported as a barrier by physicians for fear of causing offense. However, interestingly very few providers could provide examples of having caused discomfort by bringing up a patient’s sexual history or risk.

What Providers Should Talk with Patients About

Despite these barriers and discomforts, taking a sexual history is fundamental to quality health care. The absence of conversations with patients about their sexual health and histories represent missed opportunities that can cause important medical issues to go unaddressed and untreated, and may even lead to further spread of disease. Recent estimates of 20 million

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In general, and perhaps not surprisingly, discomfort (both intrapersonal and perceived patient discomfort or offense) was the most commonly named reason by physicians and nurses for not raising the topic of sex during routine check-ups.²⁻⁵

Covering these areas can provide a solid foundation for understanding a patient’s need for STD/HIV screening and educational counseling while questions about sexual function can provide additional information and promote linkage to care for other medical conditions beyond the scope of STD and HIV detection and treatment. In addition, the practice and characteristics of sexual partners can yield important insights into patient risk factors. That is, even patients who practice low-risk behaviors themselves may have high-risk partners. In some cases partner risk-factors have been shown to be more predictive of sexually transmitted infections than a patients’ own behaviors.¹²

How to Start the Conversation
Of course understanding the importance of sexual health and knowing the basics of what should be included in taking a patient sexual history does not alleviate the anxiety and discomfort in bringing this topic up. A number of resources exist to help health care providers in the task of taking a complete and accurate sexual history. The following are some basic considerations summarized from the resources listed below in this article and can help providers to begin thinking about how to have this important conversation with patients:

According to the Center for Disease Control and Prevention’s (CDC) "A Guide to Taking a Sexual History,”¹¹ taking a sexual history should include at least all of the “five Ps”:

- **Partners**—How many sexual partners and what are their genders?
- **Practices**—What types of sex is the patient having (e.g., vaginal, oral, anal)?
- **Protection**—How is the patient reducing his/her risk for STDs?
- **Past History**—What STDs has the patient had in the past?
- **Pregnancy Prevention**—What is the patient doing to prevent unwanted pregnancy?

Covering these areas can provide a solid foundation for understanding a patient’s need for STD/HIV screening and educational counseling while questions about sexual function can provide additional information and promote linkage to care for other medical conditions beyond the scope of STD and HIV detection and treatment. In addition, the practice and characteristics of sexual partners can yield important insights into patient risk factors. That is, even patients who practice low-risk behaviors themselves may have high-risk partners. In some cases partner risk-factors have been shown to be more predictive of sexually transmitted infections than a patients’ own behaviors.¹²
Talking to Patients about Sexual Health

- Confidentiality: Ensuring a space that is private and away from patients’ family members and other staff is essential for obtaining full and truthful information from a patient.

- Explanation: It is important that patients understand why they are being asked for personal sexual information and that this is standard for all patients in the practice. This includes thoroughly ensuring confidentiality, what will be done with the information and how it will be kept.

- Language and Tone: Always use neutral and inclusive language and tone (e.g., “partner” or “spouse” instead of “boyfriend” or “wife”). Mirror the language the patient uses as much as possible. If there is any doubt, always ask a patient what term they prefer to use to describe themselves, their identity, partners, etc. *Tip: Neutral or inclusive language/images should be used on all forms or documents, and any materials or office decorations, as well. Consider leaving a blank space for patients to fill in their own gender instead of selecting male or female.

- Maintain Non-Judgment: Remember that body language, not just our words, conveys how we feel. Be aware of facial expression, posture, eye contact, etc.

Please see the following resources for more complete and in depth information about what to include in a sexual history and how to help patients feel at ease:

- A Guide to Taking a Sexual History—Centers for Disease Control and Prevention http://tinyurl.com/6nhyw2
- Patient Sexual History—What You Need to Know to Help—American Medical Association http://tinyurl.com/kxc2u42
- Taking Routine Histories of Sexual Health: A System-Wide Approach for Health Centers—National LGBT Health and Education Center http://tinyurl.com/mww3t5b

Summary

Patients’ sexual health and well-being are central not only to their own health and quality of life, but to overall community health as well. Despite initial discomfort and lack of previous training, health care providers have the tools and resources to talk with their patients about their sexual health in inclusive and non-judgmental ways that provide the most effective and complete care to individuals and communities.

Despite these barriers and discomforts, taking a sexual history is fundamental to quality health care. The absence of conversations with patients about their sexual health and histories represent missed opportunities that can cause important medical issues to go unaddressed and untreated, and may even lead to further spread of disease.

References

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STATEMENT OF NEED
Much research has centered on the use of Pre-Exposure Prophylaxis (PrEP) and Post-Exposure Prophylaxis (PEP) in the prevention and spread of new HIV infection. PrEP is the use of antiretroviral (ARV) medications prior to HIV exposure, and PEP is the use of ARV medications after a possible HIV exposure to prevent primary HIV infection. PrEP is now recommended for use by HIV discordant couples to prevent the non-infected partner from acquiring HIV during unprotected sexual behaviors, adult men who have sex with other men (MSM), and for adult injection substance users at risk of primary HIV infection. PEP has been historically used for intermittent use by serodiscordant couples, for treatment of persons following possible HIV exposure from sexual assault, and for those possibly exposed to HIV through occupational experiences (needle-stick or mucosal exposure). On May 14, 2014, the United States Public Health Service released the first comprehensive clinical practice guidelines for PEP. The guidelines were developed by a federal inter-agency working group led by CDC, and reflect input from providers, HIV patients, partners, and affected communities. This activity will assist health care providers with PrEP implementation, increasing their general knowledge around the use of PrEP and optimizing the opportunity to prevent new infections for those who are with a sero-discordant partner.

TARGET AUDIENCE
This activity is designed for physicians, nurses, health educators, and other health care professionals in New Jersey who are involved in the care of people infected with HIV and their non-HIV infected partners.

METHOD OF PARTICIPATION
Participants should read the learning objectives, review the activity in its entirety, and then complete the self-assessment test, which consists of a series of multiple-choice questions. Upon completing this activity as designed and achieving a passing score of 70% or more on the self-assessment test, participants will receive a letter of credit and the test answer key four (4) weeks after receipt of the self-assessment test, registration, and evaluation materials. This activity may also be completed online at http://ccoe.rbhs.rutgers.edu/catalog/.

LEARNING OBJECTIVES
Upon completion of this activity, participants should be able to:
1. Describe at least 3 different studies that led to the CDC recommendation of PrEP use in the United States.
2. Describe the baseline and follow-up procedures that need to be done when starting someone on PrEP.
3. Identify who should and who should not be advised to take PrEP, as per CDC recommendations.
4. Identify resources from the CDC and the CCC to help manage PrEP with your patients.

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HIV PRE-EXPOSURE PROPHYLAXIS: A Review

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By the end of this activity participants should be able to:

- Describe at least 3 different studies that led to the CDC recommendation of PrEP use in the United States.
- Describe the baseline and follow-up procedures that need to be done when starting someone on PrEP.
- Identify who should and who should not be advised to take PrEP, as per CDC recommendations.
- Identify resources from the CDC and the CCC to help manage PrEP with your patients.

To receive continuing education (CE) credit, complete the exam, registration, and evaluation forms on-line at http://ccoe.rbhs.rutgers.edu/catalog/ or that follow this article.
Introduction:

Despite remarkable advances in the treatment of human immunodeficiency virus (HIV) infection, the HIV global epidemic continues with people becoming newly infected with HIV and living with the disease. According to the Joint United Nations Programme on HIV/AIDS (UNAIDS) there are currently approximately 35 million People Living With HIV/AIDS (PLWHA) in the world, the majority of whom live in sub-Saharan Africa. In the United States (US), according to the latest estimates from the Centers for Disease Control and Prevention (CDC), there are approximately 1.1 million PLWHA in the US with 50,000 new infections occurring annually, the majority of which are sexually acquired, either among men who have sex with men (MSM) or among heterosexual persons. However, the risk of acquiring new HIV infection is not uniform across various risk groups. According to the CDC, the percentage of adults and adolescents diagnosed with HIV infection attributed to male-to-male sexual contact increased from 55% in 2008 to 62% in 2011, while those with other risk factors remained relatively stable. It is apparent that sexual transmission of HIV infection is responsible for almost 90% of new infections. A disproportionally high number of infections are occurring in young MSM (13-24 years of age), suggesting an urgent need to develop a multi-faceted approach to effectively address the epidemic in this at-risk population.

In 2011, there were 39,495 diagnoses of HIV infection among adult and adolescent males in the US and 6 dependent areas; 42% were Black/African American, 30% were White, and 23% were Hispanic/Latino. Similar observations were noted among women with new HIV infections; 63% were Black/African American, 17% were Hispanic/Latino, and 17% were White. Based on the above data, HIV infection rates were 112.8 per 100,000 for Black men and 40 per 100,000 for Black women, both of which are significantly higher than that for White men (14.5 per 100,000) and White women (2.0 per 100,000) and are even more alarming given that Blacks represent only about 12% of the US population. In addition, between 2008 and 2010 there was a 20% increase in the number of new HIV infections among young Black/African American MSM and bisexual men. The HIV/AIDS epidemic thus seems to disproportionately affect select patient populations such as persons of color and MSM, particularly young (13-24 years) Black MSM.

Primary HIV prevention strategies have included abstinence, condom use, needle-syringe exchange, and HIV testing coupled with viral suppression of PLWHA. However, those interventions by themselves have not been adequate in changing the curve of the epidemic. Newer multifaceted preventive strategies are needed that incorporate risk reduc-

**What is PrEP?**

PrEP is prescribing ART before the acquisition of HIV infection among HIV-uninfected at-risk persons.

In 2011 39,495 Adult & Adolescent Males diagnosed with HIV
HIV PRE-EXPOSURE PROPHYLAXIS: A REVIEW

Treatment as Prevention:
It is well known that effective treatment of HIV infection significantly lowers the HIV viral load in PLWHA. There is also data suggesting that reduction in plasma HIV viral load is associated with sustained reductions in HIV virus in genital tissue, which is likely a key determinant in the infectiousness of the person and could result in lower rates of HIV transmission. To further understand this hypothesis, the HIV Prevention and Treatment Network conducted the 052 study (HPTN 052). This was a landmark study that examined rates of HIV transmission among sero-discordant heterosexual couples in multiple sites in the developing world. Antiretroviral therapy naïve HIV-infected partners with CD4 counts between 350-500 cells/mm³ were randomly assigned to either receive immediate versus delayed ART (delaying ART was acceptable according to local guidelines at that time). The primary end-point was virologically linked (phylogenetically proven HIV transmission from the HIV-infected to the HIV-uninfected partner) HIV seroconversion in the HIV-uninfected partner. A total of 1,763 couples were enrolled in the study. There were 39 HIV transmission events observed; however, only 28 of these were virologically identified as having been from the infected partner. Of these 28 seroconversions, 1 was in the immediate ART group and 27 were in the delayed arm (p<0.001). This study demonstrated that successful treatment of HIV infection not only has a positive impact on the infected persons’ health, but on that of the HIV-uninfected sexual partner as well. These data are exciting and reinforce most providers’ beliefs that successful ART benefits both PLWHA and their partners. However, despite highly effective therapies for HIV infection, there continue to be large numbers of persons acquiring HIV infections, begging the need for additional prevention strategies. The CDC recently published guidance on the use of Pre-Exposure Prophylaxis (PrEP). This daily oral antiretroviral regimen, a fixed-dose combination of tenofovir disoproxil fumarate (TDF) 300 mg and emtricitabine (FTC) 200 mg, has been shown to be safe and effective in reducing the risk of sexual HIV acquisition in adults. As we will review in this article, there have been multiple clinical trials that have studied the safety and efficacy of PrEP among various at-risk populations. The first proof of concept study, CAPRISA-004 looked at the safety and effectiveness of 1% vaginal TDF gel when used 12 hours before sex and a second dose applied within 12 hours after sex. This study showed that topically applied 1% TDF gel reduced the risk of acquiring HIV infection among at-risk women by 39%. Despite an intensive adherence program and high gel acceptability, about 40% of the women had <50% adherence to the prescribed product. This suboptimal adherence is important to keep in mind because intervention strategies can only be as good as the adherence in the population being studied. In addition,

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Continuing Education

use of peri-coital vaginal gel may not be possible in all situations as many sexual encounters are not pre-planned and different prevention modalities need to be considered.

PrEP for Adult MSM (≥18 years of age):

There have been two large studies looking at the safety and efficacy of PrEP in the MSM population. The Pre-Exposure Prophylaxis trial (iPrEX) was a placebo-controlled randomized study comparing oral tenofovir (TDF)/emtricitabine (FTC) with placebo among HIV-uninfected, high-risk MSM. The study randomized 2,499 subjects to receive either TDF/FTC (n=1,224) or placebo (n=1,217). The study involved prescribing PrEP and a comprehensive set of interventions that included risk reduction counseling, free condoms, and screening for sexually transmitted infections (STIs). The above interventions were offered both routinely at scheduled study visits and more frequently if participants had symptoms of acute HIV sero-conversion. HIV antibody testing along with quantitative HIV-1 RNA PCR testing was performed for inconclusive antibody test results. Subgroups also had blood tested for drug metabolite levels to compare drug levels among those who sero-converted and those who remained HIV-uninfected. PrEP (TDF/FTC) administration was associated with a 44% risk reduction in the likelihood of acquiring HIV infection. The second study was the US MSM Safety Trial, which looked at the safety of oral TDF in 400 MSM in three cities in the US. There were no HIV sero-conversions that occurred while participants were on TDF, but 7 sero-conversions occurred in the placebo arm. Both these studies demonstrated that daily oral PrEP was both safe and effective in reducing rates of HIV transmission among MSM in the US. Given that the MSM population is disproportionately affected by new HIV infections, use of PrEP should be a strong consideration, particularly when used in combination with other risk reduction strategies.
**PrEP for Adult (≥18 years) Heterosexual Men and Women:**

The HIV epidemic in the US is primarily sexually transmitted and hence in addition to PrEP for MSM there also needs to be effective PrEP interventions for at-risk heterosexual persons. There have been multiple studies looking at the safety and efficacy of PrEP as an HIV prevention modality for heterosexual men and women. Most of these studies have been conducted in Africa where the burden of the illness has been very high. The Partners PrEP trial was a phase 3 randomized, double-blind, placebo-controlled study of daily oral TDF/FTC or TDF alone for the prevention of HIV infection by the uninfected partner in 4,758 HIV-discordant heterosexual couples in Uganda and Kenya. The study showed that use of TDF/FTC or TDF alone was highly effective (p<0.001) in reducing rates of HIV infection when given to HIV-uninfected partners of HIV-infected men and women not on ART. Similar data were reported in the TDF2 study that showed a 66% reduction in HIV transmission among heterosexual men and women given TDF/FTC. It is important to note that in both of these studies adherence to medication was very high and the majority of participants had detectable drug levels when tested. These data are in contrast to two other studies, FEM-PrEP and Vaginal and Oral Interventions to Control the Epidemic (VOICE) that found PrEP to be ineffective when used in African women. FEM-PrEP investigated the use of TDF/FTC in heterosexual women and demonstrated that there were similar HIV sero-conversion rates in both arms of the study, i.e., use of TDF/FTC was not associated with reduction in HIV sero-conversion. VOICE was a multi-arm study that looked at oral or vaginal gel for HIV prevention. The study arms were: (1) oral TDF/FTC versus oral TDF alone versus placebo, or (2) vaginal TDF gel versus placebo gel. The HIV incidence in all arms of the study ranged from 4.7-6.8 (p was not significant). Lack of efficacy in both these studies was primarily due to low rates of medication adherence: the drug was detected in <50% of the participants in the FEM-PrEP study and <30% in the VOICE study. Medication adherence is a critical factor in the success of any intervention both for HIV treatment and HIV prevention. In all four studies discussed above (Partners PrEP, TDF-2, FEM-PrEP, and VOICE) medication was well-tolerated and safe, and there were no significant differences in rates of clinically significant adverse effects. The most common side effects were gastrointestinal symptoms that usually resolved after the first month of treatment. Despite conflicting reports of efficacy of PrEP in heterosexual men and women, the CDC has recommended TDF/FTC as an option to prevent HIV infection in this group. The reason for this recommendation is two-fold. First, there is good evidence in two studies that clearly show that when taken, TDF/FTC is effective at reducing HIV transmission, and second, study medication was safe and well tolerated in all the studies among heterosexual men and women. Prescribers need to emphasize the importance of adherence since that has been the single key determinant of efficacy in these studies.

**PrEP for Injection Drug Users (IDUs):**

In addition, to sexual risk of HIV transmission, injection drug use remains an ongoing challenge and there is limited data about the effectiveness of PrEP in this population. Choopanya et al. conducted a study in Bangkok, Thailand studying the safety and efficacy of TDF (n=1,204) versus placebo (n=1,209) among active IDUs. In addition to study medication, participants were also given regular medical care, condoms, risk reduction counseling and were given the option of a 28-day supply of self-directed or directly observed therapy. Eighty-seven percent of the participants chose to take directly observed therapy (DOT). Overall, the study showed that TDF was associated with 49% reduction in the risk of HIV. On further analyses of participants undergoing DOT and with detectable drug levels, there was a 74% reduction in HIV incidence. Overall, the medication was well tolerated. However, there was a slight increase in the rates of nausea and vomiting in the TDF arm that leveled off after the first 2 months of treatment. Although this is only one study demonstrating the effectiveness of PrEP among IDUs, it is important to note that many IDUs also have high-risk sexual behaviors. Hence the CDC has recommended the use of PrEP (TDF/FTC) as one HIV prevention option for IDUs at substantial risk of HIV acquisition.

Thus far, we have discussed the three highest risk groups for HIV: MSM, heterosexual men and women, and injection drug users. However, there are other unique populations for whom there are limited or no data regarding the safety and efficacy of PrEP. Published guidelines offer some insight on how prescribers can approach these patients. Special situations include couples wanting to get pregnant, women who get pregnant while receiving PrEP, adolescents at risk for HIV infection, presence of Hepatitis B virus infection and patients with impaired renal function.

**PrEP for Pre-Conception Counseling:**

HIV-uninfected women who have unprotected sex with HIV-infected men are at risk of acquiring HIV infection. This poses a special challenge for sero-discordant couples who would like to conceive a child together. The various options in that scenario include:

1. **In-vitro fertilization (IVF) using sperm washing and intra cytoplasmic sperm injection (ICSI):** This is an option that involves injecting a sperm from semen that has previously been processed to remove HIV virions and using that sperm to fertilize a single egg. This is an expensive option that may not be affordable for the majority of couples.
2. **Using donor sperm:** This option uses an HIV-negative sperm donor and IVF for pregnancy. Although this is the safest approach to prevent HIV transmission, it may not be an acceptable alternative to many men and women.
3. **PrEP:** There are limited data about the safety and efficacy of PrEP in pregnancy. Most clinical studies of PrEP discontinued use of ART when pregnancy was identified as a clinical event continued on next page
in the study. However, we do know that selected ART regimens are safe in pregnancy, particularly TDF/FTC, which has a category B label. For HIV-infected and affected couples who want to conceive, the CDC recommendations are as follows:

a. **Both partners infected:** ensure maximum HIV serologic suppression for both partners.

b. **For sero-discordant couples:** The HIV-infected partner should be maximally suppressed on ART. Since that intervention by itself may not be adequate, the HIV-uninfected partner could consider PrEP as an option. However this intervention has not been adequately studied for this particular subgroup.

i. HIV-infected female and HIV-uninfected male: The woman should be on ART with maximally suppressed HIV viral load. Based on HPTN 052, this treatment resulted in a 96% reduction in transmission of HIV to the uninfected partner. However, the safest option is to perform artificial insemination, including self-insemination with the partner’s sperm. The couple could use commercially available ovulation detection kits to help determine timing of insemination.

ii. HIV-infected male and uninfected female partner: In addition, to maximally suppressed HIV viral load, it is important that sperm be tested for any abnormalities. If sperm analysis determines that the quality of the sperm is not adequate for fertilization it would help avoid unnecessary exposure of the female partner to HIV. In vitro fertilization and sperm washing are the safest methods for conception if the semen analysis is normal. This procedure may however be cost prohibitive. Using a sperm donor is an alternative and less costly option. A less well-studied option is the use of PrEP for the female partner. This method, if chosen, requires close supervision. The woman could consider PrEP with TDF/FTC usually starting one month prior to attempting conception and continue for one month after conception. Couples can also use ovulation kits to help determine periods of high fertilization rates and reduce HIV exposure to the HIV-uninfected partner.

**Women who become pregnant while receiving PrEP:** All published studies on PrEP required that medications be discontinued when the woman became pregnant so there is limited data about the safety of PrEP in pregnant women. However, there is a large body of evidence supporting the safety of TDF for HIV-infected women who get pregnant and take ART to reduce peri-natal transmission of HIV to the fetus. It is also important to remember that pregnancy can increase the risk of HIV transmission. PrEP use in both pre-conception and during pregnancy can be a useful tool to reduce HIV transmission risk. However, this decision needs to be made on an individual basis with counseling about the risks and benefits of PrEP. Providers are also encouraged to anonymously report any pregnancies during PrEP to the Antiretroviral Pregnancy Registry at http://www.apregistry.com/. This enables collection of de-identified data for the safety of this medication in this select group of patients.

**PrEP for persons infected with hepatitis B virus (HBV):**

Both TDF and FTC have also been used to suppress HBV infection. Both the medications, but particularly TDF, is very effective at suppressing HBV infection and can serve the dual purpose of prevention of HIV infection and treatment of HBV infection. It may be more important for a person identified as a potential candidate for PrEP, who is also identified as being HBV infected with a detectable viral load, to be on the combination of TDF/FTC. If such a person decides to discontinue TDF/FTC, then the provider and the patient need to be aware that the patient is at increased risk for a flare-up of HBV infection given sudden discontinuation of anti-HBV therapy. Hence if discontinuation of PrEP is considered then they could be given the option to take TDF to protect them from their established HBV infection.

**PrEP for adolescents <18 years:**

At the current time, the CDC does not have recommendations for PrEP for high-risk adolescents, in large part because none of the HIV prevention studies included persons <18 years of age. This is a major limitation since we know, based on published data, that this is a high-risk population for acquiring new HIV infection and could potentially benefit significantly from PrEP. The decision to initiate PrEP needs to occur on an individual basis, knowing that there is no data for PrEP safety or efficacy in this age group. It should also be noted that the adolescent age is one of growth and it is unclear if the bone mineral toxicity of
TDF may have an adverse impact on bone growth in adolescents. In addition, health care providers should also be aware of state policies and guidance regarding parental consent for HIV testing with minors which is necessary prior to any discussion about PrEP. All of the above mentioned challenges and limitations should be considered prior to any discussion of PrEP with an at-risk adolescent.

**Patients with Chronic Renal Failure:**
TDF is not recommended for use in persons with chronic renal failure as defined by a creatinine clearance <60 ml/min because TDF can be associated with reduction in renal function and hence the safety of this medication for patients with reduced renal function has not been studied.

**Monitoring of Patients on PrEP:**
Initiation of PrEP is the first step in an ongoing dialogue between the patient and the healthcare provider that assesses the patients’ adherence to medications, and management of adverse reactions if any while evaluating the need for PrEP on an ongoing basis. Patients who are receiving PrEP need to be followed closely by a provider experienced in addressing side effects of treatment and expertise in the diagnosis of HIV infection, particularly acute infection. Before initiating PrEP, the clinician needs to make sure that the patient is not already HIV infected or in seroconversion (see CDC guidelines at end of article). Once initiated, patients should be followed at a minimum of every 3 months and need laboratory monitoring for HIV infection, serum creatinine (after the first 3 months, then once every 6 months), pregnancy testing (women), assessment for STI signs and symptoms, and counseling for medication adherence. Patients should also be asked about the presence of any side effects to treatment that would impair tolerability and adherence. Prescriptions for PrEP should only be given for a 3-month supply at a time so that monitoring can regularly take place. This reduces the likelihood of a patient on PrEP sero-converting and staying on PrEP since that would be suboptimal therapy for established HIV infection. Every 6 months, patients should be monitored for the presence of any renal dysfunction through laboratory check of serum creatinine (and urine for protein if felt necessary) as well as be screened for bacterial STIs (pharyngeal, urethral, anal as needed) regardless of whether or not symptoms exist. Patients should also be counseled about risk reduction strategies and screened for STIs more frequently if there is a clinical indication.

**Optional Bone Health Assessment:**
HIV-infected persons taking TDF containing regimens as part of the ART have increased rates of bone loss as noted by bone mineral density. However, it is unclear if HIV-uninfected persons taking TDF as part of PrEP have the same risk for a decrease in bone mineral density. In the two prevention studies conducted in the US (iPrEx® and US MSM Safety), the use of TDF was associated with a mild transient decrease in bone mineral density that reverted to normal and there were no increased rates of fractures observed. However, for persons with known osteoporosis or osteopenia, there should be more in-depth evaluation and follow up if PrEP is prescribed, including bone mineral density measurements conducted periodically.

Finally, starting a person on PrEP does not mean lifetime treatment. This is in stark contrast to the lifelong treatment of established HIV infection. Healthcare providers should assess, at each monitoring visit, the need for a person to continue taking PrEP. This ensures that only those persons who continue to both express an interest in and have risk factors meeting indications for PrEP are continued on PrEP. This is an important point to emphasize to any potential candidate for PrEP, since a persons’ risk may change over time, and they may not need to continue on PrEP based on those changes.

**Summary:**
Based on the data that has been reviewed, the CDC recommends’ the use of daily TDF/FTC fixed dose combination for:
- Sexually active adult MSM at substantial risk for HIV infection
- Sexually active adult heterosexual men and women at substantial risk for HIV infection
- Adult IDUs at substantial risk for HIV infection
- HIV sero-discordant couples, particularly those desiring conception

Use of TDF/FTC is a proven effective method of HIV prevention for select high-risk populations. Based on safety and efficacy data in multiple studies, the CDC recommends that PrEP be evaluated as a potential HIV prevention strategy for adult (≥18 years) men and women, particularly among high-risk individuals including MSM, sero-discordant couples, and IDUs. How do we apply these sometimes conflicting data to the care of patients at risk for HIV infection? It seems clear that optimal adherence is essential to the success of PrEP as varying adherence rates are directly correlated with the success of PrEP. In addition to adherence, other factors, such as presence of concurrent STIs and trauma, may contribute to differences in efficacy. Pharmacokinetics of the medications are also an important factor. For example, oral TDF has lower concentrations in vaginal mucosa than rectal mucosa suggesting that women may need to be more adherent to attain protective drug levels in the vaginal tissue than in rectal tissue. The PrEP studies have shown that oral TDF/FTC is generally safe and well tolerated and most of the adverse effects have been transient, although long-term data is still needed. There were no reports of renal toxicity, but there were reports of decline in bone mineral density in some study participants, suggesting a need for ongoing bone health monitoring.

continued on next page
for additional monitoring of bone mineral losses. There are other ongoing prevention studies looking at efficacy of vaginal TDF gel in women, oral PrEP in drug users in Thailand and optimal dosing of PrEP – continuous or intermittent. Although the VOICE study did not show that vaginal TDF gel was effective in women, there are current studies assessing the effectiveness and tolerability of rectal TDF gel in men. There is also a need to investigate medications beyond TDF and/or TDF/FTC for the prevention of HIV infection. The HPTN has several protocols in various stages of development looking at other potential agents including long acting injectable rilpivirine, a novel integrase inhibitor given as an injection. Additionally, more effective interventions for use with younger, at-risk adolescents need to be identified and recommended. The HPTN 052 clearly demonstrated that early and effective treatment of HIV had a 96% reduction in the risk of HIV transmission among sero-discordant couples. We need to ensure that those already infected are taking their medications as prescribed and maintaining full HIV viral suppression.

In conclusion, PrEP is a powerful tool in our arsenal to fight the HIV epidemic. It should be used in conjunction with screening and treatment of STIs, universal HIV testing, linkage and connection to care and effective HIV virologic suppression. It is also important to counsel all sexually active persons on the need for condom use to prevent other non-HIV STIs.

On May 14, 2014, the US Public Health Service released the first comprehensive clinical practice guidelines for PrEP. The guidelines were developed by a federal inter-agency working group led by the CDC, and reflect input from providers, HIV patients, partners, and affected communities. You may access these guidelines through the following link: [http://www.cdc.gov/hiv/pdf/guidelines/PrEPguidelines2014.pdf](http://www.cdc.gov/hiv/pdf/guidelines/PrEPguidelines2014.pdf)

For additional information or to submit a case online you may contact the AETC Program’s National Clinician Consultation Center (CCC)

**PrEPline:** (855) 448-7737 or (855) HIV-PrEP

Monday - Friday, 11 a.m. - 6 p.m. EST

CCC clinicians can give you expert guidance on considerations of providing PrEP to HIV-uninfected persons as part of an HIV prevention program. [http://nccc.ucsf.edu/clinical-resources/prep-resources/prep/](http://nccc.ucsf.edu/clinical-resources/prep-resources/prep/)

References:


Questions refer to article content. To receive CME/CNE/CEU credit, complete the post test, registration and evaluation forms on-line at http://ccoe.rbhs.rutgers.edu/catalog/ or fill in the forms below and on the following pages and mail or fax to CCOE at the address on the registration form.

1. A 41-year-old man newly diagnosed with HIV one month ago comes to you for follow up with his HIV-uninfected wife. Since they are both getting older, they would like to have a baby soon. You should advise them of all the following EXCEPT:
   a. The patient should be started on an effective ART regimen now
   b. The wife should be started on the same effective ART regimen as her husband now
   c. They should wait until the patient’s HIV viral load becomes undetectable
   d. The patient should have semen analysis prior to attempting conception
   e. They should use condoms for now

2. A 19-year-old MSM is referred to you by your HIV testing counselors. He tested negative for HIV by rapid HIV test and is interested in PrEP. You should do all the following EXCEPT:
   a. Advise him that he needs to wait for 6 months to rule out acute infection
   b. You need to get additional information including symptoms of acute HIV
   c. You need to get a detailed sexual history
   d. You need to get additional information about drug use
   e. You need to screen him for sexually transmitted infections and hepatitis B virus infection

3. All of the following are true statements regarding screening patients prior to the initiation of PrEP EXCEPT:
   a. They should be screened for HIV antibodies
   b. They should be screened for sexually transmitted infections
   c. Women should be screened for pregnancy
   d. They should be screened for Hepatitis B
   e. They should all be screened with quantitative HIV-1 RNA PCR

4. All of the following are true statements about tenofovir EXCEPT:
   a. Tenofovir can cause reductions in bone mineral density
   b. Tenofovir can cause renal impairment
   c. Tenofovir can be used to treat HBV infection
   d. Tenofovir alone is FDA-approved for PrEP in pregnancy
   e. Tenofovir is recommended in the United States for PrEP only in combination with emtricitabine

5. CDC recommends PrEP for all of the following high-risk groups EXCEPT:
   a. Adult MSM with multiple partners
   b. Adult uninfected heterosexual men and women with HIV-infected partners
   c. All sexually active adolescents <18 years old
   d. Adult injection drug users
   e. Adult uninfected MSMs with HIV-infected partners

6. In what pregnancy category is tenofovir/emtricitabine?
   a. Category A
   b. Category B
   c. Category C
   d. Category D
   e. Category X

7. You should periodically monitor all of the following for someone taking PrEP EXCEPT:
   a. HIV infection
   b. Amylase and lipase levels
   c. Sexually transmitted infections
   d. Renal function
   e. Medication adherence

True or False

8. Young Black MSM are the group with the highest rate of new HIV infections:
   a. TRUE
   b. FALSE

9. Before initiating PrEP, it is recommended that patients be screened for which hepatitis virus/viruses?
   a. Hepatitis A
   b. Hepatitis B
   c. Hepatitis C
   d. All of the above
   e. None of the above

10. Early initiation of effective ART in persons infected with HIV (350–550 cells/mm³) has been shown to be associated with:
    a. Decreased HIV transmission to partners
    b. Better health of the PLWHA
    c. Neither A nor B
    d. Both A and B
In order to obtain continuing education credit, participants are required to:

(1) Read the learning objectives, review the activity, and complete the post-test.
(2) Complete this registration form and the activity evaluation form on the next page. Record your test answers below.
(3) Send the registration and evaluation forms to: Rutgers Center for Continuing & Outreach Education
   • VIA MAIL: 30 Bergen St., ADMC 7, Newark, NJ 07103 • VIA FAX: (973) 972-7128
(4) Retain a copy of your test answers. Your answer sheet will be graded and if you achieve a passing score of 70% or more, a credit letter and the test answer key will be mailed to you within four (4) weeks. Individuals who fail to attain a passing score will be notified and offered the opportunity to complete the activity again.

Online option: This activity will be posted at http://ccoe.rbhs.rutgers.edu/catalog/ where you may obtain a credit letter upon successful completion of the online post-test and evaluation. Please note: CE credit letters and will only be issued upon receipt of completed evaluation form.

**SELF-ASSESSMENT TEST**

Circle the best answer for each question.

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– PLEASE PRINT –

First Name      M.I.    Last Name     Degree
Profession       Specialty
Company/Affiliation
Preferred Mailing Address: □ Home □ Business
Address
City        State    Zip Code    Country
Phone      Email

Indicate the type of continuing education credit you wish to obtain as a result of your participation in this activity.

☐ **Nurses:** 1.1 CNE Contact Hour. Contact Hours Claimed: ______

☐ **Physicians:** 0.75 AMA PRA Category 1 Credit™: Credits Claimed: ______

☐ **General:** Continuing Education Units (CEUs) (up to 0.1) Claimed: ______

One credit/contact hour for each hour of participation. Continuing Education Units: one unit per ten hours of participation.

I attest that I have completed this activity as designed. I will report the number of credits/contact hours claimed during my filing of continuing education credit with professional organizations, licensing boards, or other agencies.

Signature         Date

Release date: December 1, 2014 • Expiration date: Credit for this activity will be provided through November 30, 2016. A CE credit letter will be mailed to you in approximately 4 weeks.

Rutgers Center for Continuing & Outreach Education
30 Bergen St. • ADMC 7 • Newark, New Jersey 07103 • Phone: 973-972-4267 or 1-800-227-4852 • Fax: 973-972-7128
The planning and execution of useful and educationally sound continuing education activities are guided in large part by input from participants. To assist us in evaluating the effectiveness of this activity and to make recommendations for future educational offerings, please take a few moments to complete this evaluation form. Your response will help ensure that future programs are informative and meet the educational needs of all participants.

Please note: CE credit letters will only be issued upon receipt of completed evaluation form.

**PROGRAM OBJECTIVES: Having completed this activity, are you better able to:**

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<th>Objective</th>
<th>Strongly Agree</th>
<th>Strongly Disagree</th>
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<td>Objective 1: Describe at least 3 different studies that led to the CDC recommendation of PrEP use in the United States.</td>
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<td>Objective 2: Describe the baseline and follow-up procedures that need to be done when starting someone on PrEP.</td>
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<td>Objective 3: Identify who should and who should not be advised to take PrEP, as per CDC recommendations.</td>
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<td>Objective 4: Identify resources from the CDC and the CCC to help manage PrEP with your patients.</td>
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**OVERALL EVALUATION:**

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<tr>
<th>Evaluation</th>
<th>Strongly Agree</th>
<th>Strongly Disagree</th>
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<td>The information presented increased my awareness/understanding of the subject.</td>
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<td>The information presented will influence how I practice.</td>
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<td>The information presented will help me improve patient care.</td>
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<td>Overall, the program met my expectations.</td>
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<td>I would recommend this program to my colleagues.</td>
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**Based on the content of the activity, what will you do differently in the care of your patients? (check one)**

- [ ] Implement a change in my practice.
- [ ] Do nothing differently as the content was not convincing.
- [ ] Seek additional information on this topic.
- [ ] Do nothing differently. System barriers prevent change.
- [ ] Not applicable. I do not see patients in my current position.

If you anticipate changing one or more aspects of your practice as a result of your participation in this activity, please provide us with a brief description of how you plan to do so.

**May we contact you in two months to see how you are progressing on the changes indicated above?**

- [ ] Yes. Please provide your email address.  
  email: 
- [ ] No. I do not wish to participate in the follow-up assessment.

If you are not able to effectively implement what you learned at this activity, please tell us what the system barriers are (e.g., reimbursement issues, managed care rules, formulary decisions, countervailing practice guidelines, etc).

**Please list any topics that you would like addressed in future educational activities.**
This activity is designed for physicians, nurses, health educators, and other healthcare professionals in New Jersey who are involved in the care of women and newborns.

METHOD OF PARTICIPATION

Participants should read the learning objectives, review the activity in its entirety, and then complete the self-assessment test, which consists of a series of multiple-choice questions. Upon completing this activity as designed and achieving a passing score of 70% or more on the self-assessment test, participants will receive a letter of credit and the test answer key four (4) weeks after receipt of the self-assessment test, registration, and evaluation materials. This activity may also be completed online at http://ccoe.dbhs.rutgers.edu/catalogue.

LEARNING OBJECTIVES

Upon completion of this activity, participants should be able to:

1. Describe the circumstances in which the 1-drug or 2-drug therapy is used to treat HIV exposed infants.
2. Recognize clinical scenarios where pediatric infectious disease specialist consultation is recommended.
3. Describe the consideration of the pediatric infectious disease specialist when prescribing a prophylactic regimen for infants at high risk for HIV infection.

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ACCREDITATION

CME
Rutgers, The State University of New Jersey is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.
Rutgers, The State University of New Jersey designates this enduring material for a maximum of 0.5 AMA PRA Category 1 Credit™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

CNE
Rutgers, The State University of New Jersey, Center for Continuing and Outreach Education is an approved provider of continuing nursing education by the New Jersey State Nurses Association, an accredited approver by the American Nurses Credentialing Center's Commission on Accreditation. Provider Number P173-12/12-15. Provider Approval is valid through December 31, 2015. This activity is awarded .88 contact hour (60 minute CH).

CEU
Rutgers Center for Continuing and Outreach Education certifies that this continuing education offering meets the criteria for up to .05 Continuing Education Units (CEUs), provided the activity is completed as designed. One CEU equals 10 contact hours of participation in an organized continuing education experience under responsible sponsorship, capable direction and qualified instruction. Participants should only claim the contact hours actually spent participating in the activity.

SPONSOR

Sponsored by François-Xavier Bagnoud Center, School of Nursing, Rutgers, The State University of New Jersey and the Center for Continuing and Outreach Education at Rutgers Biomedical and Health Sciences.

FUNDING

This activity is supported by an educational grant from the New Jersey Department of Health (NJDOH) —Division of HIV, STD and TB Services, through an MOA titled “Education and Training for Physicians and other Healthcare Professionals in the Diagnosis and Treatment of HIV/AIDS.”

STATEMENT OF NEED

With the advent of antiretroviral drugs, women have the option of child bearing regardless of their HIV status. Although HIV-infected women, children born to these women do not have to be born infected as long as the mother knows her infection status, receives the adequate care and treatment during pregnancy, labor and delivery and once the infant is born. A breakthrough for pediatric HIV/AIDS came in 1994 with the successful clinical trial that showed if pregnant women adhered to antiretroviral use during pregnancy, infants could expect a 70% decrease in becoming infected with the virus. Since then, children born to women who are HIV-infected have been on the decline.

Statewide data shows the overall total number of cases of pediatric infected children is 1,580 while the number of perinatally exposed is 4,752 reported in 2013. In 2009 there were 5 cases of infants born with HIV. Although the absolute number is low, New Jersey strives to bring this number to 0, suggesting that there is still work to do, most importantly, “Every diagnosis of an infant who is infected with HIV represents a missed opportunity for prevention” (Burr, 2012).

This year the guidelines around treatment for HIV exposed infants were updated. An excerpt from the guidelines states that the “the potential benefit of combining zidovudine infant prophylaxis with additional antiretroviral (ARV) drugs must be weighed against the potential risks to infants of multiple drug exposure. There is a spectrum of transmission risk that depends on a number of maternal and infant factors, including maternal viral load, mode of delivery, and gestational age at delivery.” This activity will seek to educate those to the new information in treatment recommendations using an evidence-based approach to continue to lessen the number of infants that are exposed to HIV and the medical and practical steps in treating potential HIV exposure.

TARGET AUDIENCE

This activity is designed for physicians, nurses, health educators, and other healthcare professionals in New Jersey who are involved in the care of women and newborns.

This activity may also be completed online at http://ccoe.dbhs.rutgers.edu/catalogue.

PEER REVIEW

In order to help ensure content objectivity, independence, and fair balance, and to ensure that the content is aligned with the interest of the public, CCOE has resolved all potential and real conflicts of interest through content review by non-conflicted, qualified reviewers. This activity was peer-reviewed for relevance, accuracy of content and balance of presentation by Mary Jo Hoyt, MSN and Joanne Phillips, RN, MS.

Field Test: This activity was field tested for time required for participation by Debra Chew, MD, Noa Shimoni, MD, MPH, Howard A. Grossman, MD, Anna M. Haywood, RN, MSN, Juania Howell, RN, MSN, and Laura Bogert, RN, BSN

DISCLOSURE DISCLAIMER

In accordance with the disclosure policies of Rutgers University and to conform with ACCME and FDA guidelines, individuals in a position to control the content of this educational activity are required to disclose to the activity participants: 1) the existence of any relevant financial relationship with any entity producing, marketing, re-selling, or distributing healthcare goods or services consumed by, or used on, patients, with the exception of non-profit or government organizations and non-health care related companies, within the past 12 months; and 2) the identification of a commercial product/device that is unlicensed for use or an investigational use of a product/device not yet approved.

OFF-LABEL/INVESTIGATIONAL USAGE DISCLOSURE

This activity does not contain information of commercial products/devices that are unlicensed for use or investigational uses of products not yet approved.

CONTENT DISCLAIMER

The views expressed in this activity are those of the faculty. It should not be inferred or assumed that they are expressing the views of NJDOH — Division of HIV, STD and TB Services, any manufacturer of pharmaceuticals or devices, or Rutgers University. It should be noted that the recommendations made herein with regard to the use of therapeutic agents, varying disease states, and assessments of risk, are based upon a combination of clinical trials, current guidelines, and the clinical practice experience of the participating presenters. The drug selection and dosage information presented in this activity are believed to be accurate. However, participants are urged to consult all available data on products and procedures before using them in clinical practice.

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Please direct CE related or technical questions to CCOE at 973-972-4267 or email creo@ca.rutgers.edu
PERINATAL HIV PREVENTION: GUIDELINES FOR
Labor, Delivery and Infant Prophylaxis

Jason Zucker, MD, Internal Medicine Chief Resident,
Rutgers-New Jersey Medical School, University Hospital

David Cennimo, MD, FACP, FAAP, AAHIVS, Assistant Professor,
Department of Medicine and Pediatrics, Division of Infectious Disease,
Rutgers-New Jersey Medical School

Upon completion of this activity, participants should be able to:

- Describe the circumstances in which the 1-drug or 2-drug therapy is used to treat HIV exposed infants.
- Recognize clinical scenarios where pediatric infectious disease specialist consultation is recommended.
- Describe the consideration of the pediatric infectious disease specialist when prescribing a prophylactic regimen for infants at high risk for HIV infection.

Release Date: December 1, 2014 • Expiration Date: November 30, 2016 • Course Code: 17HH01 • Nursing credit for this activity will be provided through November 30, 2016

To receive continuing education (CE) credit, complete the exam, registration, and evaluation forms on-line at http://ccoe.rbhs.rutgers.edu/catalog/ or that follow this article.
HIV has become a chronic disease with the number of women living with HIV infection continuing to increase while the number of HIV-infected infants born each year in the United States declines. This is due in no small part to increases in screening and prevention during pregnancy as well as post-exposure prophylaxis for newborns. On March 28, 2014, the Health and Human Services Panel on the Treatment of HIV-Infected Pregnant Women and Prevention of Perinatal Transmission released updated guidelines titled “Recommendations for Use of Antiretroviral Drugs in Pregnant HIV-1-Infected Women for Maternal Health and Interventions to Reduce Perinatal HIV Transmission in the United States”. With the implementation of universal HIV screening during pregnancy, combination antiretroviral therapy (cART) during pregnancy and throughout labor, cesarean delivery (when indicated), antiretroviral (ARV) prophylaxis for infants and the avoidance of breastfeeding, the estimated risk of perinatal transmission is now less than 2%. The most recent data from the Centers for Disease Control and Prevention estimated that 162 patients were perinatally infected with HIV in 2010.

In order to minimize the risk of perinatal HIV transmission, optimal treatment starts prior to conception. Initiation of cART in females of childbearing age should consider not only resistance and side effect profiles but also minimize the risk of potential teratogenicity. Of note recommendations specifically state that efavirenz based regimens should be avoided in patients at risk for pregnancy. After pregnancy is confirmed, cART should be reassessed to ensure that the medications are indicated for use during pregnancy. Because the risk of neural tube defects is restricted to the first 5 to 6 weeks of pregnancy and pregnancy is rarely recognized before 4 to 6 weeks of pregnancy, and unnecessary changes in ARV drugs during pregnancy may be associated with loss of viral control and increased risk of perinatal transmission, efavirenz can be continued in pregnant women receiving an efavirenz-based regimen who present for antenatal care in the first trimester, provided the regimen produces virologic suppression. For pregnant females not on cART, the guidelines recommend initiating a maximally suppressive ARV regimen as early as possible regardless of viral load or CD4 count. In general, the same regimens as recommended for treatment of non-pregnant adults should be used in pregnant women unless there are known adverse effects for women, fetuses or infants that outweigh benefits. Consultation with an expert is recommended, as health care providers considering the use of ARV agents for HIV-infected women during pregnancy must carefully balance the treatment of maternal HIV infection while attempting to minimize the risk of perinatal transmission or teratogenicity. At least one nucleoside/nucleotide reverse transcriptase inhibitor (NRTI) with high trans-placental transfer should be used as part of the cART strategy.

Recommendations regarding HIV screening and treatment of pregnant women and prophylaxis for perinatal transmission have been developed and are regularly updated by The Department of Health and Human Services Panel on Treatment of HIV-Infected Pregnant Women and Prevention of Perinatal Transmission (the Panel), a working group of the Office of AIDS Research Advisory Council (OARAC). The Guidelines can be viewed and downloaded at: http://aidsinfo.nih.gov/guidelines/html/3/perinatal-guidelines/0

Free clinical consultation and referral to local or regional pediatric HIV specialists is available to providers caring for HIV-infected pregnant women and their infants from the Clinicians Consultation Center.

For additional information or to submit a case online you may contact the AETC Program’s National Clinician Consultation Center (CCC) (888)-448-8765 or online at http://nccc.ucsf.edu/clinicianconsultation/perinatal-hiv-aids Monday - Friday, 11 a.m. - 6 p.m. EST

Mothers who have an undetectable viral load consistently in late pregnancy and around the time of delivery (34 to 36 weeks gestation) and no concerns regarding medication adherence have a low risk of transmission. Virologic control is a central component to reducing transmission and earlier initiation of cART is more effective in reducing in utero transmission. The Women and Infants Transmission Study clearly demonstrated that the transmission risk is based on HIV RNA levels as the risk of transmission was <2% for patients with HIV RNA <30,000 copies/mL and 4.8% in those with HIV RNA levels >30,000 copies/mL. However these benefits must be assessed against the potential effects of first-trimester drug exposure. Notably the PHTP-1 study in Thailand demonstrated that most in utero transmission occurred between 28 and 36 weeks. Earlier initiation of cART should allow enough time to suppress the maternal viral load before in utero transmission can occur.

Mothers who have an undetectable viral load consistently in late pregnancy and around the time of delivery (34 to 36 weeks gestation) and no concerns regarding medication adherence have a low risk of transmission. These individuals do not require intrapartum zidovudine (ZDV) and a delivery birth plan with either C-section or vaginal delivery is typical. (See Table 1: Summary of Panel Recommendations Related to Mode of Delivery) For low risk neonates, 6 weeks of oral ZDV prophylaxis, started as close to the time of birth as possible, is generally recommended. A 4 week regimen may be considered in a full term neonate when the mother’s HIV was fully suppressed and there were no concerns related to maternal cART adherence. For low risk infants combining ARV does not reduce the risk of transmission and any potential benefits are outweighed by known toxicities.
Scheduled cesarean delivery at 38 weeks’ gestation to minimize perinatal transmission of HIV is recommended for women with HIV RNA levels >1000 copies/mL or unknown HIV levels near the time of delivery, irrespective of administration of antepartum antiretroviral drugs (AII). Data are insufficient to evaluate the potential benefit of cesarean delivery used solely for prevention of perinatal transmission in women receiving combination antiretroviral therapy with HIV RNA levels ≤1000 copies/mL, and given the low rate of transmission in these patients, it is unclear whether scheduled cesarean delivery would confer additional benefit in reducing transmission (BIII). In women with HIV RNA levels >1000 copies/mL, cesarean delivery performed for standard obstetrical indications should be scheduled at 39 weeks’ gestation.

It is not clear whether cesarean delivery after rupture of membranes or onset of labor provides benefit in preventing perinatal transmission. Management of women originally scheduled for cesarean delivery who present with ruptured membranes or in labor must be individualized at the time of presentation based on duration of rupture and/or labor, plasma HIV RNA level, and current antiretroviral regimen (BII).

Women should be informed of the risks associated with cesarean delivery. If the indication for cesarean delivery is prevention of perinatal transmission of HIV, the risks to a woman should be balanced with potential benefits expected for the neonate (AII).

Rating of Evidence:
- I = One or more randomized trials with clinical outcomes and/or validated laboratory endpoints; II = One or more well-designed, nonrandomized trials or observational cohort studies with long-term clinical outcomes; III = Expert opinion.

Rating of Recommendations:
- A = Strong; B = Moderate; C = Optional.


For mothers on cART with sub-optimal viral suppression (viral loads >1000 copies/mL) the newborn is at an increased risk of HIV infection. Mothers should receive intrapartum ZDV at least 3 hours prior to delivery, regardless of their previous cART or resistance pattern. Data suggest that wild-type virus is preferentially transmitted allowing ZDV to be an appropriate choice for prophylaxis in spite of the mother’s resistance pattern. Furthermore ZDV crosses the placenta readily and penetrates the central nervous system helping to eliminate a potential HIV reservoir. In addition to intrapartum ZDV, cesarean section is highly desirable with the ideal scenario being a planned cesarean at 38 weeks prior to the rupture of membranes. In cases of appropriate intrapartum ARV and planned cesarean the risk of transmission is low and the decision as to whether to utilize one or two drug ARV prophylaxis should be made in conjunction with a pediatric HIV specialist. Maternal HIV viral load should be checked around 34 to 36 weeks gestation to provide the information necessary to formulate these plans. The benefit of caesarian delivery after spontaneous rupture of membranes is unclear at this time and management of such cases should be dictated by the individual circumstances and discussed with a HIV specialist.

For infants born to mothers not receiving cART and/or who may have only received intrapartum intravenous ZDV, infant prophylaxis with two drugs is an important component to decreasing the newborn’s risk of acquiring HIV. Again a cesarean section should be performed if possible; in addition to intrapartum ZDV at least 3 hours prior to delivery. All infants whose mothers were not on cART should receive oral ZDV for 6 weeks with oral nevirapine at birth and 48 hours after the first dose. Mothers should receive intrapartum ZDV at least 3 hours prior to delivery, regardless of their previous cART or resistance pattern. Data suggest that wild-type virus is preferentially transmitted allowing ZDV to be an appropriate choice for prophylaxis in spite of the mother’s resistance pattern. In addition to intrapartum ZDV, cesarean section should be performed if possible; in addition to intrapartum ARV and planned cesarean the risk of transmission is low and the decision as to whether to utilize one or two drug ARV prophylaxis should be made in conjunction with a pediatric HIV specialist. Maternal HIV viral load should be checked around 34 to 36 weeks gestation to provide the information necessary to formulate these plans. The benefit of caesarian delivery after spontaneous rupture of membranes is unclear at this time and management of such cases should be dictated by the individual circumstances and discussed with a HIV specialist.

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### Table 2: Recommended Neonatal Dosing for Prevention of Perinatal Transmission of HIV

<table>
<thead>
<tr>
<th>Zidovudine (ZDV)</th>
<th>Dosing</th>
<th>Duration</th>
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<tbody>
<tr>
<td>ZDV</td>
<td>≥35 weeks’ gestation at birth: 4 mg/kg/dose PO twice daily, started as soon after birth as possible and preferably within 6–12 hours of delivery (or, if unable to tolerate oral agents, 3 mg/kg/dose IV, beginning within 6–12 hours of delivery, then every 12 hours)</td>
<td>Birth through 4-6 weeks</td>
</tr>
<tr>
<td>ZDV</td>
<td>≥30 to &lt;35 weeks’ gestation at birth: 2 mg/kg/dose PO (or 1.5 mg/kg/dose IV), started as soon after birth as possible, preferably within 6–12 hours of delivery, then every 12 hours, advanced to 3 mg/kg/dose PO (or 2.3 mg/kg/dose IV) every 12 hours at age 15 days</td>
<td>Birth through 6 weeks</td>
</tr>
<tr>
<td>ZDV</td>
<td>&lt;30 weeks’ gestation at birth: 2 mg/kg body weight/dose PO (or 1.5 mg/kg/dose IV) started as soon after birth as possible, preferably within 6–12 hours of delivery, then every 12 hours, advanced to 3 mg/kg/dose PO (or 2.3 mg/kg/dose IV) every 12 hours after age 4 weeks</td>
<td>Birth through 6 weeks</td>
</tr>
</tbody>
</table>

**Additional Antiretroviral Prophylaxis Agents for HIV-Exposed Infants of Women who Received No Antepartum Antiretroviral Prophylaxis (initiated as soon after delivery as possible)**

- **In addition to ZDV as shown above, administer NVP**
  - Birth weight 1.5–2 kg: 8 mg/dose PO
  - Birth weight >2 kg: 12 mg/dose PO
  - 3 doses in the first week of life
    - 1st dose within 48 hrs of birth (birth–48 hrs)
    - 2nd dose 48 hrs after 1st
    - 3rd dose 96 hrs after 2nd

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**Key to Abbreviations:** IV = intravenously; NVP = nevirapine; PO = orally; ZDV = zidovudine

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Infants born to mothers with an unknown HIV status present a unique problem. Rapid HIV screening should be available within 60 minutes. If rapid screening returns positive, infant ARV prophylaxis with two drugs should be initiated immediately and does not require waiting for supplemental testing. If supplemental testing later returns negative, prophylaxis can be discontinued. For patients who may have had a negative HIV screen at the start of pregnancy, high suspicion for acute HIV is required. Recent data have demonstrated a >1% risk of acute HIV infection in pregnancy. The same study showed an 8-fold increase in the risk of perinatal transmission during acute HIV infection as opposed to chronic infection. Repeat HIV testing in the third trimester is recommended for any women at high risk. For patients diagnosed with acute HIV during pregnancy starting an cART regimen prior to resistance testing is recommended in order to reduce the viral load as rapidly as possible prior to delivery.

After initiating prophylactic ARV, HIV testing and confirmation with an HIV DNA PCR should be done at 14 days and one month of life. Negative HIV DNA PCRs at age 14 days or older AND one month or older are considered evidence that the infant is presumptively negative. Many experts also check HIV DNA PCR at birth to evaluate for in utero transmission especially in the setting of suboptimal maternal ARV response. The DNA PCR is the test of choice for the newborn exposed to maternal HIV. Maternal antibodies can be present for as long as 18 months and therefore HIV antibody testing may yield false positive results. Additionally ARV prophylaxis may reduce the HIV viral load levels below the lower limit of detection of the RNA PCR resulting in...
false negative results. Patients unable to be declared presumptively negative at 4 to 6 weeks of life should be started on trimethoprim-sulfamethoxazole until definitively negative. A non-breast fed infant is considered definitely negative when the DNA PCR is negative at 1 and 4 months of life. Many check HIV antibody at 18 months of life to demonstrate seroreversion. Rare instances have shown persistence of maternal antibody after 18 months but this finding should provoke concern for and evaluation of the possibility of perinatal HIV infection.

After the initiation of chemoprophylaxis, infants should be monitored closely due to the risk of hematologic suppression. A check of hemoglobin and neutrophil counts is recommended at birth and may be considered 4 weeks after the initiation of prophylaxis for infants receiving ZDV. Families should be educated about the risks of HIV transmission from breast feeding or premasticated food and these practices should be discouraged.

A positive conversion occurs when the patient has two separate samples test positive for HIV DNA PCR. In newborns receiving post-exposure prophylaxis, if they are found to be HIV-infected, prophylaxis should be discontinued and treatment for HIV initiated with standard cART in accordance with the Pediatric Antiretroviral Guidelines and in consultation with a pediatric HIV provider.

Optimized ARV treatment is effective when used correctly, as a full term infant with a maternal viral load less than 50 copies/mL has a transmission risk of less than 0.5% however optimized treatment requires intensive cooperation between obstetrics, pediatrics, and both adult and pediatric HIV providers for maximal benefit.

References:

Evidence-Based Treatment of HIV Exposed Infants: 1-Drug, 2-Drugs, or cART?

Interest in the use of combination anti-retroviral (cARV) prophylaxis for high-risk infants was heightened after initial reports of a “functional cure” of an infant in 2013. The “Mississippi baby” was born in 2010 to a mother diagnosed with HIV infection during labor. The infant received zidovudine, lamivudine, and nevirapine at the age of 30 hours; nevirapine was replaced by ritonavir-boosted lopinavir for treatment of HIV infection at seven days of life. Treatment continued through the age of 18 months when it was self-discontinued by the mother. In October 2013, the doctors caring for the infant reported that at 30 months (twelve months after ARVs stopped) HIV levels in the child were found to be below detectable levels.1 Interest in the case was intense among the scientific community and the case was widely reported as a “cure” in the media. On July 10, 2014, however, it was reported that the child had detectable levels of HIV and whether the worldwide study of multi-drug infant ARV prophylaxis planned by the National Institutes of Health will be conducted remains uncertain.2

While viral remission was achieved for 27 months without treatment in the child in this case, viral rebound after the prolonged period of remission supports the hypothesis that left untreated, HIV infections are re-seeded from viral DNA carried in dormant cells. Researchers must now work to better understand what enabled the child to remain without HIV treatment for over two years while maintaining an undetectable viral load and without evident impact on immunological markers of infection.

The use of combination antiretroviral (cARV) prophylaxis is for HIV-exposed infants considered at high risk for HIV infection appears to be increasing in the United States and in Europe.3,4 However, continued on next page
the available evidence does not support the routine use of cARV prophylaxis for infants considered at high risk of HIV infection and there are safety issues related to such use that must be carefully considered. There have been no studies in infants less than two weeks of age to determine the appropriate dosing or safety of nevirapine administered at therapeutic doses. Ritonavir-boosted lopinavir is not recommended for neonates younger than age 14 days because of the potential for significant toxicity.

Decisions about use of cARV prophylaxis in infants should be made in consultation with a pediatric HIV specialist. Whenever possible, such decisions should be discussed and reviewed before delivery. Potential risk and benefits related to the use of cARV prophylaxis should also be discussed with the mother. Free clinical consultation and referral to local or regional pediatric HIV specialists is available to providers caring for HIV-infected pregnant women and their infants from the Clinicians Consultation Center (888)-448-8765 or online at http://nccc.ucsf.edu/clinicianconsultation/perinatal-hiv-aids/.

References


Questions refer to article content. To receive CME/CNE/CEU credit, complete the post test, registration and evaluation forms on-line at http://ccoe.rbhs.rutgers.edu/catalog/ or fill in the forms below and on the following pages and mail or fax to CCOE at the address on the registration form.

1. Which of the following is NOT a strategy to reduce perinatal transmission of HIV?
   A. Providing cART for pregnant HIV-infected women
   B. Avoidance of breastfeeding
   C. Premasticating foods
   D. Screening for maternal HIV infection

2. Which of the following drugs are NEVER used in pregnancy?
   A. Lopinavir/ritonavir
   B. Efavirenz
   C. Zidovudine
   D. All of the above
   E. None of the above

3. The management of an HIV-infected woman on virally suppressive cART MUST include which of the following?
   A. A caesarian section to prevent HIV transmission
   B. IV ZDV administration during labor
   C. A rapid HIV test during labor and delivery
   D. Continued administration of cART during the intrapartum period

4. A caesarian section for an obstetrical indication in a woman on virally suppressive cART should be scheduled for?
   A. 37 weeks
   B. 38 weeks
   C. 39 weeks
   D. 40 weeks

5. An infant born to an HIV infected mother on a virally suppressive cART regime should receive which of the following infant prophylaxis regimes?
   A. ZDV for 4-6 weeks
   B. ZDV for 6 weeks
   C. NVP x 3 doses plus ZDV for 4 weeks
   D. NVP x 3 doses plus ZDV for 6 weeks

6. An infant born to a mother with her first positive HIV screening test in labor and delivery should receive which of the following infant prophylaxis regimes?
   A. ZDV for 4 weeks
   B. ZDV for 6 weeks
   C. NVP x 3 doses plus ZDV for 6 weeks
   D. Lopinavir/ritonavir plus lamivudine/ZDV

7. Which of the following statements is FALSE when prescribing an infant prophylaxis regime?
   A. Consulting a pediatric HIV specialist is recommended when the preferred regime is unclear
   B. Discussing risks and benefits with the infant’s mother is recommended
   C. Collaborative decision making about infant prophylactic regimes is preferably done before delivery
   D. Three-drug combination ARV regimes are generally recommended when the infant is at high risk for HIV acquisition

8. TRUE or FALSE: The “Mississippi Baby” has been cured of HIV?
   A. TRUE
   B. FALSE

9. An infant is presumptively HIV negative when?
   A. 2 negative HIV DNA PCR samples have been obtained at >14 days and >1 month of age.
   B. 1 negative HIV DNA PCR sample has been obtained at birth
   C. 2 negative HIV DNA PCR samples have been obtained at birth and >14 days
   D. 1 positive HIV DNA PCR sample has been obtained at birth

10. An infant is definitively HIV positive when?
    A. He/she tests HIV antibody positive
    B. He/she tests HIV DNA PCR positive on one sample
    C. He/she tests HIV DNA PCR positive on two separate samples
    D. Positive diagnosis cannot be made until 18 months of age
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(2) Complete this registration form and the activity evaluation form on the next page. Record your test answers below.
(3) Send the registration and evaluation forms to: Rutgers Center for Continuing & Outreach Education
    • via mail: 30 Bergen St., ADMC 7, Newark, NJ 07103 • via fax: (973) 972-7128
(4) Retain a copy of your test answers. Your answer sheet will be graded and if you achieve a passing score of 70% or more, a credit letter and the test answer key will be mailed to you within four (4) weeks. Individuals who fail to attain a passing score will be notified and offered the opportunity to complete the activity again.

Online option: This activity will be posted at http://ccoe.rbhs.rutgers.edu/catalog/ where you may obtain a credit letter upon successful completion of the online post-test and evaluation. Please note: CE credit letters and will only be issued upon receipt of completed evaluation form.

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Please note: CE credit letters and long-term credit retention information will only be issued upon receipt of completed evaluation form.

PROGRAM OBJECTIVES: Having completed this activity, are you better able to:

<table>
<thead>
<tr>
<th>Objective 1: Describe the circumstances in which the 1-drug or 2-drug therapy is used to treat HIV exposed infants</th>
<th>Strongly Agree</th>
<th>Strongly Disagree</th>
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<th>Objective 2: Recognize clinical scenarios where pediatric infectious disease consultation is recommended</th>
<th>Strongly Agree</th>
<th>Strongly Disagree</th>
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<tr>
<th>Objective 3: Describe the consideration of the pediatric infectious disease specialist when prescribing a prophylactic regimen for infants at high risk for HIV infection</th>
<th>Strongly Agree</th>
<th>Strongly Disagree</th>
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OVERALL EVALUATION:

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<tr>
<th>The information presented increased my awareness/understanding of the subject.</th>
<th>Strongly Agree</th>
<th>Strongly Disagree</th>
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<th>The information presented will influence how I practice.</th>
<th>Strongly Agree</th>
<th>Strongly Disagree</th>
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<th>The information presented will help me improve patient care.</th>
<th>Strongly Agree</th>
<th>Strongly Disagree</th>
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<th>The author demonstrated current knowledge of the subject.</th>
<th>Strongly Agree</th>
<th>Strongly Disagree</th>
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<th>The program was educationally sound and scientifically balanced.</th>
<th>Strongly Agree</th>
<th>Strongly Disagree</th>
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<th>The program avoided commercial bias or influence.</th>
<th>Strongly Agree</th>
<th>Strongly Disagree</th>
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<th>The self-assessment was appropriate and helpful.</th>
<th>Strongly Agree</th>
<th>Strongly Disagree</th>
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<th>Overall, the program met my expectations.</th>
<th>Strongly Agree</th>
<th>Strongly Disagree</th>
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<th>I would recommend this program to my colleagues.</th>
<th>Strongly Agree</th>
<th>Strongly Disagree</th>
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Based on the content of the activity, what will you do differently in the care of your patients? (check one)

- [ ] Implement a change in my practice.
- [ ] Seek additional information on this topic.
- [ ] Do nothing differently as the content was not convincing.
- [ ] Do nothing differently. System barriers prevent change.
- [ ] Not applicable. I do not see patients in my current position.

If you anticipate changing one or more aspects of your practice as a result of your participation in this activity, please provide us with a brief description of how you plan to do so.

May we contact you in two months to see how you are progressing on the changes indicated above?

- [ ] Yes. Please provide your email address.
- [ ] No. I do not wish to participate in the follow-up assessment.

email:

If you are not able to effectively implement what you learned at this activity, please tell us what the system barriers are (e.g., reimbursement issues, managed care rules, formulary decisions, countervailing practice guidelines, etc).

Please list any topics that you would like addressed in future educational activities.

CE Activity Code: 17HH01 — This form may be photocopied.
Elimination of Perinatal HIV in New Jersey: How are we doing?

Mary Jo Hoyt, MSN and Joanne Phillips, MS, RN, Rutgers, FXB Center

The perinatal transmission rate in New Jersey in 2011, the latest year with complete data, was 5%.1 We know that with full implementation of the perinatal prevention cascade, the transmission rate can be as low as 1-2%.2; elimination of perinatal HIV transmission in the U.S., as defined by the U.S. Centers for Disease Control (CDC) is defined as an incidence < 1 infection per 100,000 live births and an mother-to-child rate of <1% among HIV-exposed infants.3 While biomedical and research strides continue to be made, a functional cure seems a more distant possibility.

The FIMR-HIV Methodology is a continuous quality improvement program to address the missed opportunities for perinatal prevention through a cycle of case abstraction, case review, and community action. The Fetal & Infant Mortality Review HIV (FIMR-HIV) Methodology is a national program with two sites in New Jersey (Newark and Camden). The Newark site has reviewed 29 purposively sampled cases where there was either HIV transmission from MCT or high risk of transmission.

Common trends identified through case review include gaps in care, including either prenatal or HIV care that include late entry to care, inadequate access to care, or inadequate medical management while in care. Co-morbid medical, mental health and substance abuse conditions are also common barriers or complications to complete care. Inadequate access to and discussions around family planning are also common trends. In addition, social issues related to poverty, housing, and family violence are frequently found during case review.

The FIMR-HIV Methodology works to find solutions to provide pregnant HIV-infected women with the support they need to have a healthy pregnancy. The community action team works to remove barriers between medical, public health, family services, maternal child health services, mental health, substance use, and case management services to improve care coordination during pregnancy and achieve healthy outcomes for women and infants.

This work is critical because reaching the goal of Elimination of Mother-to-Child Transmission will never be a one-time accomplishment but, rather, will require sustained effort as long as there are new HIV infections in women of childbearing age.

HIV Clinical Update 2014: The New Jersey Statewide Symposium

Michelle Thompson, Program Manager, Rutgers, FXB Center

On June 5, 2014, the New Jersey Department of Health (NJDOH)-Division of HIV, STD and TB Services, Rutgers School of Nursing, François-Xavier Bagnoud (FXB) Center and the Rutgers Biomedical and Health Sciences Center for Continuing and Outreach Education hosted the annual HIV Clinical Update at the Hyatt Regency, New Brunswick.

The HIV Clinical Update is one of the longest running HIV educational medical conferences in Northern New Jersey. Each year the conference focuses on the most recent evidence-based information on HIV diagnosis and treatment and HIV co-infections.

Connie F. Calisti-Meyers, JD, Assistant Commissioner for the NJDOH-Division of HIV, STD and TB Services, welcomed over 120 physicians, nurses, pharmacists, dentists, social workers and other healthcare providers to this year’s conference. Topics presented this year included: Misuse and Abuse of Prescription Drugs: A Growing Epidemic with Prevention Through Medical Regulations, Improving Quality of Life through Pain Management: Maintaining a Balance in the HIV Patient, Chronic Active Hepatitis C in HIV-Infected Patients, The HIV Cross-Part Care Continuum Collaborative: Increasing Viral Load Suppression Rates in New Jersey and ACA and the HIV Provider: An Introduction to the Patient-Centered Medical Home (PCMH).

Two popular sessions introduced strategies to assist clinicians with the growing epidemic of prescription and heroin abuse in New Jersey while also addressing the challenges of treating HIV-infected persons with managing their pain. New Jersey has become a leader in this area by creating a network of monitoring and reporting for physicians and pharmacists when prescribing and dispensing opiate containing medications. In addition, the New Jersey HIV Cross-Part Care Continuum Collaboration was highlighted as an innovative model of participation and teamwork focused on improving viral suppression and retention in care rates. This collaborative is working together to achieve better health outcomes for those living with HIV in New Jersey.

HIV Case Study Day and Perinatal Update

The New Jersey Department of Health-Division of HIV, STD and TB Services, Rutgers-School of Nursing FXB Center and the Ryan White Part D Family Centered HIV Care Network sponsored the HIV Case Study Day and Perinatal Update on October 20, 2014, at Rutgers-Robert Wood Johnson in New Brunswick.

Over 50 clinicians attended to hear a presentation by Dr. Shobha Swaminathan, Medical Director, ID Practice, Rutgers New Jersey Medical School on Pre-Exposure Prophylaxis (PrEP) and the May 2014 CDC treatment guidelines. Dr. David Cennimo, Assistant Professor of Medicine and Pediatrics, Division of Infectious Diseases, Rutgers New Jersey Medical School presented on the Care of HIV Exposed Newborns. He also reviewed treatment guidelines and discussed pre-conception counseling.
New Jersey AIDSLine is published by FXB Center, School of Nursing, Rutgers, The State University of New Jersey with the New Jersey Department of Health, Division of HIV, STD and TB Services (NJDHSTS) through a Memorandum of Agreement titled “Education and Training for Physicians and Other Healthcare Professionals in the Diagnosis and Treatment of HIV/AIDS”. Continuing education credits are offered by the Rutgers Center for Continuing & Outreach Education, http://ccoe.rhbs.rutgers.edu/

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RUTGERS François-Xavier Bagnoud Center SCHOOL OF NURSING

save the dates

HIV Clinical Update 2015: The New Jersey Statewide Symposium
Thursday, June 4, 2014 • Woodbridge MetroPark, Iselin, NJ
For more information contact: Michelle Thompson at ccthomps@sn.rutgers.edu or (973) 972-1293.

NJDHSTS The New Jersey AIDS Drug Distribution Program (ADDP) and Social Media for Agencies, Centers and Academic Institutions http://hpcsdi.rutgers.edu/training/main.php

NY/NJ AETC Cervical Pap Test Training Program for Clinical Providers http://www.nynjaetc.org/on-demand/cervicalpapprogram.html or (212) 304-5530

NY/NJ AETC Online training and education for healthcare professionals providing care and services for people living with HIV, the first online learning module is Hepatitis C Medications and Special Considerations for People Living with HIV. https://learn.nynjaetc.org/accounts/login/?next=/

The NY/NJ AETC disseminates clinical support tools developed by our faculty experts. These products are designed to provide quick and easy references for providers. Our newest tools include Timelines for Expected Hormonal Changes in Trans Women & Trans Men, HIV and HCV Drug Interactions: A Quick Guide for Clinicians and The role of Integrase Strand Transfer Inhibitors in HIV Care. Our website offers continuing education accredited videos and monographs. Courses are available for physicians, physician assistants, nurse practitioners, nurses, pharmacists, and oral health providers. All activities are free of charge. Please visit www.nynjaetc.org today.

HIV/AIDS Training & Information Resources

New Jersey Department of Health—Division of HIV, STD, and TB Services (NJDHSTS) (609) 984-5674 • www.state.nj.us/health/aids

NJ HIV/AIDS statistical reports, regulations, forms, and links to HIV care, prevention programs, and training

New Jersey rapid testing site: www.state.nj.us/health/aids/rapidtesting

New Jersey AIDS/STD Hotline: (800) 624-2377

François-Xavier Bagnoud (FXB) Center, School of Nursing, Rutgers, The State University of New Jersey (973) 972-5644 • Fax: (973) 972-0397 • http://www.fxbcenter.org/about.html

HIV/AIDS conferences, training

Free online continuing education (CE) credits for healthcare professionals

HIV/AIDS MEDICAL UPDATE SERIES: with funding from NJDHSS

Free on-site HIV medical education for healthcare sites. Contact Michelle Thompson at (973) 972-1293 or ccthomps@sn.rutgers.edu

AIDS Education and Training Center (AETC) National Resource Center: www.aidsetc.org

NY/NJ AETC: www.nynjaetc.org


AIDS InfoNet: HIV treatment fact sheets in English and 10 other languages. www.aidsinfo.net

U.S. National Institutes of Health: a registry and results database of publicly and privately supported clinical studies conducted around the world. http://clinicaltrials.gov

Centers for Disease Control and Prevention (CDC): http://www.cdc.gov/hiv/default.html

Health Resources and Services Administration (HRSA): http://www.hrsa.gov

FDA MedWatch: (800) FDA-1088; Subscribe to e-bulletin: www.fda.gov/medwatch/elist.htm

HealthHIV: Advances effective prevention, care and support for people living with, or at risk for, HIV by providing education, capacity building, health services research, and advocacy. http://www.healthhiv.org/index.php

Clinician Consultation Center: http://www.nccc.ucsf.edu/

- Warmline: (800) 933-3413
- Post-Exposure Prophylaxis Hotline/PEPline: (888) 448-4911
- Perinatal HIV Hotline: (888) 448-8765

National Quality Center: no-cost, technical assistance for Ryan White funded grantees to improve the quality of HIV care nationwide. www.nationalqualitycenter.org

TARGET Center: technical assistance and training resources for the Ryan White community. www.careacttarget.org

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If you would like to be added to our electronic mailing list, visit our website at www.fxbcenter.org. To confirm your email address, or be deleted from the mailing list, please contact FXBCenter@sn.rutgers.edu. You will receive an e-mail when AIDSLine is posted on the website.