

PRE-EXPOSURE PROPHYLAXIS AND THE SEXUAL HISTORY

Sean Kelly, MD Vanderbilt Division of Infectious Diseases October 11, 2019





Objectives

- Background of PrEP
- Importance of PrEP in the Southeast
- Provider and patient barriers to PrEP
- PrEP eligibility
- Taking a sexual history
- PrEP prescribing
 - Counseling
 - Adverse effects
 - Lab monitoring
- Future directions of PrEP





Secondary Objectives

- •Increase your confidence in providing PrEP!
- Improve your ability to take a sexual history!







PrEP is primary prevention

It is intended to PREVENT the onset of a disease in those who are AT RISK

It is a concept, fulfilled by medication that has been FDA-approved for this purpose





But what is PrEP, really?

- Truvada® 701
 - Fixed dose combination of tenofovir disoproxil fumarate (TDF) 300mg/emtricitabine (FTC) 200mg
 - Developed by Gilead
 - FDA-approved for use as PrEP for adults on June 6, 2012
 - FDA-approved for use as PrEP for adolescents on May 15, 2018
- Generic TDF/FTC approved June 2017 (but not yet available)

For this talk: PrEP = Truvada® = TDF/FTC





And now also...

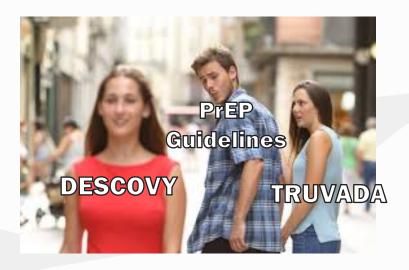
- Descovy®
 - Similar to Truvada®
 - Truvada® = tenofovir disoproxil fumarate (TDF) + emtricitabine
 - Descovy® = tenofovir alafenamide (TAF) + emtricitabine
 - Approved for PrEP October 2, 2019 (for non-vaginal sex)
 - TAF achieves high intracellular concentrations, but lower (>10-fold) plasma and tissue concentrations than TDF
 - Lower risk of BMD loss and reduced creatinine clearance
 - Can be used in chronic kidney disease (CrCl >30 mL/min)





Descovy® - DISCOVER trial

- 5400 MSM and transgender women
- Randomized to Truvada® vs Descovy®
- Descovy® is non-inferior to Truvada® at 96 weeks
- Adverse events similar
- Descovy® achieved therapeutic levels faster and remained therapeutic longer after discontinuation.



Spinner CD, Brunetta J, Shalit P, et al. DISCOVER study for HIV pre-exposure prophylaxis (PrEP): F/TAF has a more rapid onset and longer sustained duration of HIV protection compared with F/TDF. 10th IAS Conference on HIV Science (IAS 2019), July 21-24, 2019, Mexico City.





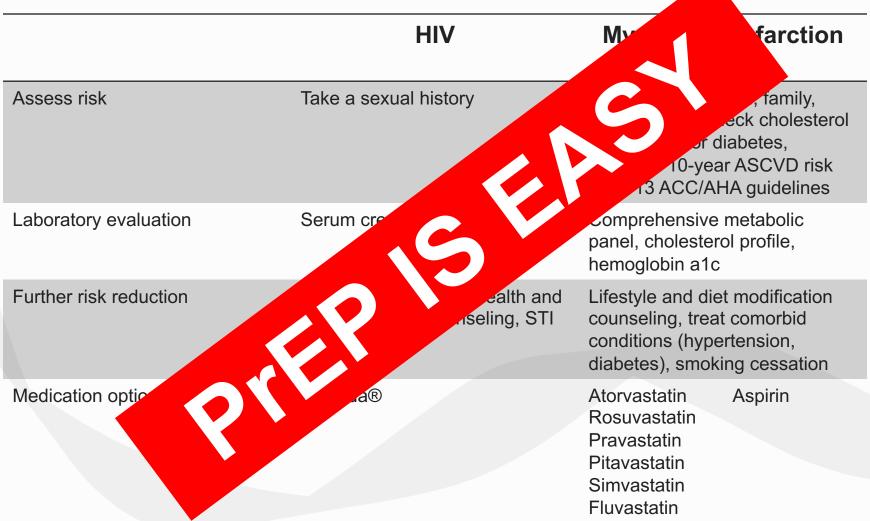
Primary Prevention

	HIV	Myocardial infarction or Stroke	
Assess risk	Take a sexual history	Take a past medical, family, social history, check cholesterol and screen for diabetes, calculate 10-year ASCVD risk by 2013 ACC/AHA guidelines	
Laboratory evaluation	Serum creatinine, HIV screen	Comprehensive metabolic panel, cholesterol profile, hemoglobin a1c	
Further risk reduction	Condom use, sexual health and substance use counseling, STI screening	Lifestyle and diet modification counseling, treat comorbid conditions (hypertension, diabetes), smoking cessation	
Medication options	Truvada®	Atorvastatin Aspirin Rosuvastatin Pravastatin Pitavastatin Simvastatin Fluvastatin	





Primary Prevention







Post-Exposure Prophylaxis - PEP

- Intended to prevent the establishment of HIV infection AFTER exposure has occurred
- Occupational and non-occupational
- Must be started within 72 hours of exposure and continued for 28 days
- Can reduce risk of HIV infection by >80% after exposure





PEP

- Regimen:
 - Truvada® (TDF/FTC) + raltegravir OR dolutegravir
 - Alternative:
 - Truvada + darunavir + ritonavir
 - Monitoring includes HIV screening at various intervals
 - Baseline
 - 28 days
 - 3 months
 - 6 months





Table 1. Estimated per-act risk for acquiring human immunodeficiency virus (HIV) from an infected source, by exposure acta

Exposure type	Rate for HIV acquisition per 10,000 exposures	
Parenteral		
Blood transfusion	9,250	
Needle sharing during injection drug use	63	
Percutaneous (needlestick)	23	
Sexual		
Receptive anal intercourse	138	
Receptive penile-vaginal intercourse	8	
Insertive anal intercourse	11	
Insertive penile-vaginal intercourse	4	
Receptive oral intercourse	Low	
Insertive oral intercourse	Low	
Other ^b		
Biting	Negligible	
Spitting	Negligible	
Throwing body fluids (including semen or saliva)	Negligible	
Sharing sex toys	Negligible	
O		

Source: http://www.cdc.gov/hiv/policies/law/risk.html

b HIV transmission through these exposure routes is technically possible but unlikely and not well documented.



^a Factors that may increase the risk of HIV transmission include sexually transmitted diseases, acute and late-stage HIV infection, and high viral load. Factors that may decrease the risk include condom use, male circumcision, antiretroviral treatment, and preexposure prophylaxis. None of these factors are accounted for in the estimates presented in the table.



How well does PrEP work?

(spoiler alert: very well)





iPrEX



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CME »

ORIGINAL ARTICLE

Preexposure Chemoprophylaxis for HIV Prevention in Men Who Have Sex with Men

Robert M. Grant, M.D., M.P.H., Javier R. Lama, M.D., M.P.H., Peter L. Anderson, Pharm.D., Vanessa McMahan, B.S., Albert Y. Liu, M.D., M.P.H., Lorena Vargas, Pedro Goicochea, M.Sc., Martín Casapía, M.D., M.P.H., Juan Vicente Guanira-Carranza, M.D., M.P.H., Maria E. Ramirez-Cardich, M.D., Orlando Montoya-Herrera, M.Sc., Telmo Fernández, M.D., Valdilea G. Veloso, M.D., Ph.D., Susan P. Buchbinder, M.D., Suwat Chariyalertsak, M.D., Dr.P.H., Mauro Schechter, M.D., Ph.D., Linda-Gail Bekker, M.B., Ch.B., Ph.D., Kenneth H. Mayer, M.D., Esper Georges Kallás, M.D., Ph.D., K. Rivet Amico, Ph.D., Kathleen Mulligan, Ph.D., Lane R. Bushman, B.Chem., Robert J. Hance, A.A., Carmela Ganoza, M.D., Patricia Defechereux, Ph.D., Brian Postle, B.S., Furong Wang, M.D., J. Jeff McConnell, M.A., Jia-Hua Zheng, Ph.D., Jeanny Lee, B.S., James F. Rooney, M.D., Howard S. Jaffe, M.D., Ana I. Martinez, R.Ph., David N. Burns, M.D., M.P.H., and David V. Glidden, Ph.D., for the iPrEx Study Team*

N Engl J Med 2010; 363:2587-2599 | December 30, 2010 | DOI: 10.1056/NEJMoa1011205

44% HIV risk reduction, but 92% risk reduction when taken consistently among MSM and transgender women





TDF2 Study Group



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(CME)

ORIGINAL ARTICLE

Antiretroviral Preexposure Prophylaxis for Heterosexual HIV Transmission in Botswana

Michael C. Thigpen, M.D., Poloko M. Kebaabetswe, Ph.D., M.P.H., Lynn A. Paxton, M.D., M.P.H., Dawn K. Smith, M.D., M.P.H., Charles E. Rose, Ph.D., Tebogo M. Segolodi, M.Sc., Faith L. Henderson, M.P.H., Sonal R. Pathak, M.P.H., Fatma A. Soud, Ph.D., Kata L. Chillag, Ph.D., Rodreck Mutanhaurwa, M.B., Ch.B., Lovemore Ian Chirwa, M.B., Ch.B., M.Phil., Michael Kasonde, M.B., Ch.B., Daniel Abebe, M.D., Evans Buliva, M.B., Ch.B., Roman J. Gvetadze, M.D., M.S.P.H., Sandra Johnson, M.A., Thom Sukalac, Vasavi T. Thomas, M.P.H., R.Ph., Clyde Hart, Ph.D., Jeffrey A. Johnson, Ph.D., C. Kevin Malotte, Dr.P.H., Craig W. Hendrix, M.D., and John T. Brooks, M.D., for the TDF2 Study Group*

N Engl J Med 2012; 367:423-434 | August 2, 2012 | DOI: 10.1056/NEJMoa1110711

62.2% HIV risk reduction among heterosexual men and women





Partners PrEP Study Team



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ORIGINAL ARTICLE

Antiretroviral Prophylaxis for HIV Prevention in Heterosexual Men and Women

Jared M. Baeten, M.D., Ph.D., Deborah Donnell, Ph.D., Patrick Ndase, M.B., Ch.B., M.P.H., Nelly R. Mugo, M.B., Ch.B., M.P.H., James D. Campbell, M.D., Jonathan Wangisi, M.B., Ch.B., Jordan W. Tappero, M.D., M.P.H., Elizabeth A. Bukusi, M.B., Ch.B., Ph.D., Craig R. Cohen, M.D., M.P.H., Elly Katabira, M.B., Ch.B., Allan Ronald, M.D., Elioda Tumwesigye, M.B., Ch.B., Edwin Were, M.B., Ch.B., M.P.H., Kenneth H. Fife, M.D., Ph.D., James Kiarie, M.B., Ch.B., M.P.H., Carey Farquhar, M.D., M.P.H., Grace John-Stewart, M.D., Ph.D., Aloysious Kakia, M.B., Ch.B., Josephine Odoyo, M.P.H., Akasiima Mucunguzi, M.B., Ch.B., Edith Nakku-Joloba, M.B., Ch.B., Ph.D., Rogers Twesigye, M.B., Ch.B., M.P.H., Kenneth Ngure, Ph.D., Cosmas Apaka, B.Sc., Harrison Tamooh, M.B., Ch.B., Fridah Gabona, M.B., Ch.B., Andrew Mujugira, M.B., Ch.B., Dana Panteleeff, B.S., Katherine K. Thomas, M.S., Lara Kidoguchi, M.P.H., Meighan Krows, B.A., Jennifer Revall, B.A., Susan Morrison, M.D., M.P.H., Harald Haugen, M.S., Mira Emmanuel-Ogier, B.A., Lisa Ondrejcek, M.A., Robert W. Coombs, M.D., Ph.D., Lisa Frenkel, M.D., Craig Hendrix, M.D., Namandjé N. Bumpus, Ph.D., David Bangsberg, M.D., M.P.H., Jessica E. Haberer, M.D., M.P.H., Wendy S. Stevens, M.D., F.C.Path., Jairam R. Lingappa, M.D., Ph.D., and Connie Celum, M.D., M.P.H., for the Partners PrEP Study Team

N Engl J Med 2012; 367:399-410 | August 2, 2012 | DOI: 10.1056/NEJMoa1108524

75% HIV risk reduction among heterosexual serodiscordant couples, 90% among those with detectable drug levels





Bangkok Tenofovir Study Group

THE LANCET

Volume 381, Issue 9883, 15–21 June 2013, Pages 2083–2090



Articles

Antiretroviral prophylaxis for HIV infection in injecting drug users in Bangkok, Thailand (the Bangkok Tenofovir Study): a randomised, double-blind, placebo-controlled phase 3 trial

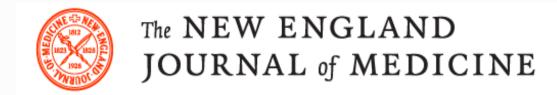
Kachit Choopanya, MD^a, Dr Michael Martin, MD^{b, c}, ▲ · M, Pravan Suntharasamai, MD^a, Udomsak Sangkum, MD^a, Philip A Mock, MAppStats^b, Manoj Leethochawalit, MD^d, Sithisat Chiamwongpaet, MD^d, Praphan Kitisin, MD^d, Pitinan Natrujirote, MD^d, Somyot Kittimunkong, MD^e, Rutt Chuachoowong, MD^b, Roman J Gvetadze, MD^c, Janet M McNicholl, MD^{b, c}, Lynn A Paxton, MD^c, Marcel E Curlin, MD^{b, c}, Craig W Hendrix, MD^f, Suphak Vanichseni, MD^a, for the Bangkok Tenofovir Study Group

48.9% risk reduction, but 74% HIV risk reduction when taken consistently, among IDUs (TDF only)





IPERGAY



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ORIGINAL ARTICLE

On-Demand Preexposure Prophylaxis in Men at High Risk for HIV-1 Infection

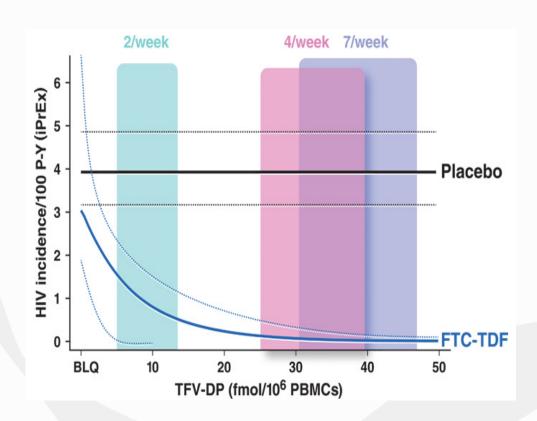
Jean-Michel Molina, M.D., Catherine Capitant, M.D., Bruno Spire, M.D., Ph.D., Gilles Pialoux, M.D., Laurent Cotte, M.D., Isabelle Charreau, M.D., Cecile Tremblay, M.D., Jean-Marie Le Gall, Ph.D., Eric Cua, M.D., Armelle Pasquet, M.D., François Raffi, M.D., Claire Pintado, M.D., Christian Chidiac, M.D., Julie Chas, M.D., Pierre Charbonneau, M.D., Constance Delaugerre, Pharm.D., Ph.D., Marie Suzan-Monti, Ph.D., Benedicte Loze, B.S., Julien Fonsart, Pharm.D., Gilles Peytavin, Pharm.D., Antoine Cheret, M.D., Ph.D., Julie Timsit, M.D., Gabriel Girard, Ph.D., Nicolas Lorente, Ph.D., Marie Préau, Ph.D., James F. Rooney, M.D., Mark A. Wainberg, Ph.D., David Thompson, B.C.L., LL.B., Willy Rozenbaum, M.D., Veronique Doré, Ph.D., Lucie Marchand, B.S., Marie-Christine Simon, B.S., Nicolas Etien, B.S., Jean-Pierre Aboulker, M.D., Laurence Meyer, M.D., Ph.D., and Jean-François Delfraissy, M.D., for the ANRS IPERGAY Study Group*

86% HIV risk reduction in MSM using on-demand PrEP





Dosing matters



Using drug concentrations in iPrEX and STRAND, pharmacokinetic models predict **76%** risk reduction with 2 doses/week, **96%** with 4 doses/week, and **99%** with 7 doses/week.





Studies Summary

Study	Population	Dosing	Risk Reduction
iPrEX	MSM	Daily	44% (92% with ideal adherence)
TDF2	Heterosexual men and women	Daily	62.2% (100% in open-label extension with regular follow-up)
Partners	Sero-discordant heterosexual couples	Daily	75% (90% with ideal adherence)
Bangkok Tenofovir Study Group	Intravenous drug users	Daily	48.9% (74% with ideal adherence)
IPERGAY	MSM	On-demand	86%





PrEP and adolescents

- Adolescent Trial Network
 - 78 HIV-negative MSM, ages 15-17, who reported HIV risk behavior during the previous 6 months received daily PrEP
 - Follow-up monthly for 12 weeks, then quarterly for the remainder of 48-week study
 - Adherence was high during monthly follow-up
 - 95% with detectable TDF drug levels at 12 weeks
 - After 12 weeks, adherence dropped dramatically (by more than half)
 - 32 discontinued before the end of the study
 - HIV acquisition rate: 3 new infections, 6.4 per 100 personyears



Adolescent Trials Network

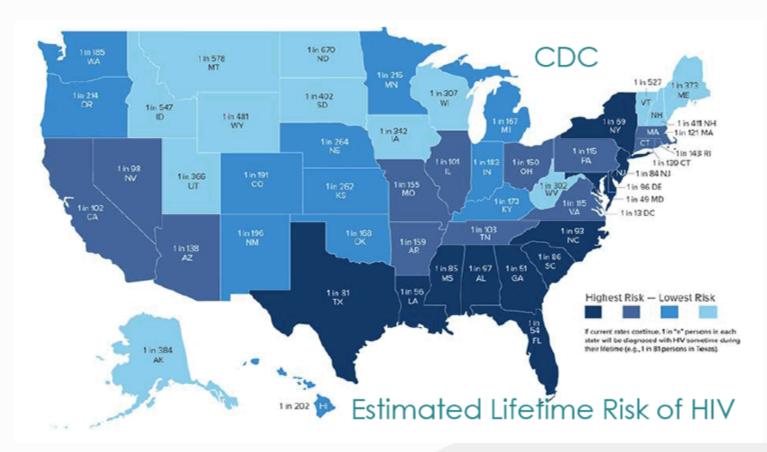
- Safety and acceptability
 - PrEP was well-tolerated
 - No discontinuations due to adverse effects
 - BMD increased during treatment (as expected for ageappropriate increases in BMD)
 - Slight decline in z-score suggests BMD increase was lower than expected
 - Unclear if due to TDF or small sample size



Why PrEP matters





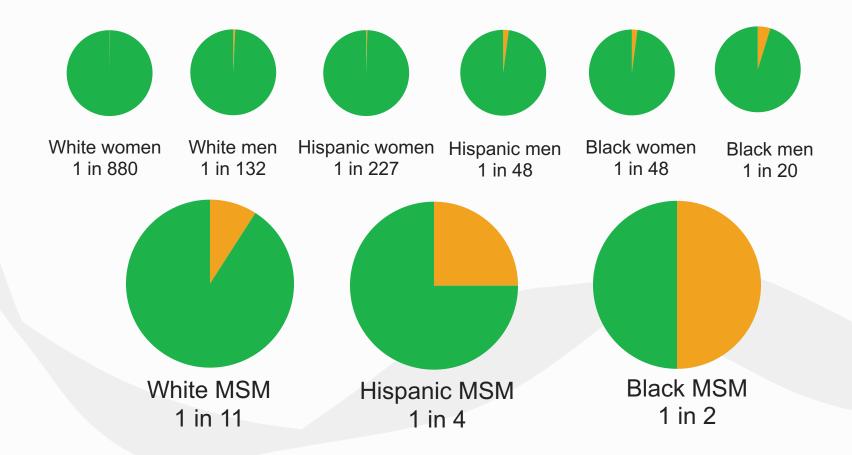


The Southeast remains the region with the highest HIV incidence, which can be markedly reduced with widespread use of pre-exposure prophylaxis (PrEP) among high-risk individuals.





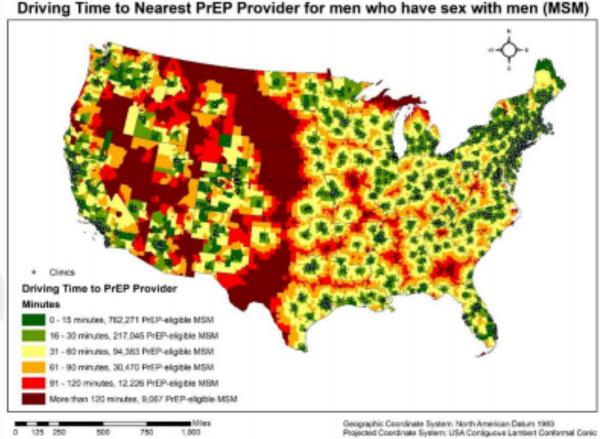
HIV Risk by Race/Ethnicity and MSM







PrEP Deserts



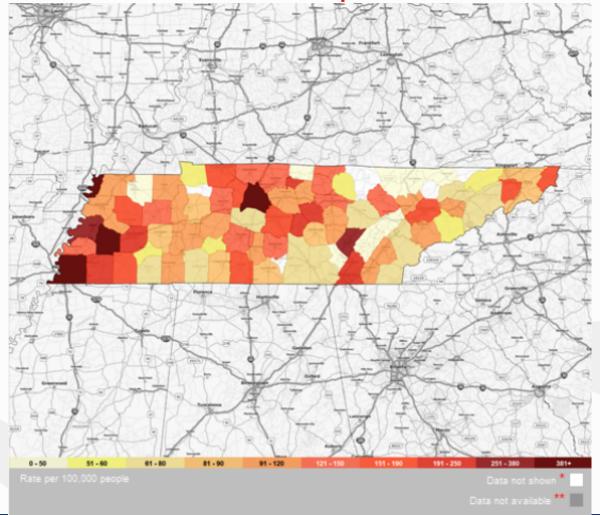
- Most MSM with reduced geographic access to PrEP providers ("PrEP deserts") reside in the South.
- Over 50% of MSM in the South must drive >60 minutes to a PrEP provider.
- PrEP deserts are generally non-urban areas.





Tennessee

HIV risk and location of PrEP providers

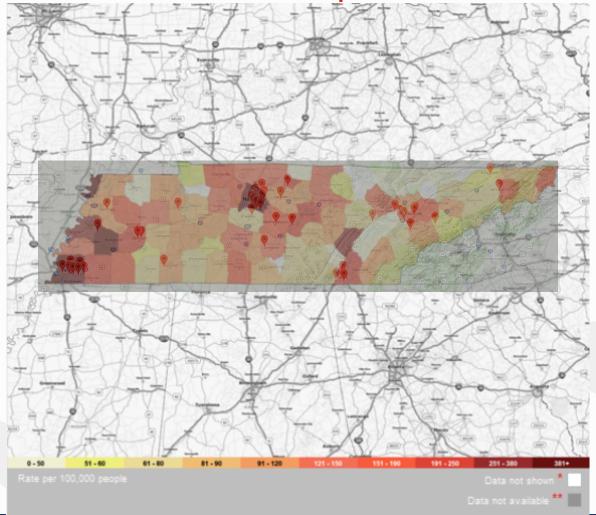






Tennessee

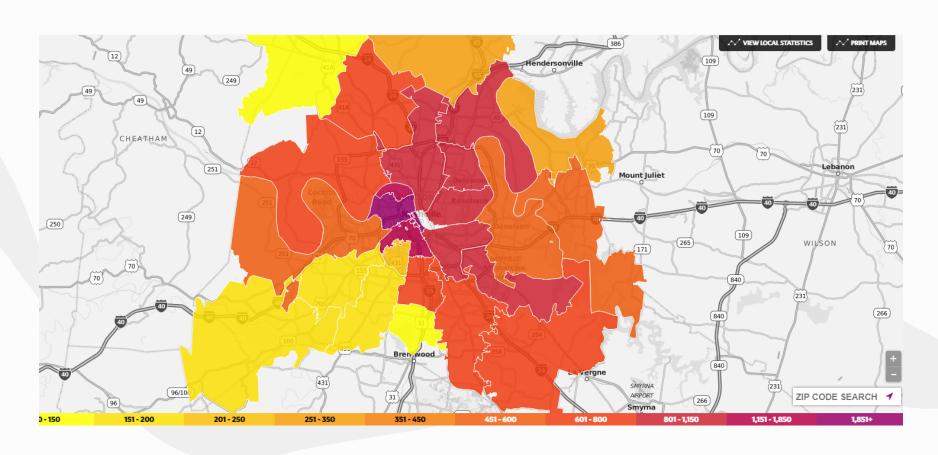
HIV risk and location of PrEP providers







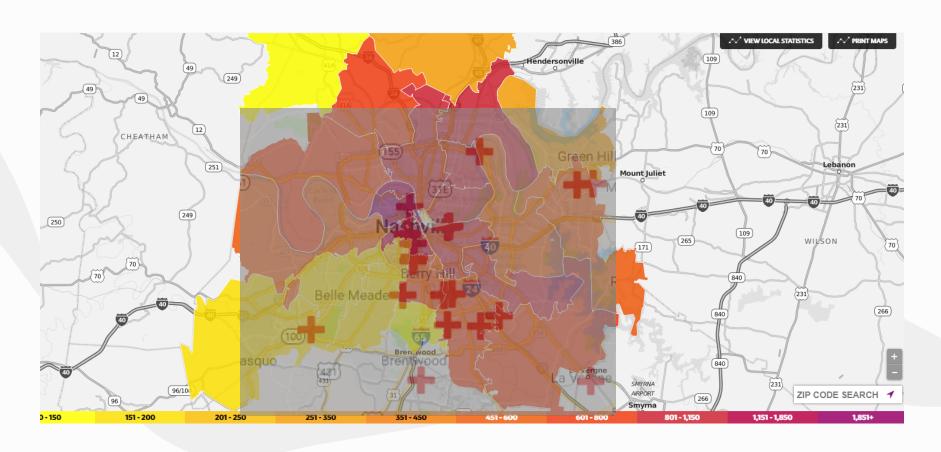
Nashville HIV risk and location of PrEP providers







Nashville HIV risk and location of PrEP providers

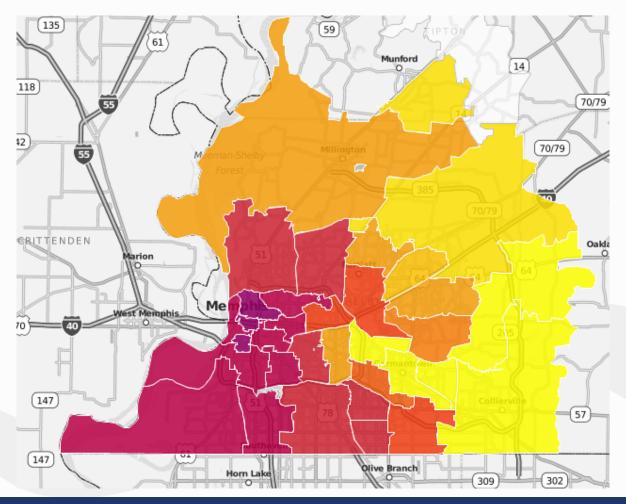






Memphis

HIV risk and location of PrEP providers

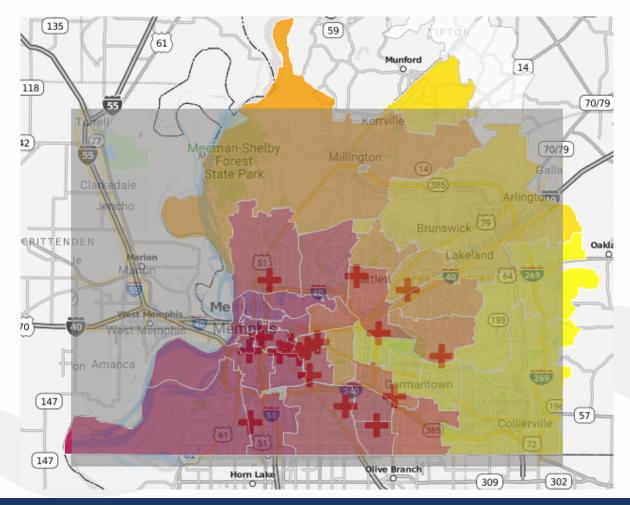






Memphis

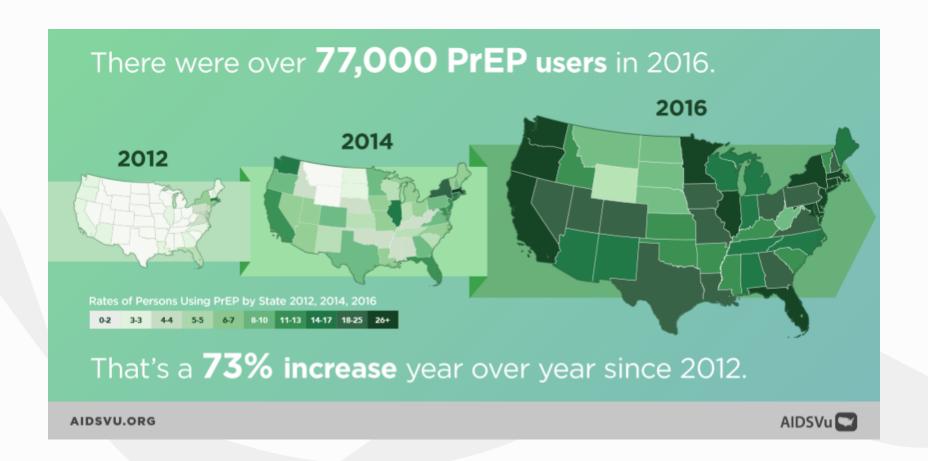
HIV risk and location of PrEP providers







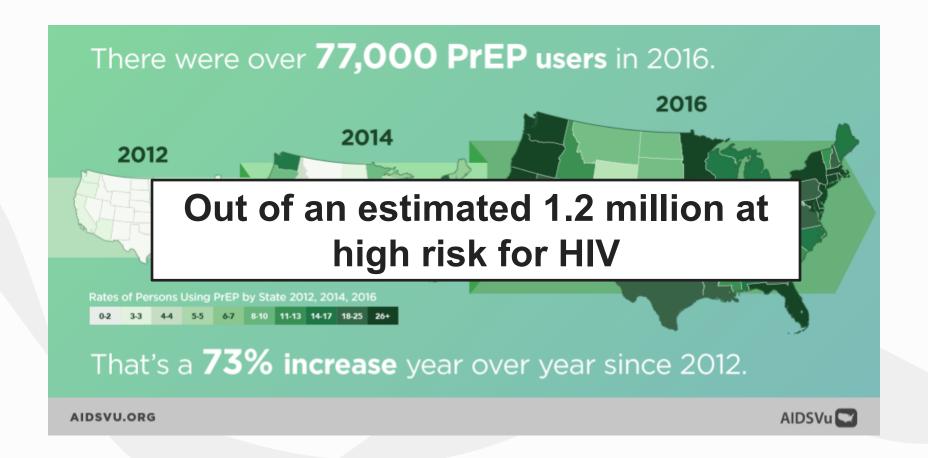
PrEP use







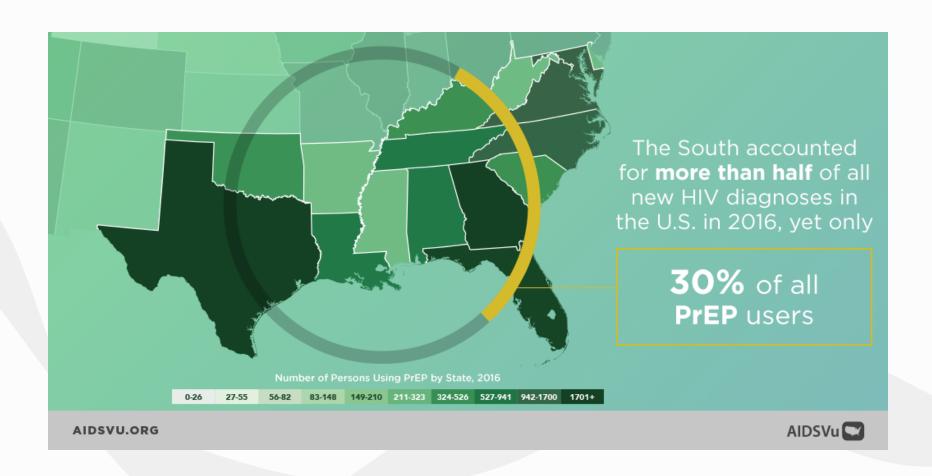
PrEP use







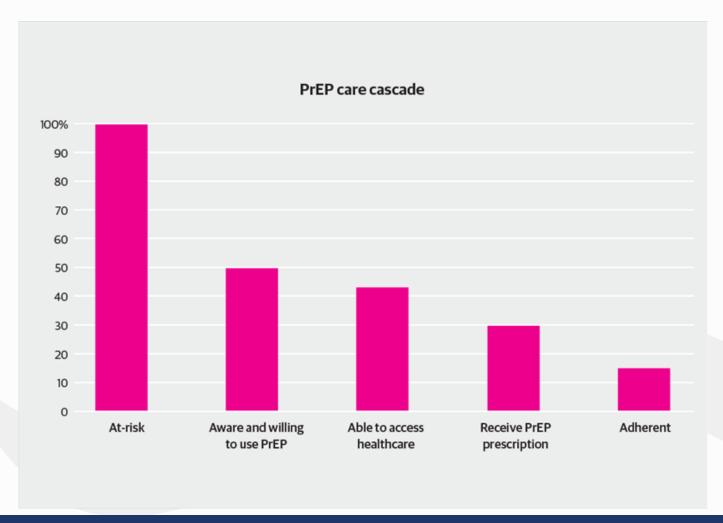
PrEP use







PrEP barriers







Stigma

A preventative measure against the consequences of sexual activity

... condones sexual activity

... promotes sexual activity

... causes sexual activity

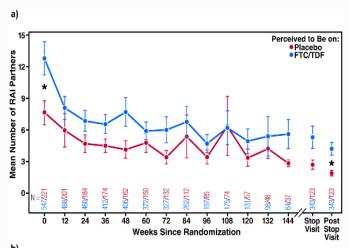


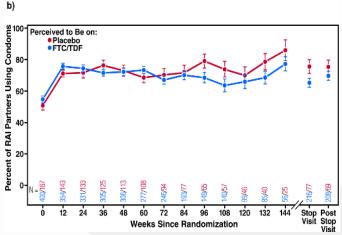






Sexual Risk Compensation





For patients believing they were on PrEP, the number of receptive anal intercourse partners decreased.

For patients believing they were on PrEP, condom use increased.

Syphilis incidence also decreased in both study arms

Julia L. Marcus, David V. Glidden, Kenneth H. Mayer, Albert Y. Liu, Susan P. Buchbinder, K. Rivet Amico, Vanessa McMahan, Esper Georges Kallas, Orlando Montoya-Herrera, Jose Pilotto, Robert M. Grant. PLoS One. 2013 Dec 18;8(12):e81997





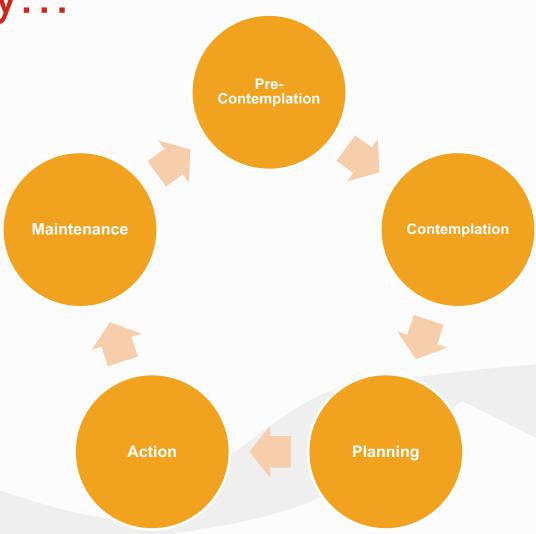
Sexual Risk Compensation

- Pre-exposure prophylaxis to prevent the acquisition of HIV-1 infection (PROUD)
 - UK randomized, open-label study
 - 275 MSM to start TDF/FTC immediately
 - 269 MSM to start TDF/FTC after 1 year
 - 86% HIV risk reduction
 - No difference between groups in STI incidence





Actually...







Actually... Pre-Contemplation **Maintenance** Contemplation Active Action **Planning**





Actually... Pre-Contemplation **Maintenance** Contemplation Active Confidence in sexual health Action **Planning**





Actually... Pre-Contemplation **Maintenance** Contemplation Active Confidence in Stronger relationships Action **Planning**





Actually... Pre-Contemplation **Maintenance** Contemplation Active Confidence in Stronger Fewer sexual Action **Planning**





Actually... Pre-Contemplation Maintenance Contemplation Active Confidence in Stronger Fewer sexual Further risk reduction Action **Planning**





PrEP barriers - Providers

- Insufficient evidence of efficacy
- Inexperience with Truvada/lack of knowledge
- PrEP is cost-prohibitive
- PrEP is not a primary care activity ("not me")
- Unfamiliarity with PrEP candidates; inability to assess high HIV risk
- Sexual risk compensation (that use of PrEP will lead to increased high-risk behavior)

- Discomfort using a drug with potential adverse effects in an otherwise healthy person (primary prevention vs. treatment)
- Patients perceived as nonadherent, and risk HIV resistance mutation development
- Personal ideology

Blumenthal J, et al. *AIDS Behav* 2015,19:802-810.

Karris MY, et al. *Clin Infect Dis* 2014,58:704-712.

Sharma M, et al. *PLoS One* 2014,9:e105283.

Hakre S, et al. *Medicine (Baltimore)* 2016,95:e4511.

Clement ME, et al. *AIDS Care* 2017:1-6.

Martin J, et al. Abstract # 1447. IDWeek, San Diego, October 4-8, 2017.

Imp B, et al. Abstract # 879, IDWeek, San Diego, October 4-8, 2017.

Blackstock OJ, eta al. *J Gen Intern Med* 2017,32:62-70.





As a society, we treat HIV-related health care activities differently.

As healthcare providers, we need to accept our responsibility to protect our patients.



The "cost" of Truvada®

Out-of-pocket cost of TDF/FTC*

Per pill: \$70.32

Per month: \$2,109.60

Per year: \$25,315.20













*Average Wholesale Price





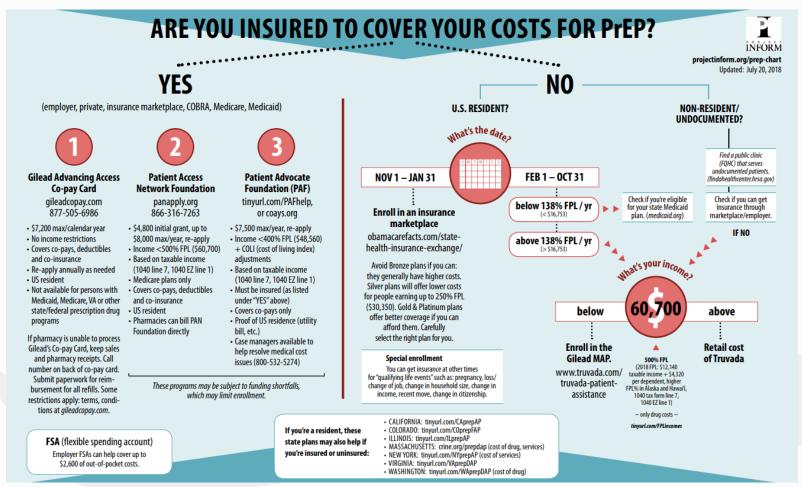
Truvada® coverage

- Actually, Truvada® is very affordable for most patients
- All insurance plans cover TDF/FTC for the indication of HIV prevention
 - Variable copays
- Medicare/Medicaid cover TDF/FTC
- Gilead Advancing Access Program Copay Assistance
 - \$7,200/calendar year of copay assistance
 - No income limitation
- Gilead Advancing Access Program Medication Access
 - Full drug coverage if income <500% federal poverty level
 - Primary option for uninsured patients



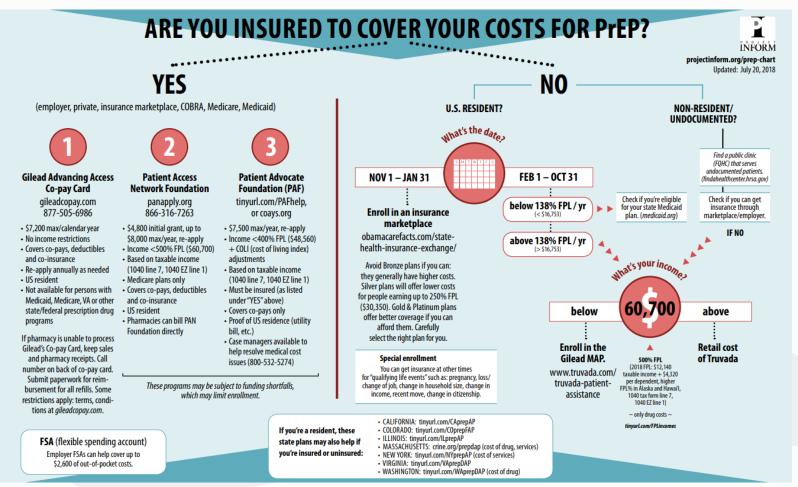


Financial Assistance













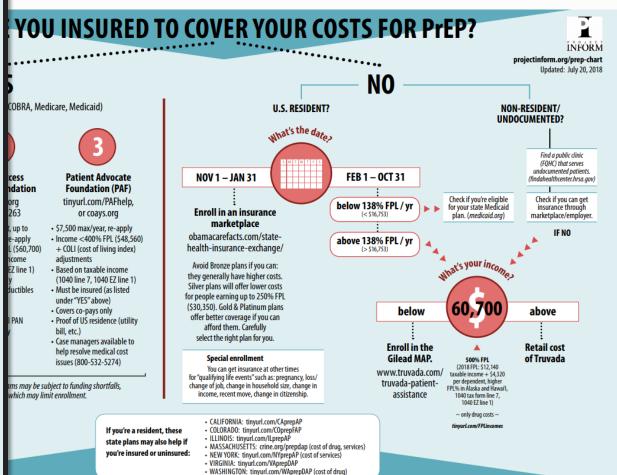


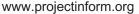
Gilead Advancing Access Co-pay Card

gileadcopay.com 877-505-6986

- \$7,200 max/calendar year
- No income restrictions
- Covers co-pays, deductibles and co-insurance
- · Re-apply annually as needed
- US resident
- Not available for persons with Medicaid, Medicare, VA or other state/federal prescription drug programs

If pharmacy is unable to process Gilead's Co-pay Card, keep sales and pharmacy receipts. Call number on back of co-pay card. Submit paperwork for reimbursement for all refills. Some restrictions apply: terms, conditions at *qileadcopay.com*.











FINANCIAL SUPPORT

INSURANCE SUPPORT

Get Started with the Gilead Advancing Access® program

Advancing Access can provide you with information to help you find financial and insurance support every step of the way.



Support by Phone

Call **1-800-226-2056** to speak to an Advancing Access counselor directly. You can also leave a confidential message any time and day of the week.

Hours: Monday-Friday / 9am to 8pm ET

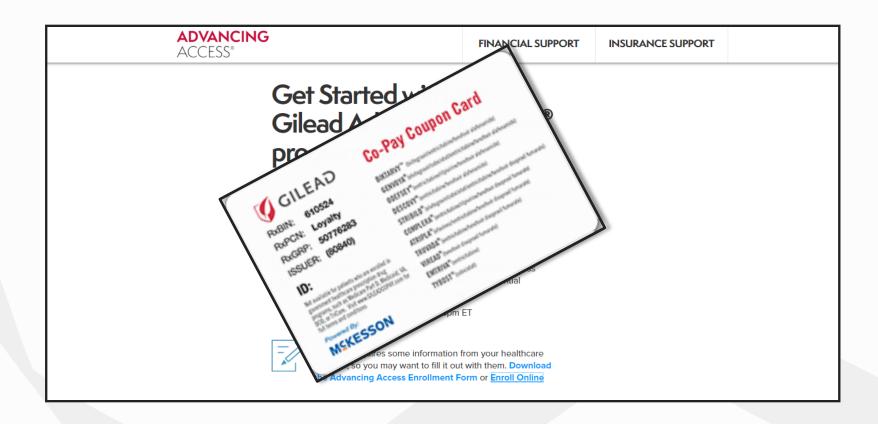


Enroll Today

The form requires some information from your healthcare provider, so you may want to fill it out with them. Download the Advancing Access Enrollment Form or Enroll Online









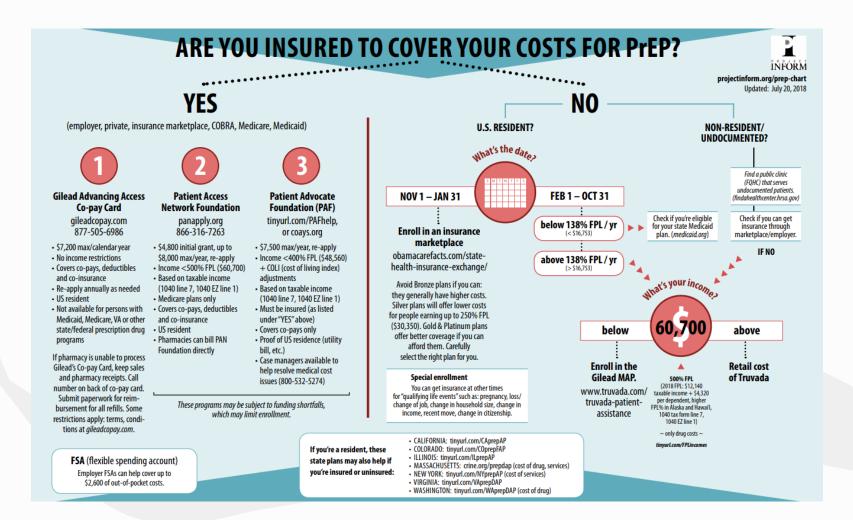


Gilead Advancing Access Program

- \$7,200/calendar year benefit
 - Increased from \$3,600 to \$4,200 in January 2018
 - Increased from \$4,200 to \$7,200 in September 2018
- No income limitation
- Federal beneficiaries excluded
- Usually goes toward deductible
 - Beware of copay accumulator programs
 - Manufacturer copay assistance will no longer count toward deductible

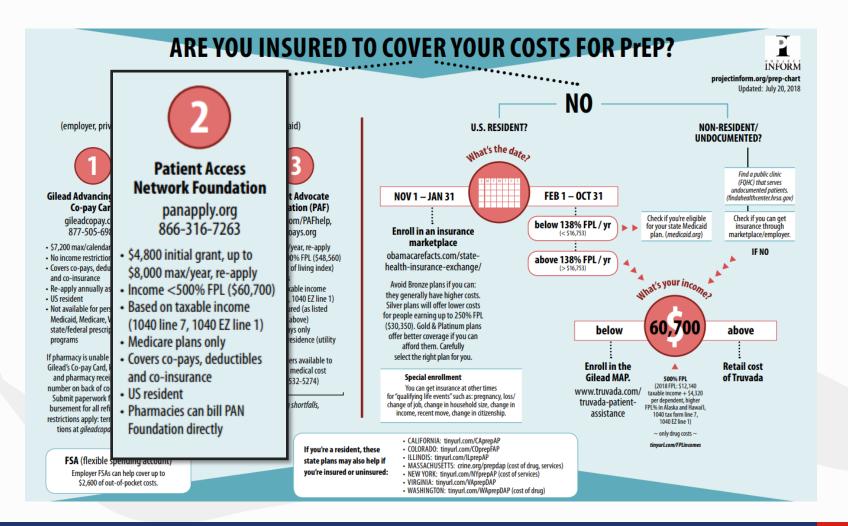






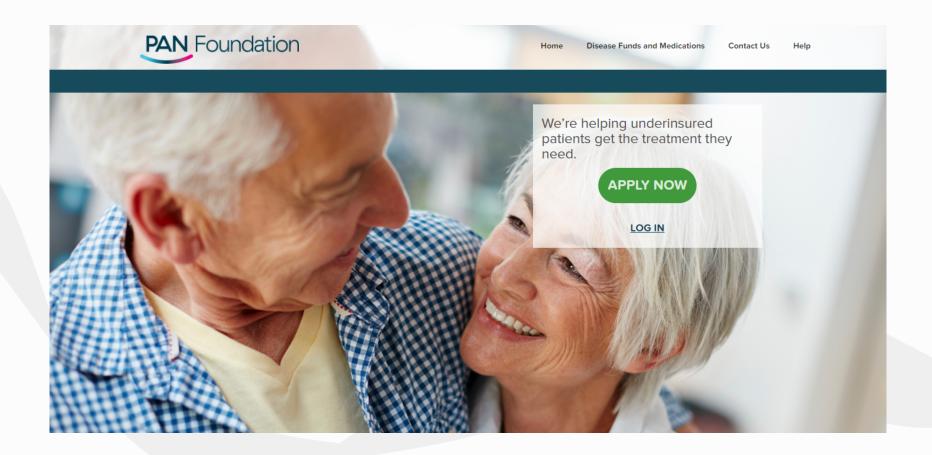












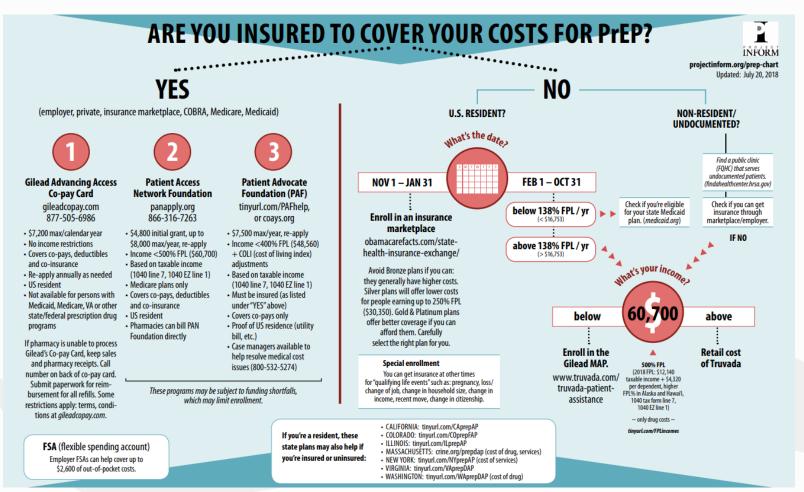






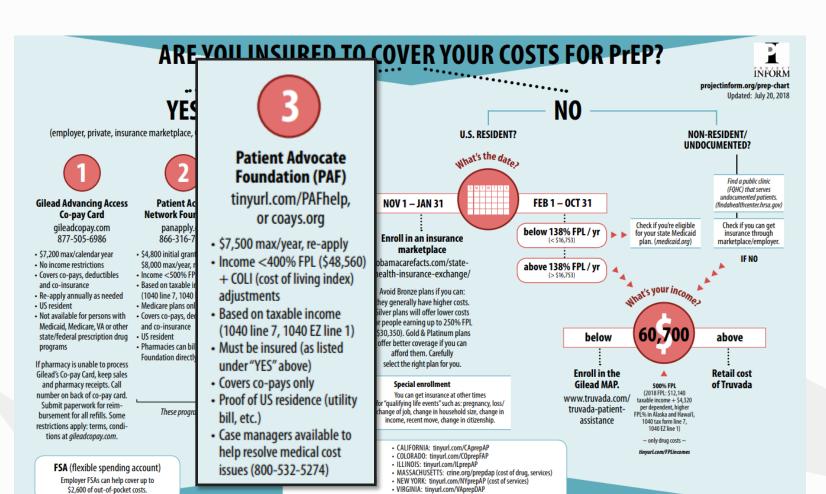










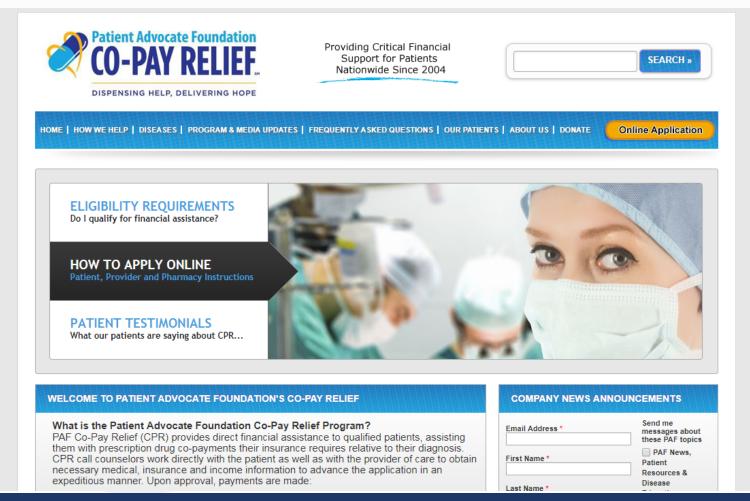


WASHINGTON: tinyurl.com/WAprepDAP (cost of drug)





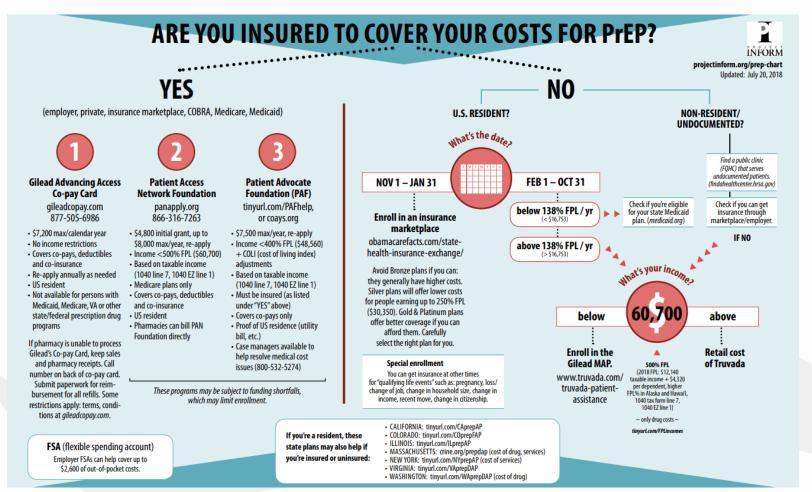








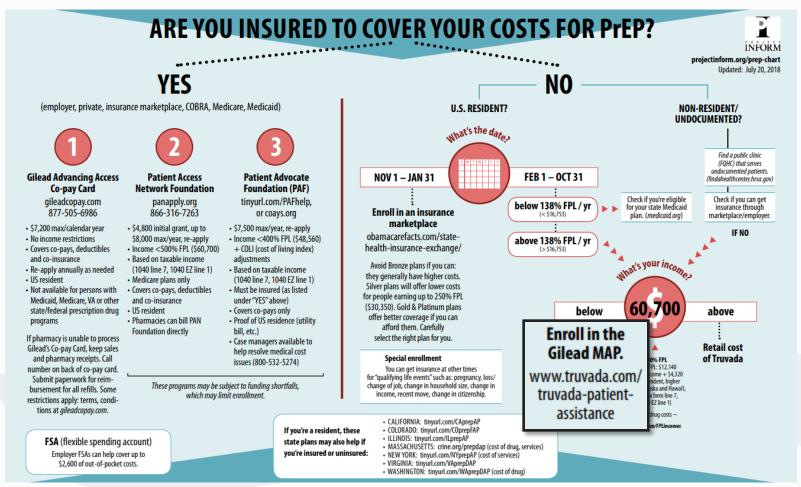
Medication Access Program





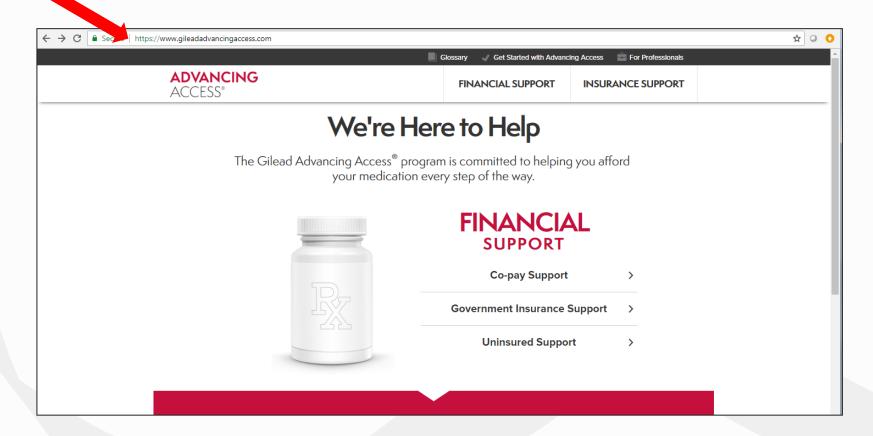


Medication Access Program



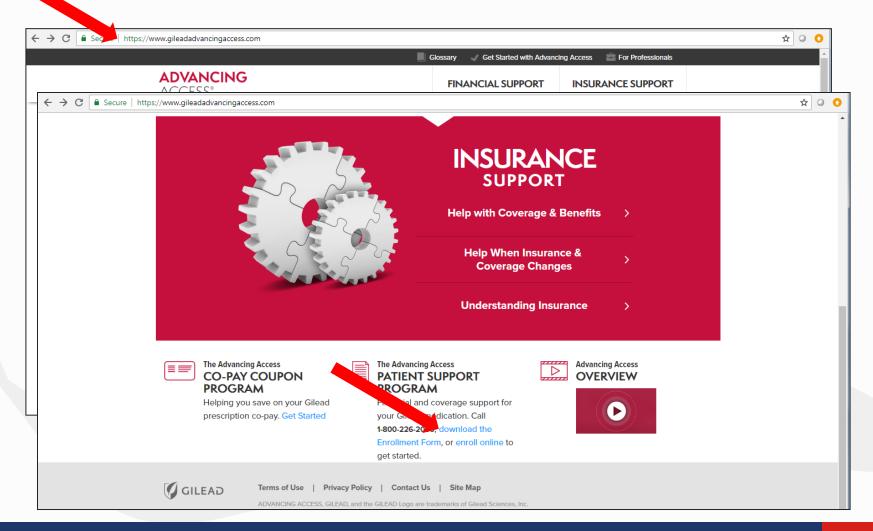
















1. REQUESTED PATIENT SUPPORT (REC	QUIRED)	_							CHECK AL	L BOXES TH	AT APPLY
Benefits Investigation			Prior Au	thorizatio	n an	d Appeals Info	rmation	Co-	pay Coupon Pi		
Patient Assistance Program (PA	P) or Medicati	on Assis	tance Pro	gram (MA	AP) E	ligibility Scree	ning				
2. GILEAD MEDICATION PRESCRIBED (REQUIRED)				-						
Product Name:					m	g:					
If requesting TRUVADA*, please indicate for: Treatment			ment	Pri	PrEP/Prevention						
3. PATIENT INFORMATION (REQUIRED)											
First Name:	Li	ast Nam	0:				M.L:	Prefer	rred Language:		
Address:		-	Apt/Unit#			City:					
State:		2	Zip Code:			Phone #: SSN# (Last		4 digits):			
Email:						DOB:					
Alternate Contact Name:						Phone #:			Relationshi	p:	
CONTACT AUTHORIZATION											
I authorize Advancing Access to leave	a detailed me	essage,	including t	the name	of n	ny prescription	, if I am u	navailable w	hen they call.	Yes	No
INSURANCE INFORMATION (REQUIR Patient is insured (Please fill out a	I of the applical		ince informa		1.EA	Patient is	uninsured	je, no health in	IT AND BACK (any public or pri	vete payer)
below. Attach copy—front and back—of patient card.)					SEE OPTIONAL "PATIENT FINANCIAL INFORMATION" SECTION 9 BELOW Is this a Medicare Part D plan? Ves No						
Primary Insurance:					Is this a Medicare Part D plan? Yes No						
Subscriber		Policy	Holder		Policy Holder						
Name:		Name			Relationship to Patient:						
Policy #:	Group #:				Rx Bin #: Rx PCN #:						
Check box if patient has second	dary insurance	covera	ge and fax	а сору	of ins	surance cards,	if availab	le.			
5. PRESCRIBER INFORMATION (REQU	IRED)										
Prescriber Name:					Facility Name:						
Address:					City.						
State:	Zip Code:				Office Contact:						
Phone #:					Fax #: NPI #:						
Priorie #:	Tax ID ≠:					State License #:					
											ROVIDER
Tax ID #:		_					ML	IST BE COM	PLETED BY HE	ALTHCARE F	
Tax ID #:							ML	JST BE COM	PLETED BY HE	EALTHCARE F	
Tax ID #: 5. DIAGNOSIS:MEDICAL INFORMATION Diagnosis (Please include ICD code):		r Menur	III NECE	COTY			М	JST BE COM	PLETED BY HE	EALTHCARE F	
Tax ID #: 6. DIAGNOSIS/MEDICAL INFORMATION Diagnosis (Please include ICD code): 7 PRESCRIBER CERTIFICATION AND S By signing the form Loardy that I am pressed present and that in the busined as directed.	TATEMENT Of ribing Gleed mill certify that I will ak reimburseme	edication Il be supe ant for an	for the pati evising the p Glead me	ent identif	led in	Section 3.1 certs and verify to sed to the paties	ify that this	prescription n	nedication is med	dically necessa	ry for the othe best ssistance
Tax ID #: 6 DIAGNOSIS MEDICAL INFORMATION Diagnosis (Please include ICD code): 7. PRESCRIBER CERTIFICATION AND S By supray this form, Learly, that I are present present and that in othe burst and and dendeds of my knowledge. I supraw that I shall not see The prescribing TalkWAD for PPEP, I cently to Temperature TalkWAD for PPEP, I cently to	TATEMENT Of ribing Gilead m certify that I will be reimburseme program or the hat the applican	edication Il be supe ant for any rd-party in at has bee	for the pati ervising the p Glead me- nsurer.	ent identifi patient's tr dication di	spen tion a	ents and verify to sed to the patier and found to be	ify that this hat the info vi through	prescription m rmation provis the Patient Ass re, and regular	nedication is med ded is complete a sistance Program r HIV testing will	dically necessa and accurate to /Medication Ar	the best ssistance
Tax ID £: 6. DIAGNOSIS.MEDICAL INFORMATION Diagnosis (Please include ICD code) 7. PRESCRIBER CERTIFICATION TO By signing this form I certify that I am prescriber in and that if will be used as directed it. Propages (TAR) hardy Team any governor.	TATEMENT Of ribing Glead m certify that I will ak reimburseme program or this hat the applican the eligibility, I a wetters authorize er applicable re arence coverage cellstating the pr	edication il be supe ant for any rd-party in that bee agree to p ation from equirement and eligi	for the patientising the process of the patient of	ent identification di r HIV infectorify continuing in according to release to refer to present to the continuing in according to the continuing to th	tion a nued ance the p	ents and verify to sed to the patient and found to be fuse of Glead m with the Health is attent's personal of prior authorization sedication to the	ofy that this hat the info it through HIV megati edication i resurance P and medic ion if need patient: 51	prescription in immation provision the Patient Assi we, and regular ind resubmit c bortability and A al information of on the patie	nedication is medication is medication is medication of the stance Program r HIV testing will urrent prescription of the countability. Act to Gliesed and its infi's behalf, 3) exception outlier twith processors with processors with a countert with a coun	dically necessa and accurate to /Medication Ar- be conducted ons. to f 1996, applic agents and cor sviding financial cational materia	o the best ssistance as part of the





ADVANCING ACCESS®		_	ENROLLMENT FORM PAGE 1 OF 3 PHONE: 1.800.228.2058 EAV: 1.800.218.6857				
100200							
REQUESTED PATIENT SUPPORT (REQUIRED) Benefits Investigation	Prior Authorizati		ADVANCING ACCESS ENROLLMENT FORM PHONE: 1-800-226-2056 FAX: 1-800-216-6857	PAGE 2 OF 3			
			PATIENT NAME: DAT	TE OF BIRTH:			
Patient Assistance Program (PAP) or Medic	cation Assistance Program (M	(AP) EI	8. PATIENT AUTHORIZATION FOR USE AND DISCLOSURE OF PERSONAL HEALTH INFORMATION (REQUIRE	ED)			
2. GILEAD MEDICATION PRESCRIBED (REQUIRED)	0		I understand that I must complete this enrollment form before I can receive assistance	ce through Gilead Sciences, Inc's			
Product Name:		me	Advancing Access ("Program") and the Patient Assistance Program/Medication Assist				
If requesting TRUVADA*, please indicate for:	Treatment P	YEP/PY	of this process, Gilead and its agents and contractors (collectively, "Gilead") will need my personal and medical information as described below. I hereby authorize my hea	to obtain, review, use and disclose			
B. PATIENT INFORMATION (REQUIRED)	Last Name:		disclose my personal and medical information as described below to Gilead in conn				
Arkinger	Apt/Unit #		PAP/MAP, all in accordance with this authorization, and I authorize Gilead to use and				
7400.000	14	-	with the authorization.				
State:	Zip Code:	\rightarrow	Information to Be Disclosed: Personal health information ("PHI"), including information				
Email:		\dashv	name, mailing address, financial information, and insurance information), my past, (including information about my HIV-related status or treatment with this prescription				
Alternate Contact Name:		1	condition), and all information provided on this enrollment form.	m medication and related medical			
CONTACT AUTHORIZATION	I manage to be dead on the control		Persons Authorized to Disclose My Information: My healthcare providers, including a	any pharmacy that fills my prescription			
l authorize Advancing Access to leave a detailed	message, including the nam	w of m	medication, and any health plans or programs that provide me healthcare benefits. I	I understand that my pharmacy			
. INSURANCE INFORMATION (REQUIRED)		PLEAS	providers may receive remuneration for disclosing my PHI pursuant to this authoriza				
Patient is insured (Please fill out all of the applicable insurance information below. Attach copy — front and back — of patient card.)			<u>Persons to Which My Information May Be Disclosed</u> : Gilead, including the third party administrator responsible for the administration of the Program and the PAP/MAP.				
Primary Insurance:		Is	Purposes for Which the Disclosures Are to Be Made: Disclosures of PHI may be made	e to Gilead so that Gilead may use and			
Plan name:		Ins	disclose the PHI for purposes of: 1) completing the enrollment process and verifying	my enrollment form; 2) establishing			
Subscriber Name:	Policy Holder Name:		my eligibility for benefits from my health plan or other programs; 3) providing finan				
Policy #: Group #		Rx	support, and communicating with my healthcare providers, including, but not limite	ed to, facilitating the provision of my			
Check box if patient has secondary insurar	nce coverage and fax a copy	ofins	prescription medication to me; 4) contacting me to evaluate the effectiveness of the Gilead's internal business purposes, including quality control and support enhancing	rrogram and/or the PAP/MAP; 5) for a surveys: and 6) to send me marketing			
			information, offers, and educational materials related to my treatment and/or my pre	escription medication, including the			
5. PRESCRIBER INFORMATION (REQUIRED)			customer relationship marketing program (this use of my personal information is op	otional and by checking the box under			
Prescriber Name:		Fa	the signatures below, I may opt in).				
Address:		Cit	I understand that once my PHI has been disclosed hereunder, federal privacy law ma				
State: Zip Code	0:	Of	I understand further that I may refuse to sign this authorization and that if I refuse, m ability to obtain treatment from my healthcare providers will not change, but I will no				
Phone #:		Fa	by Program and/or the PAP/MAP. I also understand that I may cancel this authorization				
Tax ID #:		Sta	writing at Advancing Access, PO Box 13185, La Jolla, CA 92039-3185. If I cancel, Gile				
. DIAGNOSIS/MEDICAL INFORMATION			to obtain, use or disclose my PHI after the cancellation date, but the cancellation will	not affect uses or disclosures of any			
Diagnosis (Please include ICD code):			PHI that have already been made pursuant to this authorization before the cancellati				
7. PRESCRIBER CERTIFICATION AND STATEMENT	OF MEDICAL NECESSITY		signed authorization, which expires the earlier of two (2) years from the date it is sign under the laws of the state in which I reside	ned by me or other time period required			
By signifun this form I partify that I am measuribing Glear	markeation for the nations ident	tifled in					
patient and that it will be used as directed. I certify that I of my knowledge. I agree that I shall not seek reimburse Program ("PAP/MAP") from any government program or	will be supervising the patient's ement for any Glead medication of third-party insurer.	treatme	By checking this box, I agree to receive marketing information, offers and educational materials relate prescription medication, including the customer relationship marketing program.	d to my medical condition, treatment, and/or my			
If prescribing TRUVADA for PrEP", I certify that the applicant's care plan. As part of my applicant's eligibility.	cant has been tested for HIV infe	ection a	SIGNATURE of PATIENT or PATIENT'S REPRESENTATIVE (REQUIRED):	DATE:			
I contify that I have received the appropriate written suffice	relation from the nation) in accou	rdenne v	and the control of th				
health information privacy lawly), and any other applicable the purposes of: I) verifying the patient's insurance covers support, and referral support as needed; 4) facilitating the patient's prescription medication or to evaluate the effect	age and eligibility for benefits; 2) : provision of the patient's prescrip	seeking ption m					
petient's prescription medication or to evaluate the effect PRESCRIBER SIGNATURE (REQUIRED):	tiveness of the Advancing Access	Progra	Patient Representative's Name (if signing for the patient):				
2017 Glead Sciences, Inc. All rights reserved. ADMC030	10 12/17	\dashv	Patient Representative's Relationship to Patient:				
			FAX COMPLETED FORM TO ADVANCING ACCESS AT	1-800-216-6857			





ADVANCING	ENROLLMENT FORM PAGE 10F3	
ACCESS°	District 1.300, 928, 9058 1.53 - 1.300, 918, 8857	
1. REQUESTED PATIENT SUPPORT (REQUIRED)	ADVANCING ACCESS ENROLLMENT FORM PHONE: 1-800-226-2056 FAX	AX: 1-800-216-6857
Benefits Investigation Prior Authorization and	PATIENT NAME:	DA ADVANCING ACCESS ENROLLMENT FORM PHONE: 1-800-226-2056 FAX: 1-800-216-6857 PAGE 3 OF 3
Patient Assistance Program (PAP) or Medication Assistance Program (MAP) El	8. PATIENT AUTHORIZATION FOR USE AND DISCLOSURE OF PERSONAL HEALTH INFO	
2. GILEAD MEDICATION PRESCRIBED (REQUIRED)	I understand that I must complete this enrollment form before I can	
Product Name: m	Advancing Access ("Program") and the Patient Assistance Program/N	n/Medication Assi
If requesting TRUVADA, please indicate for: Treatment PrEP/Pr	of this process, Gilead and its agents and contractors (collectively, "Gi	"Gilead") will nee Current Annual Household Income: \$
3. PATIENT INFORMATION (REQUIRED)	my personal and medical information as described below. I hereby a	y authorize my he Number of People in Household supported by above income 1 2 3 4 5 6 Other:
First Name: Last Name:	disclose my personal and medical information as described below to PAP/MAP, all in accordance with this authorization, and I authorize Gi	
Address: Apt/Unit #	with the authorization.	conead to use and
State: Zip Code:	Information to Be Disclosed: Personal health information ("PHI"), inc	including informa Applitional insurance information
Email:	name, mailing address, financial information, and insurance informa-	mation), my past
Alternate Contact Name:	(including information about my HIV-related status or treatment with	with this prescript
CONTACT AUTHORIZATION	condition), and all information provided on this enrollment form.	
I authorize Advancing Access to leave a detailed message, including the name of m	Persons Authorized to Disclose My Information: My healthcare provi medication, and any health plans or programs that provide me healt	
4. INSURANCE INFORMATION (REQUIRED) PLEAS	providers may receive remuneration for disclosing my PHI pursuant	ant to this authoriz
Patient is insured (Please fill out all of the applicable insurance information	Persons to Which My Information May Be Disclosed: Gilead, includir	
below. Attach copy — front and back — of patient card.)	administration of the Program and the PAP/MAP.	Has the patient applied for an insurance plan offered through a state insurance marketplace (also known as an exchange)? Wes No If Yes, date of application:
Primary Insurance: Is	Purposes for Which the Disclosures Are to Be Made: Disclosures of P	f PHI may be mad
Plan name: In: Subscriber Policy Holder	disclose the PHI for purposes of: 1) completing the enrollment process	OCESS and verifyin Is the patient eligible for an insurance plan offered through a state insurance marketplace (also known as an exchange)? No If No, state reason:
Name: Name:	my eligibility for benefits from my health plan or other programs; 3) support, and communicating with my healthcare providers, including	3) providing fina ding, but not limit applicant declarations and authorizations (required only if applying for the papimap)
Policy #: Group #: Re	prescription medication to me; 4) contacting me to evaluate the effe	
Check box if patient has secondary insurance coverage and fax a copy of ins	Gilead's internal business purposes, including quality control and su	support enhancis will terminate if Advancing Access becomes aware of any talse or inaccurate information or if this medication is no longer prescribed for ms. I understand that specialistic in this positionity of door and normal trible I will use of this five medication in the own will use this positionity of the restriction. If I would not the restriction of the restriction of the restriction from own during the restriction of the restriction o
5. PRESCRIBER INFORMATION (REQUIRED)	information, offers, and educational materials related to my treatme	nent and/or my p reimbursement or credit for this medication from any insurer, health plan, or government program. If I am a member of a Medicare Part D plan, I will not seek
Prescriber Name: Fa	customer relationship marketing program (this use of my personal i the signatures below, I may opt in).	all Information is of reserves the right to modify the application form, modify or discontinue this program, or terminate assistance at any time and without notice. I authorize the PAPIMAP and its administrator to forward my prescription to a dispensing pharmacy on my bahait. I authorize Gilead and its third party administrator to use
Address: Cit	I understand that once my PHI has been disclosed hereunder, federa	the information provided on this form to obtain a personal credit report about me to verify the information on this form and determine my eligibility for
State: Zip Code: Of	I understand further that I may refuse to sign this authorization and	nd that if I refuse, I SIGNATURE OF PATIENT/PATIENT REPRESENTATIVE: DATE:
Phone #: Fa	ability to obtain treatment from my healthcare providers will not cha	hange, but I will r REGURED ONLY IF APPLYING FOR PAPITAMP
Tax ID #: Sti	by Program and/or the PAP/MAP. I also understand that I may cancel	
	writing at Advancing Access, PO Box 13185, La Jolla, CA 92039-3185 to obtain, use or disclose my PHI after the cancellation date, but the	
6. DIAGNOSIS/MEDICAL INFORMATION Diagnosis (Please include ICD code):	PHI that have already been made pursuant to this authorization before	
	signed authorization, which expires the earlier of two (2) years from	
7. PRESCRIBER CERTIFICATION AND STATEMENT OF MEDICAL NECESSITY	under the laws of the state in which I reside.	
By signing this form, I certify that I am prescribing Glead medication for the patient identified in patient and that it will be used as directed. I certify that vall be supervising the patient's treatms of my knowledge. I agree that I shall not seek reimbursement for any Glead medication dispers Program (PAPMAMP) from any government program or third-party insurance.	By checking this box, I agree to receive marketing information, offers and educal prescription medication, including the customer relationship marketing program.	
If prescribing TRUVADA for PrEP*, I certify that the applicant has been texted for HIV infection a applicant's care plan. As part of my applicant's eligibility, I agree to periodically verify continued	SIGNATURE of PATIENT or PATIENT'S REPRESENTATIVE (REQUIRED):	
I certify that I have received the appropriate written authorization from the patient, in accordance vibe alth information privacy law(s), and any other applicable requirements, in order to release the pa		
the purposes of: 1) verifying the patient's insurance coverage and eligibility for benefits; 2) seeking support, and referral support as needed; 4) facilitating the provision of the patient's prescription patient's prescription medication or to evaluate the effectiveness of the Advancing Access Progra		
PRESCRIBER SIGNATURE (REQUIRED):	Patient Representative's Name (if signing for the patient):	
© 2017 Glead Sciences, Inc. All rights reserved. ADMC0300 12/17	Patient Representative's Relationship to Patient:	
	FAX COMPLETED FORM TO ADVANCIN	ING ACCESS AT
	© 2017 Gleed Sciences, Inc. All rights reserved. ADMC0300 12/17	





State Plans

- Illinois IDPH PrEP Assistance Program
 - PrEP Navigation, funding for cost assistance through IDPH
- Massachusetts Massachusetts Pre-Exposure Prophylaxis Drug Assistance Program (PrEP-DAP)
 - Assistance for copays, co-insurance, full cost of Truvada ®
 - Limited to <500% FPL
- Washington Pre-Exposure Prophylaxis Drug Assistance Program (PrEP-DAP)
 - PrEP Navigation, assistance for medication and cost of labs/visits
 - No income limitation
- New York Pre-exposure Prophylaxis Assistance Program (PrEP-AP)
 - Assistance for cost of labs and provider visits
 - Enrollment criteria based on AIDS Drug Assistance Program (ADAP)
- California PrEP Assistance Program (PrEP-AP)
 - Launched early 2018
 - Assistance for cost of labs and provider visits
 - Limited to <500% FPL





Advice to patients

- Find out your deductible
- Find out your Truvada® copay
- Find out your estimated costs of visits and labs
- If you need an insurance plan from the marketplace, avoid Bronze Plans due to high out-of-pocket expenses
- Use Flexible Spending Account to offset any out-ofpocket expenses





PrEP eligibility

Summary of Guidance for PrEP Use						
	Men Who Have Sex With Men	Heterosexual Women and Men	Injection Drug Users			
Detecting substantial risk of acquiring HIV infection:	Sexual partner with HIV Recent bacterial STD High number of sex partners History of inconsistent or no condom use Commercial sex work	Sexual partner with HIV Recent bacterial STD High number of sex partners History of inconsistent or no condom use Commercial sex work Lives in high-prevalence area or network	HIV-positive injecting partner Sharing injection equipment Recent drug treatment (but currently injecting)			
Clinically eligible:	Documented negative HIV test before prescribing PrEP No signs/symptoms of acute HIV infection Normal renal function, no contraindicated medications Documented hepatitis B virus infection and vaccination status					
Prescription	Daily, continuing, oral doeses of TDF/FTC (Truvada), ≤90 day supply					
Other services:	 Follow-up visits at least every 3 months to provide: HIV test, medication adherence counseling, behavioral risk reduction support, side effect assessment, STD symptom assessment At 3 months and every 6 months after, assess renal function Every 6 months test for bacterial STDs 					
	Do oral/rectal STD testing	Assess pregnancy intent Pregnancy test every 3 months	Access to clean needles/ syringes and drug treatment services			

Source: US Public Health Service. Preexposure prophylaxis for the prevention of HIV infection in the United States -2014: a clinical practice guideline.





Summary of Guidance for PrEP Use	
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	Men Who Hav
Detecting substantial risk of acquiring HIV infection:	Sexual p Recent b High nul partners History c no cond Commer
Clinically eligible:	• Doi • No • Noi • Doi
Prescription	
Other services:	• Foll • HIV sid/ • At 3 • Eve • Do oral/re

Source: US Public Health Service. Preexposure proph

	Injection Drug Users	Heterosexual Women and Men	len
	Risk Index*	HIRI-MSM	01
score 0	<18 years	How old are you	1
score 8	18-28 years	today (yrs)?	
score 5	29-40 years		
score 2	41-48 years		
score 0	≥49 years		
score 7	>10 male partners	How many men have	2
score 4	6-10 male partners	you had sex with	
score 0	0-5 male partners	in the last 6 months?	
score 1	1 or more times	In the last 6 months,	3
score 0	0 times	how many times did you have receptive anal sex (you were the bottom) with a man?	
score 8	>1 positive partner	How many of your male sex partners were HIV positive?	4
score 4	1 positive partner		
score 0	<1 positive partner	HIV positive?	
score 6	5 or more times	In the last 6 months,	5
score 0	0 times	how many times did you have insertive anal sex (you were the top) with a man who was HIV positive?	
score 5	Yes	In the last 6 months, have	6
score 0	No	you used methamphetamines such as crystal or speed?	
score 3	Yes	In the last 6 months,	7
score 0	No	have you used poppers (amyl nitrate)?	
Total score	Add down entries in right column to calculate total score		

men, women, or both?"



[†]If score is 10 or greater, evaluate for PrEP or other intensive HIV prevention services; If score is 9 or less, provide indicated standard HIV prevention services.



	Sum	mary of Gu	idance fo	PrEP Use			
	Men Who Hav	e Sex With Men	Heterosexu	al Women and Men	Injection Drug Users		
Detecting substantial risk	Sexual p	20 0		HIRI-MSM	Risk Index*		
of acquiring HIV infection:	Recent b High nur	1	How old ar	e you	<18 years	score 0	
	partners		today				
	History of						
	no cond				Medication	Guide	
	Commer				TRUVADA® (tru-	VAH-dah)	
		2	How ma		(emtricitabine and tenofovir	disoproxil fumarate)	
			you h		tablets		
Clinically eligible:	- Do		in the		before you start taking TRUVADA as does not take the place of talking to		
	- No	3	In the las	your treatment.	does not take the place of talking to	your fleatificare provi	der about your medical condition of
	• No		how n		des information about two different w JVADA?" for important information a		
	- 100		did yo anal s				may be used).
Prescription			the bo		deficiency Virus-1 (HIV-1) infection, a		
Other services:	• Foll	4	How ma		ing HIV-1 infection in adults who are AIDS (Acquired Immune Deficiency)		
	- HIV		sex pa		t information I should know about		
	side • At 3	120	HIV p	If you also have hepatitis E stop taking TRUVADA.	3 virus (HBV) infection and take TI	RUVADA, your hepat	itis B may become worse if you
	• Eve	5	In the las	Do not stop taking TRUV	/ADA without first talking to your hea	althcare provider.	
	De avel/es		how r	 Do not run out of TRUVA gone. 	ADA. Refill your prescription or talk to	your healthcare prov	ider before your TRUVADA is all
	Do oral/re		sex (y	•	er stops TRUVADA, your healthcare	provider will need to	watch you closely for several
			with a		epatitis B infection, or give you a med		
			HIV r		about any new or unusual symptom		, ,
ource: US Public Health Service. P	reexposure proph	6	In the las	Medication Guide.	side effects, see the section "What a	are the possible side	effects of IRUVADA?" in this
			you us	Other important information	on for people who take TRUVADA	to help reduce their i	risk of getting HIV-1 infection:
		7	In the las	Before taking TRUVADA to	reduce your risk of getting HIV-1	infection:	
			have		tive to start TRUVADA. You must	get tested to make su	ire that you do not already have
			(amyl	HIV-1 infection.	to reduce the risk of getting HIV-1	Lunless vou are conf	firmed to be HIV-negative
			1000 1000		iss HIV-1 infection in a person who h		
					ve recently become infected with HI onth before starting TRUVADA or at a		
			*To identify	o tiredness	 sore thro 		
			r male patier	 fever joint or muscle ache 		or diarrhea	
		mer	tlf score is 1		or PrEP or other intensive I	IIV prevention	
		serv			ated standard HIV preventio		

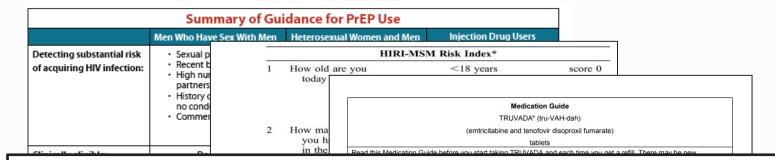




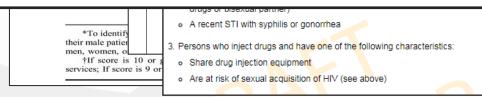
	Sumi	mary of Gu	idance fo	r PrE	EP Use					
	Men Who Have	e Sex With Men	Heterosexu	al Wo	men and Men	Injection Drug Users		-		
Detecting substantial risk	Sexual p	10			HIRI-MSM	Risk Index*				
of acquiring HIV infection:	 Recent b High nur 	1	How old ar	re you	u	<18 years	score 0			
	partners		today							
	History of no conditions					Medicat	ion Guide		7	
	Commer					TRUVADA®	(tru-VAH-dah)			
		2	How ma			(emtricitabine and tend	fovir disoproxil fumarate)			
			you he	Don	ad this Madiestics Colds	tal before you start taking TRUVAL	olets	a sefil. These may be seen	-	
Clinically eligible:	• Do	3	In the las	info	rmation. This information			vider about your medical condition or		
	- No	3	how r	This	r treatment. s Medication Guide provi	ides information about two different	ent ways that TRUVADA r	may be used (see the Medication		
	- Do		did yo			UVADA?" for important informat		may be used):		
Prescription			anal s			deficiency Virus-1 (HIV-1) infecti ting HIV-1 infection in adults who				
Other services:	• Foll	4	How ma			AIDS (Acquired Immune Deficie				
	• HIV		sex pa			nt information I should know a				
	- At 3	5	In the las		ou also have hepatitis stop taking TRUVADA.	B virus (HBV) infection and tal	te TRUVADA, your hepa	atitis B may become worse if you		
	• Eve	3	how r	:	The USPSTF reco	ommends the following pe	rsons be considered	for PrEP:		
	• Do oral/re		you h	•	1 Men who have	sex with men, are sexual	v active, and have o	one of the following characteri	istics:	
			sex (y with a	•		rdant sex partner (i.e., a s			Stics.	
	L		HIV p	Tell						
Source: US Public Health Service. P	reexposure proph	6	In the las	For Med		kually transmitted infection				
			such a	Oth Bef		use of condoms during re	eceptive or insertive	anal sex		
		7	In the las	•		vomen and men who are	sexually active and h	nave one of the following char	racteristics	s:
			have y (amyl		A serodisco	rdant sex partner (i.e., a s	ex partner living with	n HIV)		
			000-000	•		use of condoms during s exual partner)	ex with a partner wh	ose HIV status is unknown ar	nd who is	at high risk (e.g., a person who inject
		_			A recent ST	I with syphilis or gonorrhe	a			
			*To identify r male patier n, women, o		3. Persons who in	nject drugs and have one	of the following chara	acteristics:		
			†If score is 1		 Share drug 	injection equipment				
		serv	ices, ii score i	5 9 OF	Are at risk o	f sexual acquisition of HIV	(see above)			







Anyone with high risk for HIV acquisition, as determined by the patient's and/or provider's assessment, in which the risk of Truvada® does not outweigh the benefit.









Recommendation comparisons

- 300 high risk young, black MSM (age 16-29) in Chicago
- 33 HIV acquisitions over 3 years
 - 52% met CDC eligibility for PrEP
 - 85% met HIRI-MSM eligibility for PrEP
 - 94% met drug company eligibility for PrEP
 - CDC guidelines: Low sensitivity, specificity (52%)
 - Drug company guidelines: High sensitivity, low specificity (15%)





What about U=U?







U=U

- Those who have an undetectable viral load have effectively no risk of transmitting the virus.
- This is a consensus of HIV experts worldwide, CDC, NIH, IDSA/HIVMA, common knowledge in the medical community.
- Combined data from 4 studies (HPTN 052, OPPOSITES ATTRACT, PARTNER and PARTNER2)
 - Among sero-discordant couples where the partner living with HIV had a durably undetectable viral load:
 - zero transmission among over a hundred thousand condomless sex acts
 - Results similar in both male-female and male-male partnerships





U=U

- Is PrEP necessary in this situation?
 - Consider durable viral suppression
 - Contributing factors include adherence, history of virologic failure, follow-up interval of the HIV-positive person
 - Consider non-monogamous sex
 - In U=U studies, HIV transmissions DID occur, but were linked to sex between HIV-negative participant and HIV-positive individual not involved in the study
 - <u>Always</u> weigh risks and benefits





HIV risk is behavioral, individual, transitional

The only way to know is to ask (and listen)!





PrEP is a PROGRAM

- Not only HIV prevention
- Involves comprehensive sexual healthcare
 - Screening and treatment for STIs
 - Hepatitis A and B vaccination
 - Counseling on STI prevention strate







STIs Facilitate HIV Transmission

- Disruption of mucosal integrity
- Increase HIV target cells in genital tract due to immune reaction to infection
- STIs promote HIV shedding in the genital tract

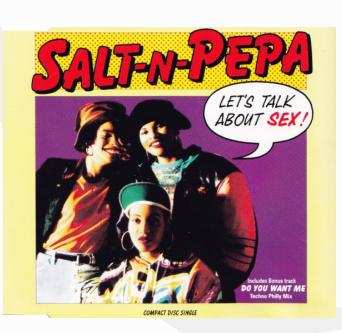
Presence of ulcerative STI increases likelihood of HIV acquisition up to 5-fold!







- Patients have sex, in lots of different ways.
- Patients may not want to discuss this.
- Providers may not feel comfortable discussing this.



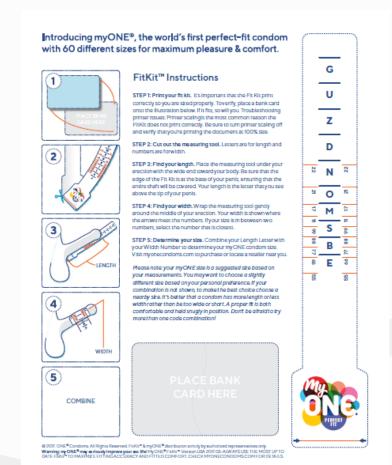
Taking a sexual history is a potentially life-saving intervention.

- Recognize that this is our duty as physicians
- It's a learnable skill (like all things in medicine)
- With experience comes comfort





How many sizes of condoms are there?

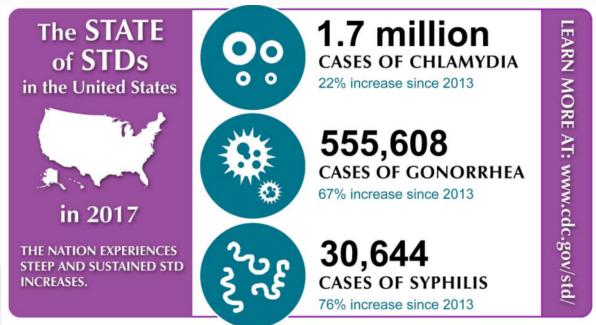


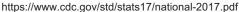




Be afraid!

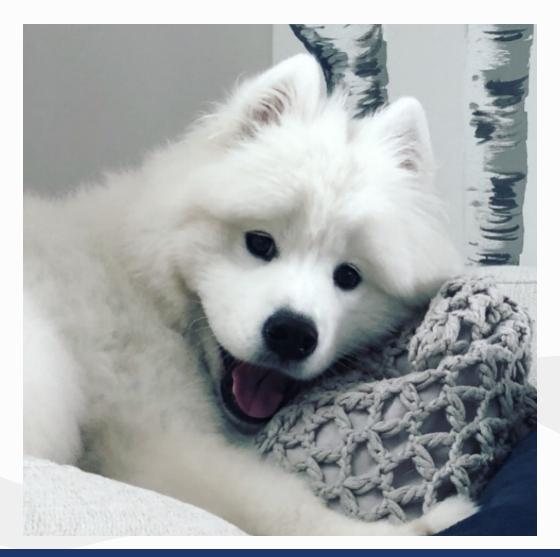
- Truvada® does NOT protect against bacterial and other STIs
- These are at record highs!















Barriers to the Sexual History

- Lack of time
- Uneasiness of clinicians and patients with a difficult and sensitive subject
- Belief it is irrelevant
- Belief it is someone else's job
- Fear of offending the patient
- Medical/nursing school curricula design





Sexual History Misconceptions

- The problems with labeling
 - "Married persons do not acquire STIs"
 - "Persons who identify as "straight" only have sex with those of the opposite gender"
 - "Persons who identify as "gay" or "lesbian" only have sex with those of the same gender"
- Persons will an STI will have symptoms
- Persons will voice sexual concerns without prompting





Principles of a comprehensive sexual history

- Ensure privacy and confidentiality.
- Be professional.
- Be open minded and non-judgmental.
- Recognize non-verbal cues.
- Explain procedures and treatments thoroughly.





Effective Communication Skills

- Consider prefacing the sexual history with a short introduction.
- Start with open-ended questions
- Use closed-ended questions to elicit specific information





Preface

- "The rates of sexually transmitted infections continue to increase, especially here in the South. In order to screen you correctly, prevent STIs and keep you healthy, it's important for me to know how you have sex and with whom."
- "Gonorrhea and chlamydia can also live in our rectums and throats, so it's important for us to test anywhere you might have had an exposure."





- "About how many partners have you had in the past 6 months?"
- "Do you have sex with men, women or both?"
- "Are you a top, bottom, or vers?"
 - Top = anal insertive
 - Bottom = anal receptive
 - Vers/versatile = both insertive and receptive
- "Do you have oral sex?"
- "What do you do to prevent STDs?"
- "Are you trying to prevent pregnancy? What do you use for contraception?"
- "Do you use condoms? What percentage of the time would you say you use condoms?"





- "Are any of your partners HIV-positive?"
 - If so, "do you know if they're undetectable?"
- "Have any of your partners recently had an STD?"
- "Have you ever had an STD"
- "Have you ever had HIV or STD testing?"





- "Do you ever use drugs, like poppers or meth, when you have sex?"
- "Do any of your partners make you scared or feel unsafe?"
- "Do you ever have to use sex for things you need, like food or to pay pills?"





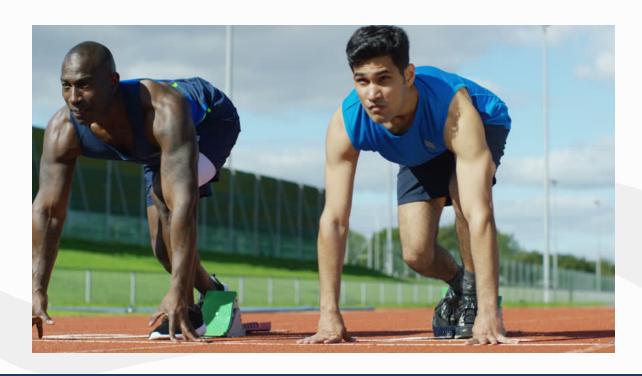
- Also a great time to discuss travel!
- Many people meet sexual partners, or have sex with partners other than long-term partner, during travel







Ready, set, PrEP!







PrEP Medication Counseling

- Dosing
 - One tab daily, with or without food
- Adherence, and its relationship to efficacy
- Time to effectiveness
 - 7-10 days for men, 21 days for women
 - Barrier protection especially needed during that time
- Adverse effects
 - Nausea, vomiting, diarrhea, loss of appetite, weight loss
 - Fatigue, headache
- Requirements for monitoring
- Refill process
 - "Call when you have 7-10 days left"





Adverse Event	FTC-TDF (N	=1251)	Placebo (N	=1248)	P Value†
	no. of patients (%)	no. of events	no. of patients (%)	no. of events	
Any adverse event	867 (69)	2630	877 (70)	2611	0.50
Any serious adverse event	60 (5)	76	67 (5)	87	0.57
Any grade 3 or 4 event	151 (12)	248	164 (13)	285	0.51
Grade 3 event	110 (9)	197	117 (9)	225	0.65
Grade 4 event	41 (3)	51	47 (4)	60	0.57
Elevated creatinine level	25 (2)	28	14 (1)	15	0.08
Headache	56 (4)	66	41 (3)	55	0.10
Depression	43 (3)	46	62 (5)	63	0.07
Nausea	20 (2)	22	9 (<1)	10	0.04
Unintentional weight loss (≥5%)	27 (2)	34	14 (1)	19	0.04
Diarrhea	46 (4)	49	56 (4)	61	0.36
Bone fracture	15 (1)	16	11 (<1)	12	0.41
Death	1 (<1);	1	4 (<1)	4	0.18
Discontinuation of study drug					
Permanently	25 (2)	26	27 (2)	33	0.82
Permanently or temporarily	79 (6)	99	72 (6)	92	0.49

^{*} A listing of all laboratory abnormalities and clinical adverse events of grade 2 or higher that were reported in 25 or more subjects (1%) is provided in Tables S9 and S10 in the Supplementary Appendix. FTC-TDF denotes em

[‡] This death was due to a motorcycle accident.



iPrEX, 2010

[†] P values were calculated by the log-rank test.



	Table 2. Adverse Events.*						
	Adverse Event	FTC-TDF (N	FTC-TDF (N = 1251) Placebo (=1248)	P Value†	
		no. of patients (%)	no. of events	no. of patients (%)	no. of events		
	Any adverse event	867 (69)	2630	877 (70)	2611	0.50	
	Any serious adverse event	60 (5)	76	67 (5)	87	0.57	
	Any grade 3 or 4 event	151 (12)	248	164 (13)	285	0.51	
	Grade 3 event	110 (9)	197	117 (9)	225	0.65	
	Grade 4 event	41 (3)	51	47 (4)	60	0.57	
	Elevated creatinine level	25 (2)	28	14 (1)	15	0.08	
	Headache	56 (4)	66	41 (3)	55	0.10	
Nausea	20	(2)	22	9 (<1)	10	0.0
	Unintentional weight loss (>5%	27 /21	3.4	14 /1)	19	0.04	
Unintentional weight	t loss (≥5%) 27	(2)	34	14 (1)		19	0.04
	Death	1 (<1);	1	4 (<1)	4	0.18	
	Discontinuation of study drug						
	Permanently	25 (2)	26	27 (2)	33	0.82	
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[‡] This death was due to a motorcycle accident.



iPrEX, 2010

[†] P values were calculated by the log-rank test.



Adverse Event	TDF-FT(N=611	_	Placebo (N = 608		P Value
	no. of participants (%)	no. of events	no. of participants (%)	no. of events	
Any	557 (91.2)	4357	536 (88.2)	4390	0.003
Any serious	63 (10.3)	68	66 (10.9)	79	0.90
Grade 3 or 4 only	19 (3.1)	21	29 (4.8)	32	0.17
At least possibly related to study drug	20 (3.3)	21	27 (4.4)	29	0.35
Upper respiratory tract infection	231 (37.8)	385	241 (39.6)	439	0.84
Headache	227 (37.2)	390	226 (37.2)	411	0.73
Dizziness	92 (15.1)	109	67 (11.0)	82	0.03
Abdominal pain	155 (25.4)	215	156 (25.7)	217	0.78
Nausea	113 (18.5)	132	43 (7.1)	48	<0.001
Vomiting	69 (11.3)	87	43 (7.1)	47	0.008
Diarrhea	76 (12.4)	93	65 (10.7)	76	0.22
≥5% Weight loss	75 (12.3)	113	61 (10.0)	72	0.13
Back pain	57 (9.3)	72	68 (11.2)	90	0.37
Rash	39 (6.4)	44	42 (6.9)	48	0.81
Fracture	7 (1.1)	7	6 (1.0)	8	0.74
Elevated creatinine	1 (0.2)	1	0	0	1.00
Hypophosphatemia	142 (23.2)	219	159 (26.2)	245	0.65
Hyperamylasemia	315 (51.6)	997	302 (49.7)	1017	0.45
Elevated AST	36 (5.9)	43	38 (6.2)	42	0.90
Elevated ALT	38 (6.2)	48	43 (7.1)	66	0.57
Death;	2 (0.3)	2	4 (0.7)	4	0.45

^{*} ALT denotes alanine aminotransferase, and AST aspartate aminotransferase.



TDF2 Study Group, 2012

[†] All P values were calculated with the use of a time-to-first-event analysis (regression analysis of survival data on the basis of the Cox proportional-hazards model), with the exception of the P values for weight loss of 5% or more and death, which were calculated with the use of Fisher's exact test.

[‡] The causes of death in the TDF-FTC group were motor vehicle accident (one participant) and suicide (one); the causes of death in the placebo group were motor vehicle accident (two), homicide (one), and cerebrovascular accident (one).



		reatment Group.*						
	Adverse Event	TDF-FT6 (N=611		Placebo (N = 608		P Value†		
		no. of participants (%)	no. of events	no. of participants (%)	no. of events			
	Any	557 (91.2)	4357	536 (88.2)	4390	0.003		
	Any serious	63 (10.3)	68	66 (10.9)	79	0.90		
	Grade 3 or 4 only	19 (3.1)	21	29 (4.8)	32	0.17		
	At least possibly related to study of	drug 20 (3.3)	21	27 (4.4)	29	0.35		
	Upper respiratory tract infection	231 (37.8)	385	241 (39.6)	439	0.84		
Dizziness		92 (15.1)	109	6	57 (11.	0)	82	0.03
_	Abdominal pain	155 (25.4)	215	156 (25.7)	217	0.78		
Nausea	1	113 (18.5)	132	4	3 (7.1)	48	<0.001
Vomiting		69 (11.3)	87	4	3 (7.1)	47	0.008
	Back pain	57 (9.3)	72	68 (11.2)	90	0.37		
	Rash	39 (6.4)	44	42 (6.9)	48	0.81		
	Fracture	7 (1.1)	7	6 (1.0)	8	0.74		
	Elevated creatinine	1 (0.2)	1	0	0	1.00		
	Hypophosphatemia	142 (23.2)	219	159 (26.2)	245	0.65		
	Hyperamylasemia	315 (51.6)	997	302 (49.7)	1017	0.45		
	Elevated AST	36 (5.9)	43	38 (6.2)	42	0.90		
		20 (6.2)	48	43 (7.1)	66	0.57		
	Elevated ALT	38 (6.2)	40	43 (7.1)	00	0.57		

^{*} ALT denotes alanine aminotransferase, and AST aspartate aminotransferase.

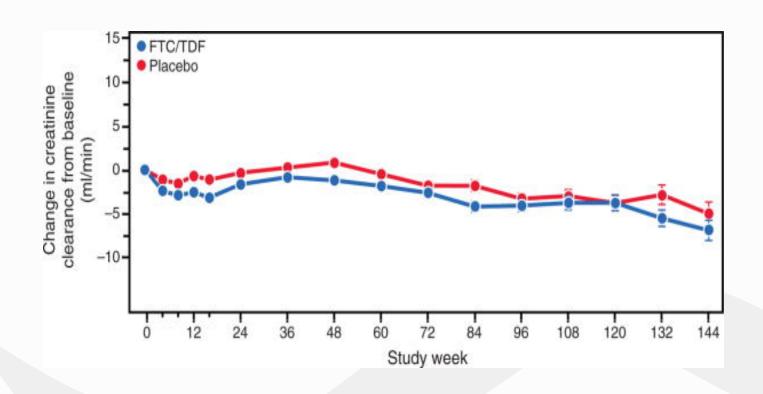


TDF2 Study Group, 2012

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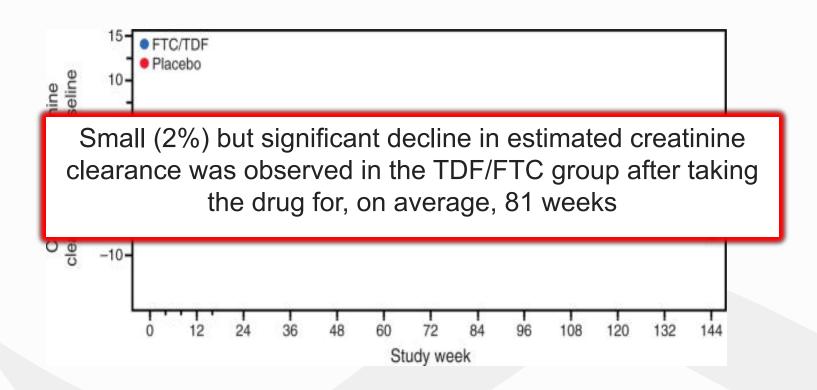






Table 3. Bone Mir	neral Density Sco	res.*							
Assessment		Forearm			Hip		Lu	umbar Spine	
	TDF-FTC (N = 109)	Placebo (N=112)	P Value	TDF-FTC (N=109)	Placebo (N=112)	P Value	TDF-FTC (N=109)	Placebo (N=112)	P Value
T score			0.004			<0.001			<0.001

BUT THIS CAN RECOVER!

Bone mineral density recovered after 6 months of stopping TDF/FTC in both young and older adults.

24 mo -0.87 -0.13	0.20 0.76	-1.09 -0.28	7
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^{*} In the TDF–FTC group, 58 participants completed bone mineral density testing at the 6-month visit, 45 at the 12-month visit, 36 at the 18-month visit, and 23 at the 24-month visit. In the placebo group, 66 participants completed bone mineral density testing at the 6-month visit, 44 at the 12-month visit, 33 at the 18-month visit, and 35 at the 24-month visit.

TDF2 Study Group, 2012

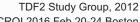
Grant RM, et al. Recovery of bone mineral density after stopping oral HIV pre-exposure prophylaxis. CROI 2016 Feb 20-24 Boston





Assessment		Forearm			Hip		Lumbar Spine		
	TDF-FTC (N=109)	Placebo (N=112)	P Value	TDF-FTC (N=109)	Placebo (N=112)	P Value	TDF-FTC (N=109)	Placebo (N=112)	P Value
T score			0.004			<0.001			<0.001
Enrollment	-0.75	-0.58		0.44	0.53		-0.72	-0.59	
6 mo	-0.77	-0.50		0.33	0.57		-0.84	-0.45	
12 mo	-0.79	-0.48		0.33	0.54		-0.77	-0.56	
18 mo	-0.93	-0.27		0.17	0.77		-0.92	-0.43	
24 mo	-0.92	-0.13		0.21	0.74		-1.11	-0.37	
z Score			0.004			<0.001			<0.001
Enrollment	-0.70	-0.54		0.45	0.54		-0.67	-0.54	
6 mo	-0.73	-0.45		0.35	0.58		-0.80	-0.41	
12 mo	-0.72	-0.42		0.34	0.55		-0.74	-0.53	
18 mo	-0.88	-0.21		0.18	0.78		-0.88	-0.41	
24 mo	-0.87	-0.13		0.20	0.76		-1.09	-0.28	

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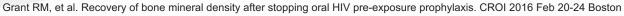




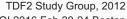


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Assessment	Forearm			Hip			Lumbar Spine		
	TDF-FTC (N=109)	Placebo (N=112)	P Value	TDF-FTC (N=109)	Placebo (N=112)	P Value	TDF-FTC (N = 109)	Placebo (N=112)	P Value
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6 mo	-0.77	-0.50		0.33	0.57		-0.84	-0.45	

Significant decline in T scores and z scores for BMD at the forearm, hip, and lumbar spine in participants who received TDF/FTC, as compared with those who received placebo

7	6 mo	-0.73	-0.45	0.35	0.58	-0.80	-0.41	
	12 mo	-0.72	-0.42	0.34	0.55	-0.74	-0.53	
	18 mo	-0.88	-0.21	0.18	0.78	-0.88	-0.41	
	24 mo	-0.87	-0.13	0.20	0.76	-1.09	-0.28	
_								

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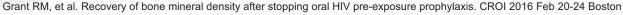






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Assessment	Forearm			Hip		Lumbar Spine			
	TDF-FTC (N = 109)	Placebo (N=112)	P Value	TDF-FTC (N=109)	Placebo (N=112)	P Value	TDF-FTC (N=109)	Placebo (N=112)	P Value
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TDF2 Study Group, 2012

Grant RM, et al. Recovery of bone mineral density after stopping oral HIV pre-exposure prophylaxis. CROI 2016 Feb 20-24 Boston





The First Visit

- Labs:
 - HIV Ag/Ab (but if symptoms of acute HIV, get HIV RNA)
 - Basic Metabolic Panel
 - Hepatitis B sAg, sAb
 - Hepatitis C Ab
 - Treponemal IgG
 - Gonorrhea/chlamydia PCR (oral, rectal and urethral)
 - Consider Hepatitis A IgM/IgG given recent outbreak





The Second Visit

- Repeat HIV screen, repeat serum creatinine
- Assess adherence
- Reassess eligibility
- Assess for side effects
- Provide behavioral risk reduction support
- STI screen, if necessary
- Assess pregnancy intention (test if could be pregnant)
- If HIV-negative and eligible, refill PrEP





Every 3 months

- HIV screen
- Assess adherence
- Reassess eligibility
- Assess for side effects
- Provide behavioral risk reduction support
- STI screen, if necessary
- Assess pregnancy intention (test if could be pregnant)
- If HIV-negative and eligible, refill PrEP





Every 6 months

- Screen for other STIs
- Repeat serum creatinine





A year of PrEP

Encounter	To do
Month 0	 Screen for HIV Confirm HBV and HCV status Check serum creatinine Screen for STIs Counseling Prescribe
Month 3	Screen for HIVCheck serum creatinineCounselingPrescribe
Month 6	Screen for HIVScreen for STIsCounselingPrescribe
Month 9	Screen for HIVCheck serum creatinineCounselingPrescribe
Month 12	Screen for HIVScreen for STIsCounselingPrescribe

Labs:

- HIV screen: 5
- Serum creatinine: 3
- STI screen: 3

Prescriptions/Refill authorizations: 5

Discussions: 5+





Billing/coding

- While ICD-10 does not provide specific codes for PrEP, the following codes have been discussed with billing and used for PrEP visits:
 - Z20.6 "Contact with and (suspected) exposure to HIV "
 - Z17.1 "Human immunodeficiency virus [HIV] counseling"
 - Z11.3 "Encounter for screening for infection with a predominantly sexual mode of transmission"
 - Z79.2 "Long-term (current) use of antibiotics"

- Not suggested
 - Z72.52 High risk homosexual behavior





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 - Z79.2 "Long-term (current) use of antibiotics"







Special considerations

Pregnant or breastfeeding women

- Pregnancy Category B (No known risk)
- Minimally secreted in breastmilk, not contraindicated in breastfeeding

Chronic HBV

- TDF and FTC are active against HBV
- Abrupt withdrawal of TDF/FTC could cause HBV flare
- Stopping TDF/FTC requires careful monitoring and observation
- Chronic Renal Failure (eGFR <60mL/min)
 - Don't use TDF/FTC; safety has not been adequately determined





STOP PrEP

- The patient doesn't want it
- Behavior or life situations have changed that lower risk for HIV infection
- Intolerable adverse events/toxicities
- Nonadherence despite attempted interventions to improve
- HIV-infection





Conclusion

- PrEP is a component of primary care
- PrEP is an extremely effective preventive strategy for both HIV and STIs
- Understand PrEP prescribing guidelines
- There are some adverse effects, but PrEP is generally very well-tolerated
- PrEP requires an ongoing patientdoctor relationship
- Sexual history is essential to comprehensive health care
- Ask for help! <u>sean.g.kelly@vumc.org</u>

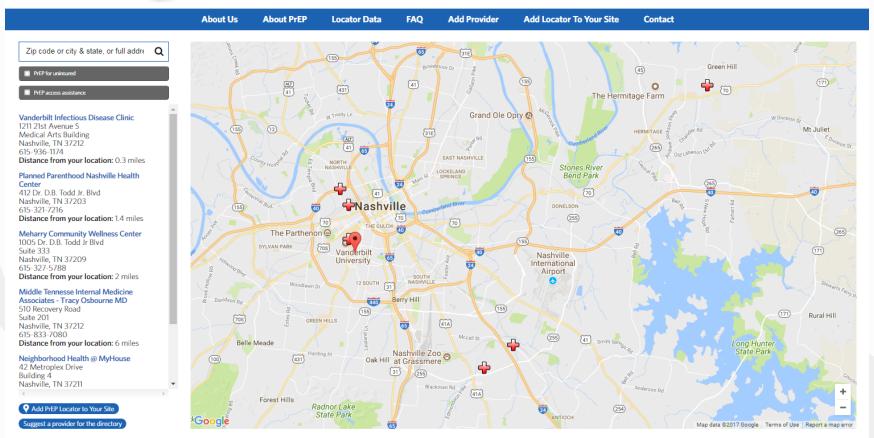






PrEP Locator

PrEP Locator **Q** Find Your Provider



https://preplocator.org





Help us increase PrEP provision in TN!

 Anonymous 40-question survey to identify barrier providers have in prescribing PrEP.



