

Preventing HIV in Utah

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Disclosure: I have no conflicts of interest

Outline

- Background: A very brief history of HIV infection
- Screening for HIV
- How to Prevent HIV
- Post-Exposure Prophylaxis
- Pre-Exposure Prophylaxis
- Resources

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Trends in Annual Age-Adjusted* Rate of Death Due to HIV Infection, United States, 1987–2013



Note: For comparison with data for 1999 and later years, data for 1987–1998 are for ICD-9 rules instead of ICD-10 rules.
 *Standard: age distribution of 2000 US population



Antiretroviral therapy for HIV infection

In the 1990s



Up to 20 pills daily, taken at different intervals throughout the day

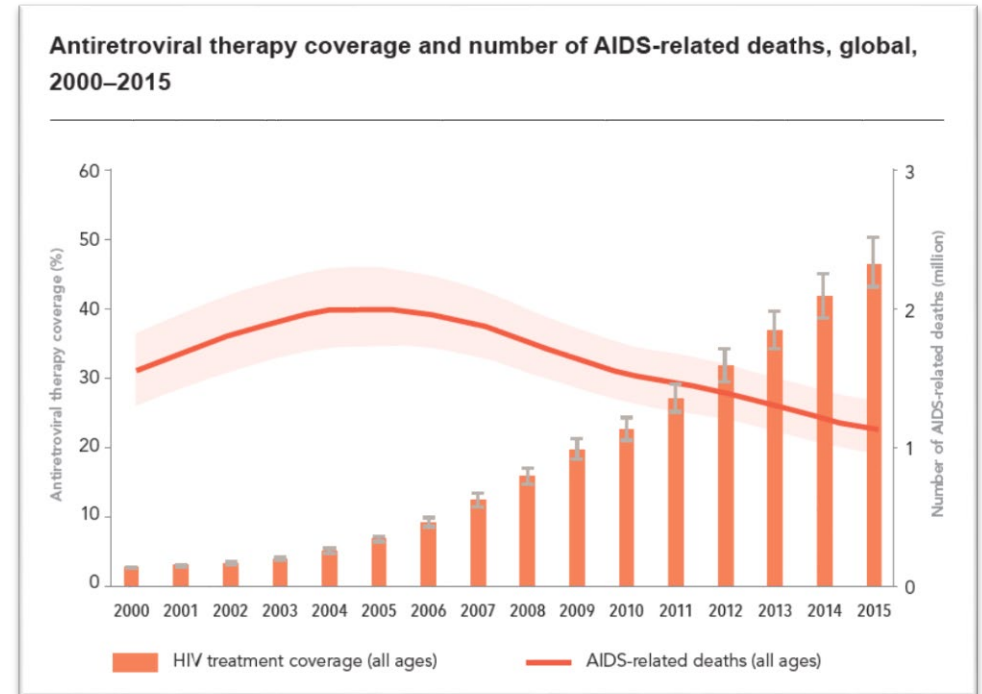
Today



As little as 1 pill per day, delivering multiple drugs

WHO HIV-1 Treatment Statistics

- 36.7 million people infected worldwide
- 18.2 million people are receiving ART as of June 2016 (50%)
- 1.8 million incident infections and one million deaths in 2016



<https://www.aids.gov/hiv-aids-basics/hiv-aids-101/global-statistics/index.html>

Even with expansion of ART rollout, we are unlikely to treat our way out of the HIV-1 epidemic...

Priorities:

- (1) Test everyone for HIV, get everyone living with HIV on ART
- (2) Explore barriers to cure
- (3) Scale up prevention efforts

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HIV Diagnostic Testing

- Serial combination testing for detection of HIV antibodies and p24 viral antigen
- A two-part serologic diagnostic test – one of the most accurate tests in modern medicine
- **ELISA** is highly sensitive [99.5%] Am J Med 2000;109:568
- **Antibody immuno-assay** is highly specific [>99%]
- HIV antibodies are detectable within 3 weeks of primary infection and remain detectable for life

Who Should Get Screened?

- All patients in all health-care settings
- Persons at **high risk** for HIV infection should be screened for HIV at least annually
- HIV screening should be included in the routine panel of prenatal screening tests for all pregnant women

Are We Screening for HIV?

- Nationally 54% of adults have ever been tested for HIV
- 25.6% adults (age 18-64) in Utah have ever been tested for HIV
 - 28.4% Salt Lake County
 - 17.9% and 17.6% Utah county and Bear River County
- Utah ranks ***last*** nationwide (50th out of 50) in HIV screening

HIV Testing in Adolescents in Utah

- Susana Keeshin M.D. surveyed Utah PCPs who care for adolescent and young adult patients (ages 15-24)
- n = 106 respondents
- Slightly over half felt comfortable screening for HIV
- 75% familiar with CDC screening guidelines
- 16% reported always or often screening youth

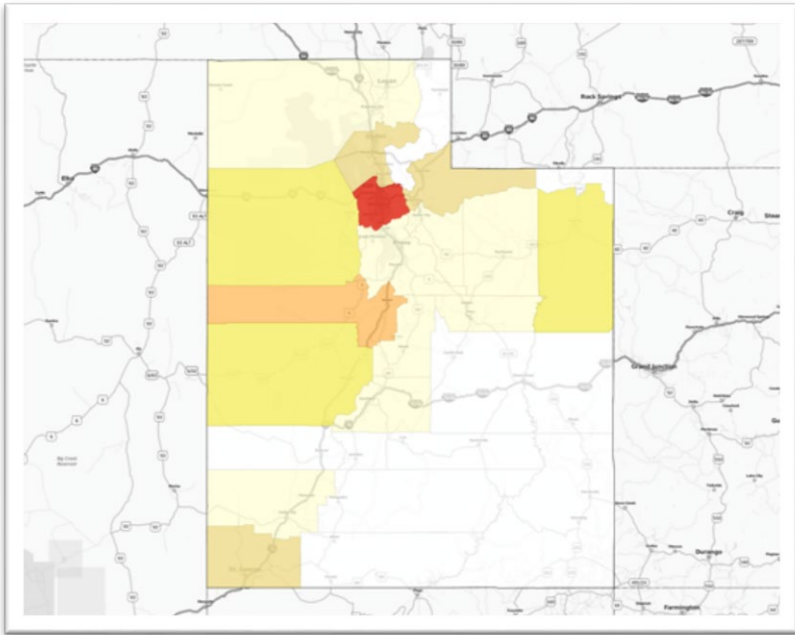
Why are UT PCPs not Testing for HIV?

	Percent
My patient panel is not sexually active	79%
Low prevalence of HIV	79%
Uncomfortable taking a sexual history	61%
Not medically indicated	54%
Uncomfortable giving positive results	47%
Need for written consent	30%
Need for pre-test counseling	23%
Not a high priority	19%
Hard to arrange follow-up for positive results	16%
Patient can't afford test	2%
Not enough time	2%
Concern for false positive results	2%

Survey results courtesy of
Susana Keeshin M.D.

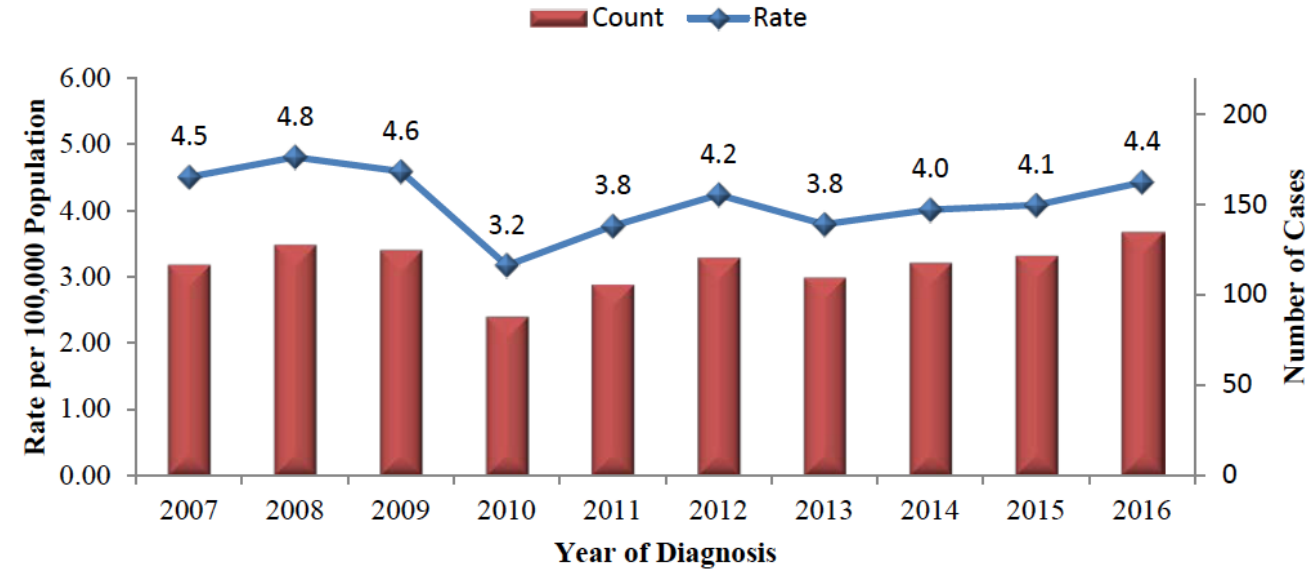
HIV in Utah

- HIV incidence in Utah remains **unchanged** over last decade
- New HIV cases are concentrated:
 - demographically among young men
 - geographically along Wasatch front

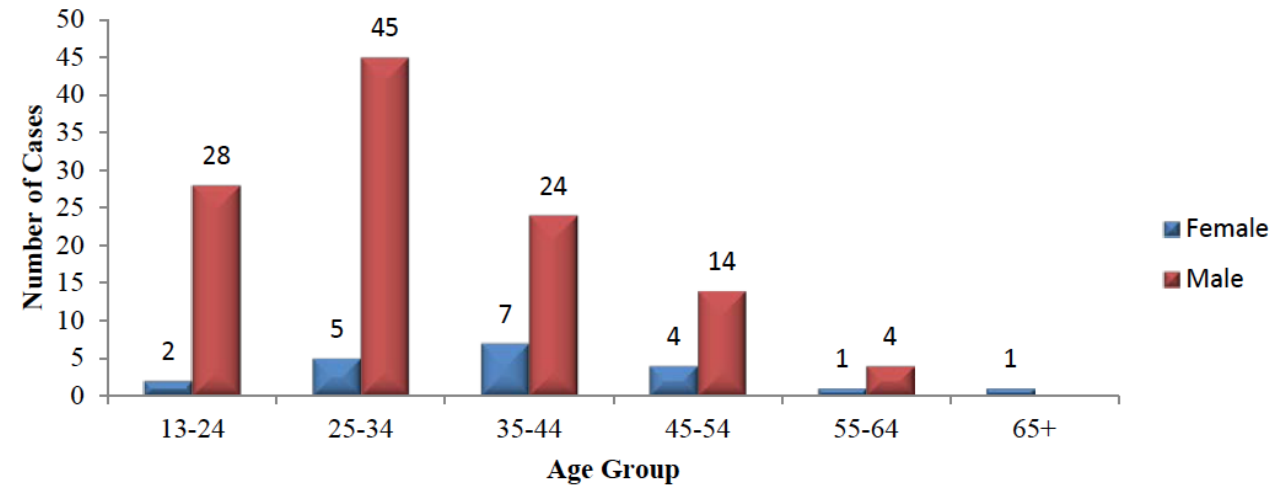


www.aidsvu.org/state/utah

Cases and Rates of New HIV Diagnoses, Utah, 2007-2016



Cases of New HIV Infection Among Females and Males by Age Group, Utah 2016

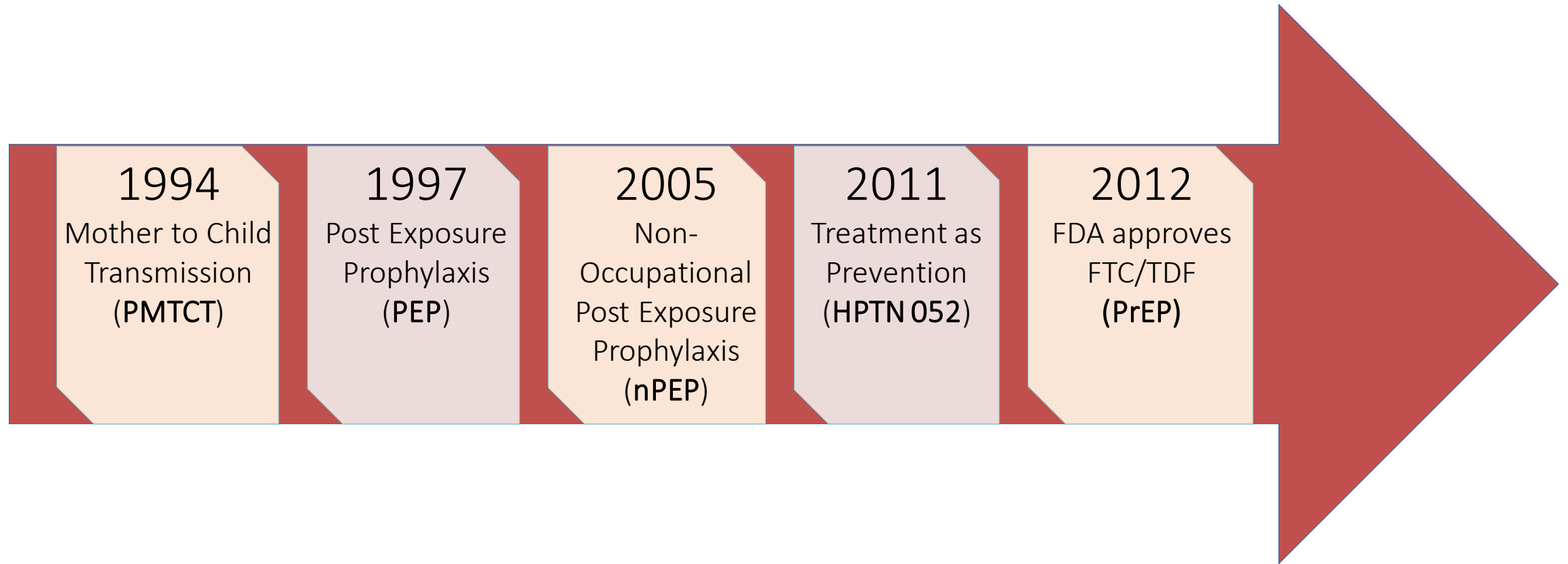


Source: 2016 Utah Department of Health HIV Annual Surveillance Report
<http://health.utah.gov/epi/diseases/hiv/aids/surveillance/index.html>

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HIV Prevention Timeline



Slide courtesy of Susana
Keeshin M.D.

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Occupational Exposures (PEP)

- Risk is roughly 3/1000 (0.3%) for healthcare–related percutaneous injury from HIV+ source patient
- Testing source patient for HIV is critical
- PEP should be initiated ASAP (ideally within 72 hours)
- Currently recommended PEP regimen is TDF / FTC (Truvada) + either DTG or RAL for four week duration
 - DTG is potentially teratogenic; avoid in pregnancy
- Baseline and follow up testing for HBV and HCV are recommended
- Follow up HIV screening at 6 weeks, 4 months (4th gen testing) or 6 months (3rd gen or earlier testing)

Non-Occupational Exposures (nPEP)

- Major risks for HIV = condomless anal or vaginal intercourse, percutaneous exposure to blood
- nPEP should only be initiated within 72 hours of exposure
- Recommended nPEP regimen is TDF / FTC (Truvada) + either DTG or RAL for four week duration
 - DTG is potentially teratogenic; avoid in pregnancy
- Baseline and follow up testing for HBV and HCV are recommended
- Follow up HIV screening at 6 weeks, 3 months and 6 months

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

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

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

^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.

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

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Pre-Exposure Prophylaxis

- What is PrEP?
 - ART administration in high-risk HIV-negative individuals to prevent infection
- Who should be prescribed PrEP?
 - Pts with high-risk sexual exposure and/or active IDU
- Managing patients on PrEP
 - Currently only one FDA-approved regimen (FTC / TDF; aka Truvada)
 - Baseline and q3 month STI / HIV testing
 - Nephrotoxicity is possible (screen in pts at risk)

The Evidence for PrEP

Trial	Population	Randomized (N)	Intervention	Efficacy (M-ITT)	Efficacy by detected drug
iPrEx	Adult MSM at high risk	2,499	Daily oral TDF/FTC vs Placebo	44%	92%
Partners PrEP	Heterosexual serodiscordant couples	4,758	Daily oral TDF Or TDF/FTC vs Placebo	75%	90%
Bangkok TDF Study	PWID	2,413	Daily oral TDF vs. Placebo	49%	74%

- Randomized, prospective, placebo-controlled clinical trials
- Powered to show at least 30% efficacy (standard threshold in HIV vaccine and microbicide trials)
- Risk-reduction counseling, contraception counseling and referral for circumcision (for Partners PrEP), condoms, treatment of symptomatic STIs and HIV-1 testing provided at every visit

How About PrEP IRL?

Trial	Population	Randomization (n)	Intervention	Efficacy
PROUD ¹	High risk MSM	544	Daily TDF/FTC Immediate vs. deferred PrEP	86%
Ipergay ²	High risk MSM	414	On demand TDF/FTC vs. placebo	86%
Partners Demonstration Project ³	Serodiscordant Heterosexual Couples	858 (thus far)	Daily TDF/FTC offered for 6 months while HIV+ partner on ARVT	96%
Kaiser ⁴	1,045 PrEP referrals	657	TDF/FTC	100% (over 32 months)

1. Lancet 2016;387(10013):53-60

2. NEJM 2015;373:1127-2246

3. CROI 2015 abstract 24

4. CID 2015;61(10):1601-1603

How to Prescribe PrEP...

Every Visit

- Discussion of sexual health and risk
- Review side effects of FTC/TDF
- Review adherence
 - How many doses have you missed this week? This month? Why?
- Review acute HIV symptoms
- Review discontinuation with patient
 - Changed life situation
- Offer condoms

Baseline Laboratory Testing

- HIV (4th generation testing)
- Renal function
 - Document creatinine
 - Consider UA in those with known or at risk proteinuria
 - Document LFTs especially in those at risk/known chronic hepatitis
- Hepatitis B and C screening
- Pregnancy test
- STI testing (RPR, GC/CT)

How to Prescribe PrEP...

Every PrEP visit (q3 months)

- HIV testing (4th gen Ab/Ag testing)
- Creatinine (for patients with risk factors for renal disease)
- Pregnancy testing
- Evaluate and support adherence
- STI screening (if requested or symptomatic)

Every other PrEP visit (q6 months)

- STI screening (even if asymptomatic)
- Creatinine in all patients
- UA for patients with risk factors for renal disease

You can prevent the spread of HIV infection right now.
Who do you want to treat?

Americans at
risk for HIV
infection

Utah AIDS
Foundation



Americans



SLC: PrEP is free

- A united campaign to prevent new HIV infections in Utah
- We provide sexual health counseling, STD testing and treatment, HIV *all free-of-charge* for at-risk individuals without health insurance coverage
- Collaborating partners: **University of Utah Health, Utah AIDS Foundation**, The Utah Pride Center, Equality Utah, Comunidades Unidas, Encircle, ARUP, Salt Lake County Health Department, Utah Department of Health
- We plan to expand in several areas:
 - Additional HIV Prevention clinic times and locations
 - A mobile clinic (similar to the U of Utah Wellness Bus) providing HIV preventive services free of charge throughout the state
 - Tele-prevention – both provider-to-provider and provider-to-patient services
 - Inter-professional and community education and outreach
 - Investigator-sponsored research through Gilead to trial rapid-start PrEP
- Together, we can make HIV HISTORY in Utah!



Google us!
slcprepisfree.org

Community Partners...



Seen in the community...

PrEP COMMUNITY CLINIC INAUGURAL CELEBRATION

cocktail party

📅 01 December 2017 (World AIDS Day)

🕒 6:00pm - 8:00pm

📍 **Ember SLC**
623 State Street, Salt Lake City, UT 84111

Join with other community members to commemorate World AIDS Day and celebrate the launch of University of Utah Health's PrEP Community Clinic, coming January 2018.

The PrEP Community Clinic will be a free clinic providing life-changing HIV testing, STD screening, and PrEP evaluation and medication management.

All proceeds from this celebration event will go to support the clinic at University of Utah Health.



DONATING TO
UNIVERSITY OF UTAH HEALTH
& UTAH AIDS FOUNDATION
THURS NOV 20 **PUBLIK** FEATURING TAN FRANCE



Local News

New free clinic in SLC provides preventive HIV care

By: Andrew Reeser

Posted: Mar 21, 2018 03:49 PM MDT

Updated: Mar 23, 2018 06:50 PM MDT



Utah LGBT news, bars, views, arts

University of Utah Health opens first free PrEP clinic

3 months ago • 1 Comment • by Staff

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Resources

CDC PrEP website	cdc.gov/hiv/risk/prep/index.html
Post Exposure Prophylaxis	https://aidsinfo.nih.gov/guidelines
Free PrEP in Utah	www.slcprepisfree.org
US HIV Statistics	aidsvu.org

Questions, comments, ideas: adam.spivak@hsc.utah.edu