# Implementation of HIV Prevention Interventions in Rhode Island

Philip A. Chan, MD
Assistant Professor of Medicine
Division of Infectious Diseases
The Miriam Hospital
Brown University

Wednesday, June 4th, 2014

New England HIV Implementation Science Symposium

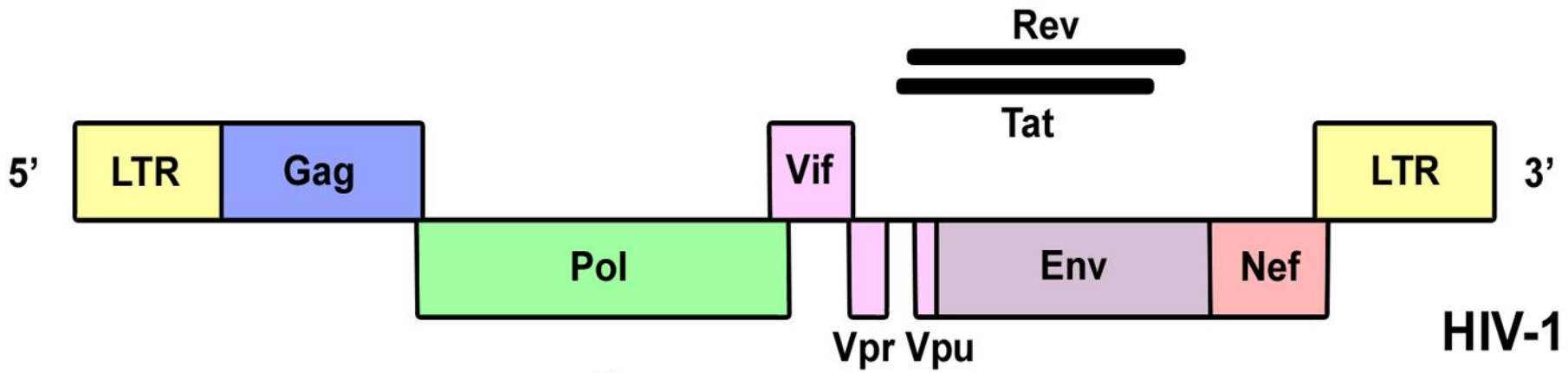
Center for Interdisciplinary Research on AIDS (CIRA)

BROWN
Alpert Medical School

# EVALUATING HIV TRANSMISSION NETWORKS: MOLECULAR EPIDEMIOLOGY

BROWN
Alpert Medical School

CFAR
CENTERS FOR AIDS RESEARCH

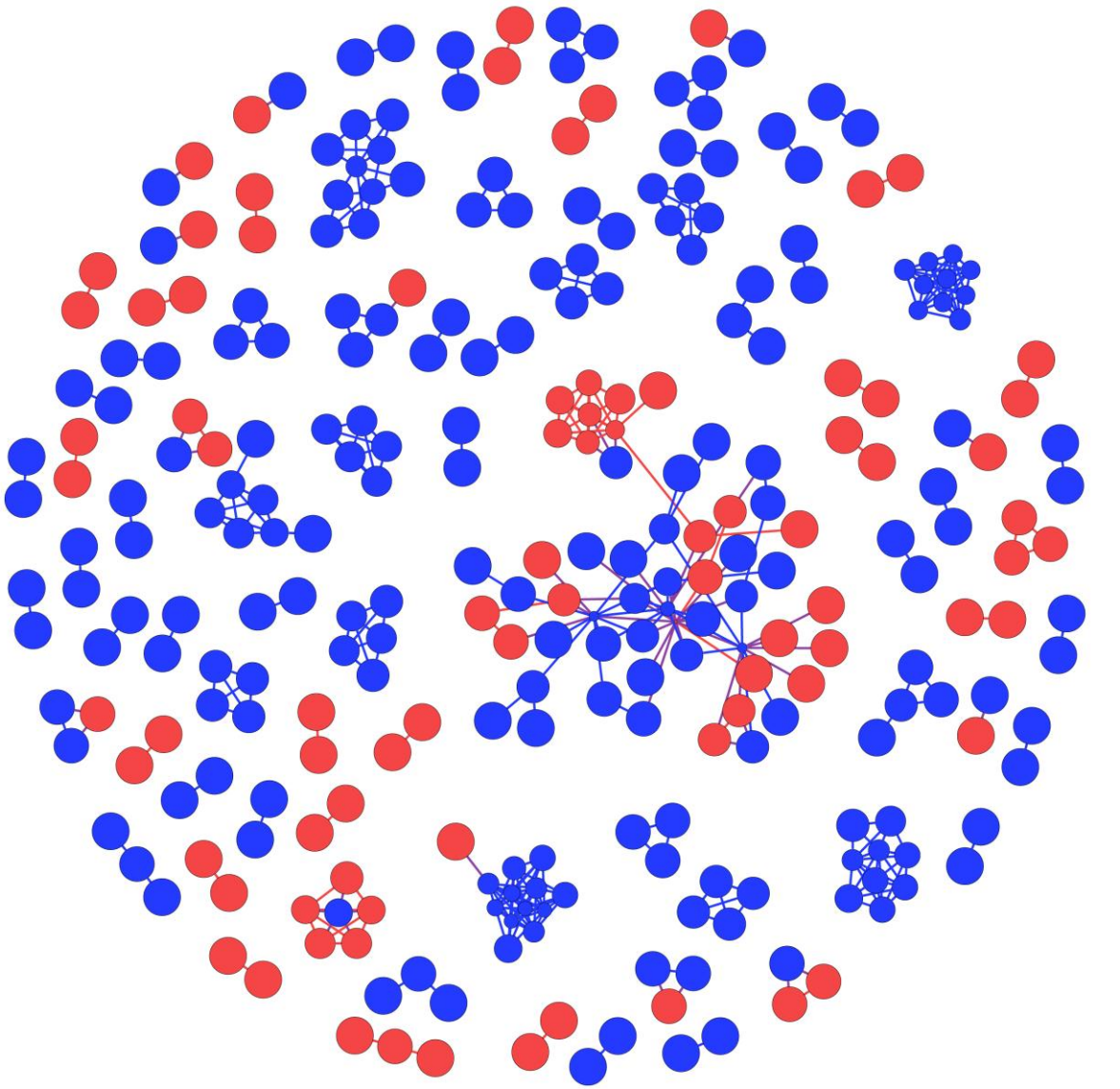



**PCR Amplification of HIV-1 RNA**
***pol* gene (PR codons 1-99, RT codons 1-400)**
**Analytical Sensitivity: >600 copies/mL viral load and viral populations accounting for >25% of the individuals HIV-1 population (minor variants are not detected)**

**Phylogenetic analysis of HIV *pol* sequences**

**Identification of "clusters" (closely related sequences)**

**Clusters represent local, ongoing HIV transmission**



# THE MIRIAM HOSPITAL HIV/STD CLINIC

BROWN
Alpert Medical School

CFAR
CENTERS FOR AIDS RESEARCH

# The Miriam Hospital HIV/STD Clinic

- Started testing on 1/13/12
- Wed/Thurs/Fridays
- Walk-in
- Anonymous
- Free if uninsured
- Syphilis, Gonorrhea, Chlamydia (Lifespan)
- Free penicillin from the DOH (for syphilis)
- HIV and hepatitis C tests (DOH)

BROWN
Alpert Medical School

CFAR
CENTERS FOR AIDS RESEARCH

# DO IT RIGHT

## GET TESTED FOR HIV & STDS

GET HIV TESTED

HOME-BASED HIV TEST

CONDOMS

PrEP PRE-EXPOSURE PROPHYLAXIS

PEP POST EXPOSURE PROPHYLAXIS

KNOW YOUR PARTNERS

GET TESTED FOR STDs

KNOW WHICH BEHAVIORS PUT YOU AT RISK

HIV+ GET TREATED

# PROTECT YOURSELF

HIV and other sexually transmitted diseases (STDs) continue to be a major problem across the United States, including in Rhode Island. The goal of this site is to provide information about HIV and other STDs and suggest ways people may protect themselves. Many people who have HIV or other STDs don't know it. If found early and treated, people can live long, healthy lives with HIV. Many other STDs can be cured with antibiotics. If untreated, HIV and other STDs can cause major health problems.

# PRE-EXPOSURE PROPHYLAXIS (PREP) IMPLEMENTATION

BROWN
Alpert Medical School

CFAR
CENTERS FOR AIDS RESEARCH

# Panel recommends approving Truvada to prevent HIV infection

By **Saundra Young**, CNN

updated 10:45 PM EDT, Thu May 10, 2012

A FDA advisory committee recommended on Thursday approving a new drug, Truvada, for pre-exposure prophylaxis.

| STUDY | LOCATION | POPULATION | DESIGN | OVERALL | DETECTABLE LEVELS |
|---|---|---|---|---|---|
| **iPrEX** (Grant) | US, Thailand, South Africa, Brazil, Ecuador, Peru | 2,499 MSM/ transgender women | FTC/TDF vs. placebo | **44%** | |
| **Partners PrEP** (Baeten) | Kenya, Uganda | 4,747 sero-discordant MSF/FSM | TDF, FTC/TDF, or placebo | **67%** TDF; **75%** FTC/TDF | |
| **TDF2** (Van Damme) | Botswana | 1,219 MSF/ FSM | FTC/TDF vs. placebo | **63%** | |
| **FEM-PrEP** (Thigpen) | Kenya, South Africa, Tanzania | 2,120 women | FTC/TDF vs. placebo | NSS | |
| **VOICE** (Marrazzo) | South Africa, Uganda, Zimbabwe | 3,019 women | TDF, FTC/TDF, or placebo | NSS | |
| **Bangkok Tenofovir** (Choopanya) | Thailand | 2,411 IDUs | TDF vs. placebo | **49%** | |

NSS=Not statistically significant; NP=Not performed; TDF=Tenofovir; FTC=Emtricitabine

| STUDY | LOCATION | POPULATION | DESIGN | OVERALL | DETECTABLE LEVELS |
|---|---|---|---|---|---|
| **iPrEX** (Grant) | US, Thailand, South Africa, Brazil, Ecuador, Peru | 2,499 MSM/ transgender women | FTC/TDF vs. placebo | **44%** | **92%** |
| **Partners PrEP** (Baeten) | Kenya, Uganda | 4,747 sero-discordant MSF/FSM | TDF, FTC/TDF, or placebo | **67%** TDF; **75%** FTC/TDF | **86%** TDF; **90%** FTC/TDF |
| **TDF2** (Van Damme) | Botswana | 1,219 MSF/ FSM | FTC/TDF vs. placebo | **63%** | NP |
| **FEM-PrEP** (Thigpen) | Kenya, South Africa, Tanzania | 2,120 women | FTC/TDF vs. placebo | NSS | NP (26% with levels) |
| **VOICE** (Marrazzo) | South Africa, Uganda, Zimbabwe | 3,019 women | TDF, FTC/TDF, or placebo | NSS | NP (<30% with levels) |
| **Bangkok Tenofovir** (Choopanya) | Thailand | 2,411 IDUs | TDF vs. placebo | **49%** | **74%** |

NSS=Not statistically significant; NP=Not performed; TDF=Tenofovir; FTC=Emtricitabine

# HIV pre-exposure prophylaxis in men who have sex with men and transgender women: a secondary analysis of a phase 3 randomised controlled efficacy trial

*Lancet Infect Dis* 2014
Published Online
March 7, 2014
http://dx.doi.org/10.1016/S1473-3099(14)70025-8

*Susan P Buchbinder, David V Glidden, Albert Y Liu, Vanessa McMahan, Juan V Guanira, Kenneth H Mayer, Pedro Goicochea, Robert M Grant*

**Findings** Patients were enrolled between July 10, 2007, and Dec 17, 2009, and were followed up until Nov 21, 2010. Of the 2499 MSM and transgender women in the iPrEx trial, 1251 were assigned to pre-exposure prophylaxis and 1248 to placebo. 83 of 1248 patients in the placebo group became infected with HIV during follow-up. Participants reporting receptive anal intercourse without a condom seroconverted significantly more often than those reporting no anal sex without a condom (adjusted hazard ratio [AHR] 5·11, 95% CI 1·55–16·79). The overall PAF for MSM and transgender women reporting receptive anal intercourse without a condom was 64% (prevalence 60%). Most of this risk came from receptive anal intercourse without a condom with partners with unknown serostatus (PAF 53%, prevalence 54%, AHR 4·76, 95% CI 1·44–15·71); by contrast, the PAF for receptive anal intercourse without a condom with an HIV-positive partner was 1% (prevalence 1%, AHR 7·11, 95% CI 0·70–72·75). The overall NNT per year for the cohort was 62 (95% CI 44–147). NNTs were lowest for MSM and transgender women self-reporting receptive anal intercourse without a condom (NNT 36), cocaine use (12), or a sexually transmitted infection (41). Having one partner and insertive anal sex without a condom had the highest NNTs (100 and 77, respectively).

**Interpretation** Pre-exposure prophylaxis may be most effective at a population level if targeted toward MSM and transgender women who report receptive anal intercourse without a condom, even if they perceive their partners to be HIV negative. Substance use history and testing for STIs should also inform individual decisions to start pre-exposure prophylaxis. Consideration of the PAF and NNT can aid in discussion of the benefits and risks of pre-exposure prophylaxis with MSM and transgender women.

**Overall NNT: 62**

**MSM RAI without a condom: 36**

# Condom effectiveness in reducing heterosexual HIV transmission (Review)

Weller SC, Davis-Beaty K. Condom effectiveness in reducing heterosexual HIV transmission. *Cochrane Database of Systematic Reviews* 2002, Issue 1. Art. No.: CD003255. DOI: 10.1002/14651858.CD003255.

**Authors' conclusions**

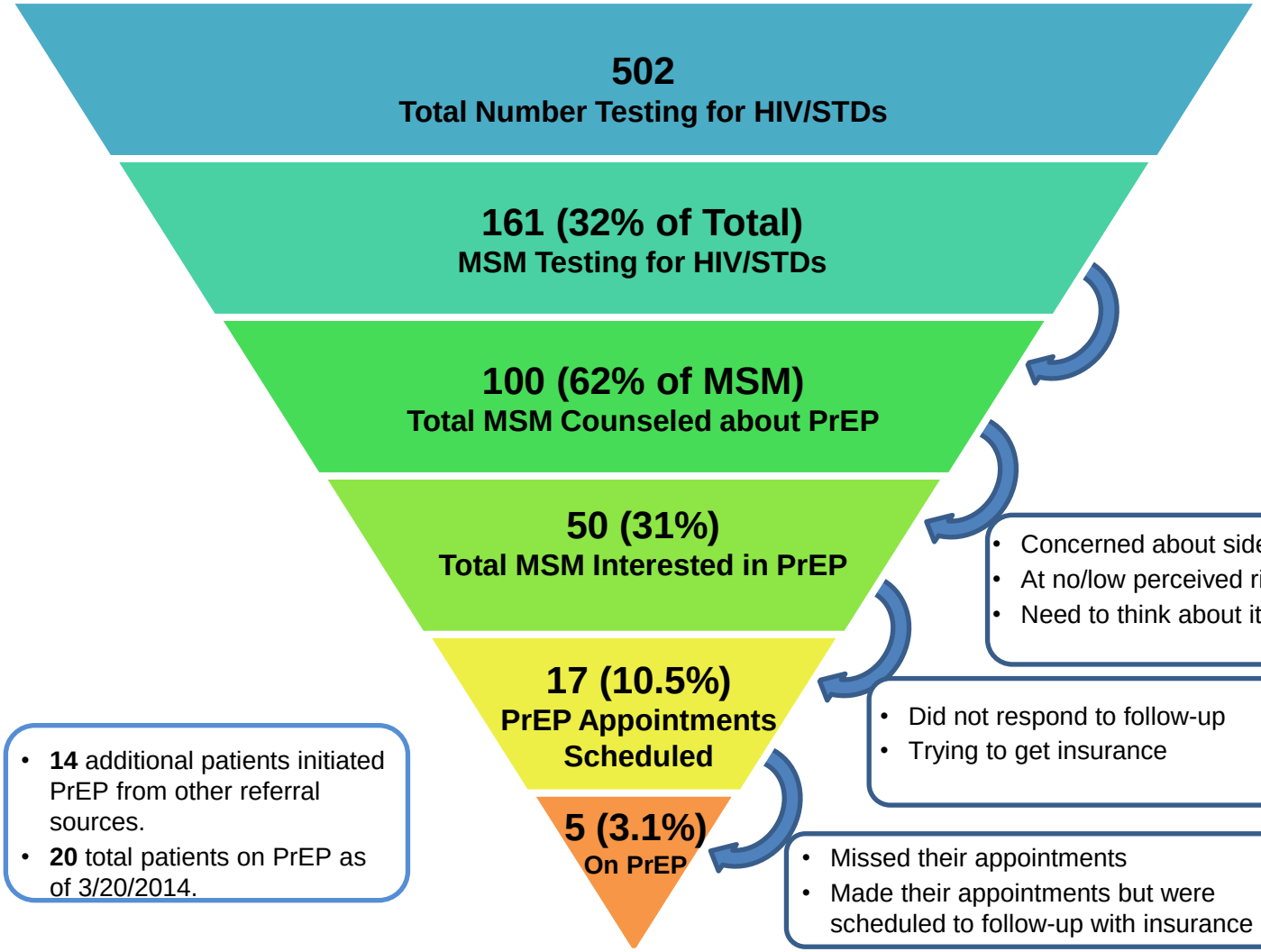
This review indicates that consistent use of condoms results in 80% reduction in HIV incidence. Consistent use is defined as using a condom for all acts of penetrative vaginal intercourse. Because the studies used in this review did not report on the "correctness" of use, namely whether condoms were used correctly and perfectly for each and every act of intercourse, effectiveness and not efficacy is estimated. Also, this estimate refers in general to the male condom and not specifically to the latex condom, since studies also tended not to specify the type of condom that was used. Thus, condom effectiveness is similar to, although lower than, that for contraception.

THE COCHRANE COLLABORATION®

**"Consistent use of condoms results in 80% reduction in HIV incidence."**

# Pre-exposure Prophylaxis Implementation Program

## The Miriam Hospital Immunology Center




- Concerned about side effects/drug interaction
- At no/low perceived risk
- Need to think about it more

- Did not respond to follow-up
- Trying to get insurance

- Missed their appointments
- Made their appointments but were re-scheduled to follow-up with insurance

- **14** additional patients initiated PrEP from other referral sources.
- **20** total patients on PrEP as of 3/20/2014.

Reporting period: **10/30/2013-02/28/2014**

## HIV Exposure Hotline

If you have been exposed to HIV within the last 72 hours, it is not too late to get help that will possibly prevent a deadly HIV infection. With recent drug advances, an HIV infection can be stopped with PEP medications if doses start within the critical 72 hour time window. Call a doctor or an emergency room now to get help as soon as possible.

PL-AIDS has a toll free number that will connect you to an HIV Doctor now: **1-401-460-AIDS(2437)**

**Philip A. Chan, MD**
**Director, HIV/STD Prevention Clinic**
**The Miriam Hospital Immunology Center**
**1125 North Main Street**
**Providence, RI 02906**
**pchan@lifespan.org**
**(401) 793-4859**

BROWN
Alpert Medical School