PreP and Prevention
IAC 2018 Update
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September 26, 2018
PrEP UP Town Hall Meeting

- CDC: HIV Transmission Statistics
- 2017 TASP: Transmission in Undetectable MSM Couples
- PARTNER 2 Study: U=U in MSM Couples
- Biologic & Behavioral Risk: Before, During and After PrEP
- PREPARE Study: STI Incidence on PrEP vs. No PrEP
- New Data: HIV Prevention Strategies
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• CDC HIV Transmission Statistics
  • 1 in 49 in Maryland
  • 1 in 20 in Black Men in the US
  • 1 in 2 in Black MSM in the US
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- HIV diagnosis declined 18% from 2008 to 2015
- There will still be approx 40,000 diagnoses each year
- Reasons for possible diagnosis decline:
  - Lower frequency of testing
  - Lower sexual and needle sharing behavior
  - Higher viral suppression in people with HIV
  - Higher PrEP uptake for those at risk
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  - HIV testing and risk behaviors have not decreased
  - Whether lower viral suppression and PrEP use accounts for decreased diagnoses is unknown
  - PrEP use increased in the US from 2012 to 2015, independent of higher viral suppression
  - US states should to take steps to increase both PrEP use and viral suppression
  - These associations need to be studied in counties
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- Undetectable VL & HIV Transmission in Gay Couples

- Opposites Attract: (TASP) Observational study in 3 countries

- 12,000 condom free male anal sex acts in 3/4 of couples

- 343 discordant couples, (one positive and one negative)

- Some men had other partners
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• Undetectable VL & HIV Transmission in Gay Couples

• No infections in HIV partner by HIV+ partner

• PARTNER 1 + Opposites Attract = 34,911 condomless anal sex acts

• Condomless sex, with HIV+ partner who is undetectable = safe sex

• CAUTION: VL remains detectable in the first months after ARVs
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- Undetectable VL & HIV Transmission in Gay Couples
  - PARTNER 1 study in heterosexual and gay couples
  - PARTNER 2 study: Gay couples only: HIV+ partner is on effective ART
  - PARTNER 2 enrolled 972 gay couples (480 couples from PARTNER 1)
  - Median condomless sex 43 times per year
  - 76,991 sex acts without condoms during the follow-up period
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- Undetectable VL & HIV Transmission in Gay Couples
  - HIV was phylogenetically tested to determine origin of infection
  - Some HIV transmission in HIV-s, but not from their HIV+ partners
  - HIV transmission came from another person, not their partner
  - There was zero transmission within couple infections
  - Confirms PARTNER 1 and TASP: A couple would need to have unprotected sex for 400 years to be at risk for HIV infection
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- PrEP Use Rising, STI Remaining Stable (SUNY)

- PrEP use rose from 3% to 21% in US MSM

- Reviewed condom use before, during and after PrEP and the STI rate to determine if STI rate would increase significantly

- 313 adult MSM who used PrEP during at least 1 visit

- Tracked condomless anal sex with a casual partner, HIV+ or status unknown partner and the probability of a rectal STI diagnosis

- 50% white, 2/3 had full time jobs, 50% in relationships
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• PrEP Use Rising, STI Remaining Stable (SUNY)

• Average condomless sex rose from 2.79 to 7.13 during PrEP use, and fell to 2.09 after PrEP use stopped

• Average number of receptive condomless sex acts from 0.195 to 0.944, then dropped to 0.121 after PrEP use stopped

• Probability of rectal STIs rose insignificantly while on PrEP, then dropped significantly after PrEP use stopped

• Condomless sex acts did increase, but STI rate remained stable

• PrEP benefit is far greater than slight risk of STI increases while on PrEP; and STI risk decreased after PrEP use stopped
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- **PREPARE Study: STI Incidence on PrEP vs. No PrEP**
  - Many young adult males do not seek healthcare
  - Regular PrEP visits = better health care practices
  - Healthcare utilization review through health records in Southern CA
  - Young males (18-34) from 7-14 to 4-16, before and after PrEP use
  - 304 PrEP users and 4,495 MSM with no PrEP use, 273,050 not MSM
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• PREPARE Study: STI Incidence on PrEP vs. No PrEP
  • PrEP users were older (27-34 vs. 18-26), and had more care, including more ER, primary, psychiatric and other specialty visits
  • PrEP users had more mental health diagnoses

• HPV/HBV vaccinations: Low in all groups, but higher with PrEP use

• Higher STI and hepatitis testing in PrEP users

• Higher STIs and mental disorders in the PrEP group, but better primary and preventive care as well as STI screening
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• PrEP Use in US Adolescents
  • 15.4% PrEP use in adolescents under 24 years old
  • 1.5% PrEP use in adolescents under 18 years old
  • In adolescents under 18, PrEP usage was 83.5% female
  • PrEP use in 18-24 years is 84.2% male
  • Recent FDA indication change may improve adolescent access
  • Important unmet need: Improve PrEP awareness and engagement
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• New HIV Prevention Strategies (2017 IAS Meeting)

• Long-Acting Cabotegravir (CAB): IM injection/8wks

• Long-Acting Rilpivirine: Development Stopped

• Long-Acting Oral MK-8591: Oral every 30 days?
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• New Prevention Strategies

• Broadly Neutralizing Antibodies (nNAbs)

• Alternative to vaccine approach

• Single IV infusion combo results in monkeys

• Single IV infusion plus SubQ results in monkeys
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• New Prevention Strategies: (bNAbs)
  • IV 3BNC117 + LS dmAB (11 to 23 wk infection delay)
  • IV 10-1074 + LS dmAb (18 to 37 wk infection delay)
  • IV 10-1074 + 3BNC117 + LS dmAB (Subq) (20 weeks)
• Could translate to annual or semi-annual regimens
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• Next Town Hall Meeting
  • Wednesday, November 28, 2018

• Time
  • 6:30 to 8:00 PM

• Place
  • Waxter Center
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• THANK YOU
  • Gilead Sciences
  • Baltimore City Health Department
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• THANK YOU
  • Johns Hopkins Reach Initiative
  • Chase Brexton Health Care
  • Center for Black Equity-Baltimore
  • GLCCB
  • Jacques Initiative
  • Total Health Care
  • PrEP UP: Falina Chanel, Alvin Moody, Jeffrey Grabelle, Jay Mangum