Update on HIV and Minorities

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Learning objectives

• Magnitude of epidemic (# infections annually)
• Highly impacted sub-populations
• Care Continuum or Treatment Cascade
• Drivers of epidemic in ‘geographic hotspots’
• Steps taken to control epidemic
• Best approach to sustainably end epidemic
HIV infection and racial disparities

- **There are about 50-60,000 new HIV infections per year in US**

- **African Americans:** bear the greatest burden of HIV
  - 44% of new infections, only 13% of US population
  - African American males have ~8x the AIDS rate as white males
  - Very high burden in young black males (13-24)

- **Hispanics are also disproportionately affected by HIV**
  - HIV infection rate of Hispanics 3X > whites in US
How to explain these higher rates?

- **Geographic hotpots**: Urban Northeast, West coast; Rural South

- **Sexual networks** - insular, concentrated due to limited mobility

- **Structural factors** – already socially and economically burdened, medically disenfranchised, poverty, high incarcerations rates

- How well are we engaging the at risk or infected communities?
Treatment as Prevention - Role of the Care Continuum

Percentage of Persons with HIV Engaged in Selected Stages of the “Care Continuum” – United States

- 100% >1.1 million HIV-infected individuals in the United States
- 82% HIV-diagnosed
- 66% linked to HIV care
- 37% retained in HIV care
- 33% prescribed ART
- 25% suppressed viral load (<200 copies/ml)

Addressing AIDS is a national priority

- Reducing HIV incidence
- Increasing access to care and optimizing health outcomes
- Reducing HIV-related health disparities
... the prevalence of HIV infection within some U.S. populations now rivals that in some sub-Saharan African countries... For example, more than 1 in 30 adults in Washington, D.C., are [living with HIV] — a prevalence higher than that reported in Ethiopia, Nigeria, or Rwanda.
AIDS in America: Some areas comparable to Sub-Saharan Africa

Example of a focal epidemic

The Washington Post
November 26, 2007
Study Calls HIV in D.C. a “Modern Epidemic”

The New York Times
November 27, 2007
Report Finds Washington Has Highest AIDS Infection Rate Among U.S. Cities
Purpose of the Washington, DC HIV Initiative

- Perform research that develops effective measures to control HIV epidemic in the District
- Establish city-wide data system to measure the effectiveness of the interventional programs
- Provide the scientific basis for a strategy that could be implemented in other US cities that have expanding HIV epidemics
Four Major Research Projects Define the Washington, DC HIV Initiative

- Identify high-risk populations and reduce risk behaviors through research initiatives that enhance prevention
- Establish city-wide data system to characterize epidemic and evaluate impact of the interventions
- Pilot the Voluntary “Test and Treat” Concept, a novel model using treatment as prevention
- Augment HIV-related subspecialty care in DC and provide access to promising research strategies
Enhancing Prevention in DC

- Completed studies identifying highest risk men and women in the city
- Phase 2 PrEP trial for men and women fully enrolled
- PreP implementation study ongoing
- Test and Treat Study completed and in analysis
- Launch long-acting PrEP studies imminent (within 45 days)
Preexposure Chemoprophylaxis for HIV Prevention in Men Who Have Sex with Men

RM Grant et al. and the iPrEx Study Team

- n= 2,499 HIV-seronegative men or transgender women who have sex with men in Brazil, Ecuador, Peru, South Africa, Thailand and the United States
- Randomized to receive emtricitabine and tenofovir disoproxil fumarate (FTC-TDF, Truvada) or placebo once daily
- 44% reduction in HIV incidence overall in FTC-TDF group; 73% reduction with high adherence (>90% of days)
May 10, 2012

FDA Panel Recommends Approval of Drug to Prevent HIV Infection

By Brian Vastag

For the first time in the 30-year battle against the HIV epidemic, a panel of experts has recommended that the Food and Drug Administration approve a drug to give to healthy people to protect against the infection.
Southern US: a growing microepidemic

• Fastest growing, complex epidemic

• Low access to care: travel, underinsured, fewer providers

• Discrimination: racial, aggressive homophobia, HIV stigma

• Social policies impede early detection and treatment of HIV
Community based efforts at AIDS epidemic

- Locally address disparities in testing, treatment and care
- Increase # who know status, culturally relevant outreach
- Test and treat - new federal guidelines recommend ART for all
  - Reduces health related complications
  - Reduces transmission
- Identify barriers to retention
- Understand sexual networks, patterns of risk and ways of better engaging community members in prevention work
To End AIDS: Remain committed to Vaccine

“the HIV prevention community should hold fast to its commitment to vaccine science. Ultimately, we believe, the only guarantee of a sustained end of the AIDS pandemic lies in a combination of nonvaccine prevention methods and the development and deployment of a safe and sufficiently effective HIV vaccine.”

## How long does it take to make a vaccine?

<table>
<thead>
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<th>Disease</th>
<th>Years to develop vaccine</th>
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<tr>
<td>Typhoid</td>
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<tr>
<td>Haemophilus influenza B</td>
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<td>Pertussis</td>
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<td>Hepatitis B</td>
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<td>HIV</td>
<td>30 and counting</td>
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Source: Modified from H. Markel, NEJM 2005
RV144 – Only link to Clinical Efficacy

Modified ITT Population

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<th>Timepoint</th>
<th>Events</th>
<th>KM Rate (%)</th>
<th>SE (%)</th>
<th>Events</th>
<th>KM Rate (%)</th>
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Summary

• 50,000-60,000 new infections/year in US
• African Americans, especially males highly impacted
• Geography, sexual networks, social context and structural factors fuel disparities
• Treatment cascade: high failure rate (25% undetectable)
• Efforts: test and treat at community level (e.g. DC initiative)
• Prevention important but dependent on behavior change and consistent, daily positive health choices

• Vaccine best way to durably end epidemic