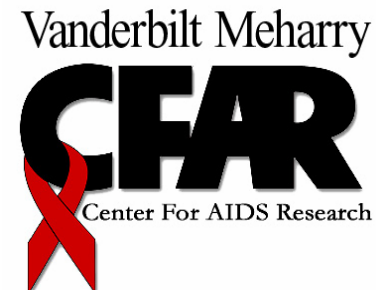


# HIV/AIDS in the 21<sup>st</sup> Century: Past, Present, and Future

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# Road Map for Talk

- History will always be with us
  - Vulnerable populations (Not “us”); Medical Mystery
- Present
  - Best of times, worst of times
- Future ethical issues for HIV research
  - Intertwined with prevention and care
  - The enemy: HIV
  - Those affected: Us, not “them”
  - GOAL: NASHVILLE (AND THE WORLD)  
UNITED TO STOP AIDS (USA)
    - No new HIV infections, No new AIDS cases



# History – I. Palliative Care Era

- 1932-1972 “Tuskegee Study of Untreated Syphilis in the Negro Male”
  - 1966-72 Peter Buxton “whistle blower”
  - 1979 Belmont Report
- 1982 – Young (homosexual) men dying
  - “GRID” before “AIDS”
    - Etiology was mystery – CMV, intestinal pathogens, “poppers” hypothesized
    - First awareness of “gay rights” for many
      - Bath houses shut down; “rights” protected with confidentiality, consent, anonymous testing
      - “AIDS exclusivity”
- Mid 1980s – IVDU, Hemophiliacs, Haitians
  - Not “us”



## History – II. “Emergency Care and Treatment Development”

- Mid 1980s – called HTLV III before HIV
  - Politics, Diagnostics, Vaccines, Drugs
  - OI management and prophylaxis
- 1987 – AZT: expedited approval for AIDS/ARC
  - Wayne State 1964, then studied by Broder and Mitsuya at NIH in 1985
  - Patent protected (BW, GW, GSK) from 1985 to 2005
- 1987 – Activists (AIDS Coalition to Unleash Power and others)
  - Forced awareness/change in era of passivity



## History – II. Treatment Development

- Early 1990s – “Sequential monotherapy” and dual NRTIs -> short term success, resistance
  - Hospitalizations for complications (MD morale)
  - “Concorde” – Rx nihilism
  - Deaths related to AIDS
- 1990 - Ryan White Comprehensive AIDS Resources Emergency (CARE) Act
- 1994 – 1997: New antiretroviral classes and “triple combinations” led to “HAART” (really “FAART”)



# History – III. Treatment Refinement

(Also decreased need for prophylaxis)

Regimen	Dosing	Daily pill burden
<b>1996</b> Zerit/Epivir/Crixivan	10 pills, Q8H	
<b>1998</b> Retrovir/Epivir/Sustiva	5 pills, BID	
<b>2002</b> Combivir (AZT/3TC)/EFV	3 pills, BID	
<b>2003</b> Viread/ Emtriva/Sustiva	3 pills, QD	
<b>2004</b> Truvada/Sustiva	2 pills, QD	



# The Present – I.

- Atripla (Tenofovir, Emtricitabine, Efavirenz)
  - 1 pill, once daily
- Rare failures/resistance if started with HAART
- New classes for Rx-experienced patients
  - CCR5 antagonist (Maraviroc)
  - Integrase Inhibitor (Raltegravir)
  - 24 effective drugs / NO ERADICATION
- Many new technologies (resistance, etc)
- Deaths now mostly NOT related to “AIDS”
  - Liver disease, cancers
- Long-term health maintenance, not episodic “MASH”-like emergency care





# The Present – II.

- Sept. 20, 2007: Failure of most promising vaccine yet
  - CTL responses alone may not be enough
  - New studies of vaccines that look better in non-human primates – in high risk subjects
- July 2007: Reports of disappointing results of microbicides, diaphragms, and other preventive approaches at IAS meeting in Sydney
- Promising: New microbicides, PREP



# The Present – III.

- Global AIDS
  - More recent focus of activism, research funding
- Demographics in Africa – women and children predominant in epidemic and media images
- PEPFAR
  - Wedge to build health care infrastructure



# Current reality of HIV/AIDS in Nashville

- Demographic shifts at the CCC
- Since 1990 :
  - From 12% to 24% female HIV/AIDS patients
  - From 20% to 38% African Americans
  - Median age now 38, most now living >20 years after diagnosis; diseases of aging
    - Also seeing AIDS at 19 (unusual)
  - Increasing proportion of uninsured patients
  - Substance abuse and mental health problems in 40% each of HIV/AIDS patients
    - Overlapping subsets

S. Raffanti, Personal communication



# Who is getting infected?

- Many young African American women are infected through heterosexual intercourse with a single male partner
  - Men did not disclose risk behavior (“down low”)
    - Displace the “blame”
    - Virus is the villain
  - Many infected persons do not know status
  - In US and globally, it is now a heterosexual epidemic



# Some current local research

- Risk behavior here is non-IV drug use
  - Sexual behavior associated with drugs
  - Studying differences between non-IV drug users (crack cocaine, meth) in Nashville and IV heroin users in Baltimore
- Is drug use a risk factor for acquiring drug resistant virus (IV and non-IV)?
  - 15-20% of new diagnoses
  - Now routinely test all before start Rx



# Future – I.

- Act locally, think globally
- HIV/AIDS is caused by a virus, all are “vulnerable”
- RISK IS TO ‘US’, NOT ‘THEM’
- KNOW YOUR STATUS
- CDC recommendation for routine HIV testing
  - All ER patients (unless opt-out)
  - Starting in Nashville (CDC funding)
  - In DC, how get insurance to pay?



# Future – II.

- Research ethics issues
  - ‘When to start’ study, vaccine and microbicide trials
    - Is it appropriate to perform outside US?
    - Lessons of Tuskegee
  - How test new drugs?
    - Fewer ‘salvage’ patients, more options
    - Long term, rare complications (Vioxx)
    - Investment needed for a truly novel drug may not make business sense
    - Complacency re no cure
  - How to improve prevention – multi-faceted



# The Future – III.

- Prevention and care issues
  - How educate for prevention?
    - ‘Prevention for positives’
    - School curriculum – all are at risk
    - ‘Love life’ in South Africa – self respect and hope needed to motivate prevention and care
  - Expanding Medicare coverage
    - Now for AIDS
    - More treatment will decrease transmission
    - Precedent of SCHIP
      - Not possible for “innocents”



# SILENCE = DEATH

Stop the virus – No mystery, No predisposition

