New Directions and Shifting Priorities in HIV Prevention (& some “Big Picture” Questions for Global Health…)

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Successes & Failures of AIDS Prevention (focus on sub-Saharan Africa)

- Epidemiological background: Why is HIV so high in SSA, especially southern Africa?

- Evidence for the “standard” HIV prevention tools?

- New approaches and priorities for HIV prevention
Percent of adults (15-49) infected with HIV in 2007

Source: UNAIDS 2007
HIV Prevalence by Region

Source: Adapted from WHO analysis (Lancet 2004)
HIV Transmission Patterns in Mashonaland, Rural Zimbabwe

Wilson and Cowan et al, 2003
Concurrent Partnerships Globally

The “Acute Infection” Period

Risk of transmission

Seroconversion (Acute infection)

Asymptomatic infection

HIV progression (falling CD4 count)

AIDS

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Sexual Networking in Likoma, Malawi

- A fifth of population in exclusive dyadic relationships
- Two-thirds linked by single chain of infections over last 3 years
- Networks not linked by sex workers or other “high frequency transmitters”
- Linked by decentralized, complex, robust chains of sexual relationships


Fig. 5: largest connected component. N = 685. It comprises more than 65% of the population of the 7 villages surveyed.
Modeling Sexual Networks

Low degree networks create a transmission core

Number of Partners

Largest components

Bicomponents in red

In largest component:

2%
10%
41%
64%

Source: Martina Morris, University of Washington and James Moody, Duke University, Meeting concurrent sexual partnerships and sexually transmitted infections, Princeton University, 6 May
Regions in Africa Where Most Men Are Uncircumcised

- **MEN TYPICALLY UNCIRCUMCISED**
- **CITIES WHERE MEN ARE TRADITIONALLY CIRCUMCISED BUT WHERE LARGE POPULATIONS OF UNCIRCUMCISED MEN HAVE RECENTLY MIGRATED; HIGH HIV LEVELS**
- **MEN WERE NOT CIRCUMCISED UNTIL RECENTLY**
- **HIGHEST PERCENTAGE OF HIV CASES**
HIV Prevalence by Male Circ. (Kenya)

- **Kenya**:
  - Circumcised: 3%
  - Uncircumcised: 13%

- **Urban**:
  - Circumcised: 5%
  - Uncircumcised: 17%

- **Rural**:
  - Circumcised: 2%
  - Uncircumcised: 11%

Source: DHS Kenya 200...
Physician and health show host Dr Themba Ntiwani, Swaziland: "Everyone wants to have it done. Not one person has called to say it's 'un-Swazi"

Acceptability of MC in Currently Non-Circumcising Communities in Africa

% of uncircumcised men willing to be circumcised
% of women favouring circumcision of their partners

Swaziland 2006
Kenya 1999
S Africa 1999-2000
Zimbabwe 2000
S Africa 2001
S Africa 2002
Botswana 2003
Uganda 1997

Source: Westercamp N, Bailey RC. , AIDS Behav. , 2000
Botswana – MC Uptake of 80% over 10 Years (Relative Risk = 0.33)

Years (MC scale-up at Year 15)

- Male HIV Prevalence
- Female Prev.
- MC Prev.

Nagelkerke et al, BMC Inf. Dis. 2007
Early successes: Uganda and “zero grazing”
Behavior Change among Males in Manicaland, Zimbabwe

Source: Gregson et al, 2006
I'm Circumcised, proud of it...

and I’m still faithful to my partner.
The Standard HIV Prevention Methods -

- **Condom Promotion**: Success stories (e.g., Thailand), in concentrated epidemics driven by commercial sex work, etc.

- **HIV Testing and Counseling**: Important as gateway to treatment/care – but little evidence of reducing risky behavior

- **Treatment of Other Sexually Transmitted Diseases**: Also important for public health reasons, yet 7 out of 8 clinical trials found reduced STDs but no impact on HIV

- **Youth (including Abstinence-based) Programs**: Worth promoting delay of debut, use of contraception, etc., but little likelihood of impacting on the overall HIV epidemic
“ABCs” of HIV Prevention
Which Model for Southern Africa?

- **Botswana:**
  - A mainly donor-driven, *top-down* response focusing on clinical service and commodity provision
  - Prioritized condom promotion to general population
  - Supported by strong political leadership

- **Uganda:**
  - Prioritized *behavior change (particularly partner reduction)* in the general population through a “zero-grazing” approach, involving *churches*, traditional leaders & healers, etc.
  - Featured a *grassroots, community-based*
The Difference between Response to AIDS in Botswana, compared to Uganda:

“Aids had not gone beyond the headspace of awareness, education and counselling to a lower centre of gravity between the gut and the heart of behaviour change.”

(Daniel Low Beer, 2003)
“Female-Controlled Method” of HIV Prevention?: Uganda in Late 1980s

The horror of Slim is forcing people to change social habits…. A number of wives openly go so far as to confess that Slim has saved their marriages… In Bugolobi, a young housewife with three children, declared with a gleam in her eye, “There has been a positive change in our marriage. My husband stays at home much more. And I encourage him to do so by enthusiastically keeping him informed of the latest gossip about Slim victims.”

(New Vision, October 23, 1987, p.10)
Role of Faith Communities in Uganda:

- Most people (98%) belong to one of three faith communities:
  - Catholic, Anglican, or Muslim
  - Churches are hierarchical and well organized

- Focus group respondents emphasized the role of the church:
  - During Sunday services
  - *During/after funerals*

- Behavioral focus
  - Initially on faithfulness and “zero grazing”
  - Many later accepted condoms (but mainly emphasized monogamy and abstinence)
Under 5 Mortality and Adult HIV Prevalence

Under 5 Mortality (Deaths per 1,000 Live Births)

- Over 175
- 150-174
- 130-149
- Less than 129

Adult HIV Prevalence 2002

- Over 15%
- 10% - 14.9%
- 3% - 9.9%
- 1% - 2.9%
- 0% - 0.9%

Source: UNAIDS/WHO; U.S. Census Bureau
Contraceptive Prevalence and Adult HIV Prevalence

Total annual resources available for AIDS 1986-2007

Notes: [1] 1986 - 2000 figures are for international funds only. [2] Domestic funds are included from 2001 onwards.


- HIV/AIDS
- FAMILY PLANNING & REPRODUCTIVE HEALTH

FUNDING (IN MILLIONS US$)

- $0
- $500
- $1,000
- $1,500
- $2,000
- $2,500
- $3,000
- $3,500
- $4,000

2003 2004 2005 2006 2007 2008
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http://www.harvardaidsprp.org/symposia-events/HalperinHUPApresentation011707.html