Social, Structural, and Environmental Factors in HIV Risk for Women

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“The strategic, simultaneous use of different classes of prevention activities (biomedical, behavioral, social/structural) that operate on multiple levels (individual, relationship, community, societal), to respond to the specific needs of particular audiences and modes of HIV transmission, and to make efficient use of resources through prioritizing, partnership and engagement of affected communities.”
that recognizes need to address structural factors in research and programme design
Attention to risk and vulnerability builds on basic ecological model: “Levels” of interacting influences upon individual risk

Figure 5: A Social Ecological Framework - individual action is shaped by immediate life conditions, including relationships, community and occupational groups and organizations, and by broader societal factors

Source: UNAIDS (2010) Combination prevention...
Recent Publications on Social/Structural Approaches & Interventions

Addressing social determinants of health in the prevention and control of HIV/AIDS, viral hepatitis, sexually transmitted infections, and tuberculosis.


Structural approaches to HIV prevention.


Transforming social structures and environments to help in HIV prevention.


Structural interventions for HIV prevention in the United States.


Addressing social drivers of HIV/AIDS for the long-term response: Conceptual and methodological consideration

Auerbach JD, Cáceres CF, and. Parkhurst JO, Global Public Health 20116(Sppl 3):S293-S309.
Characterizing Social/Structural/Environmental Factors
Social Drivers

UNAIDS (2007) Definition: “The social and structural factors, such as poverty, gender inequality, and human rights violations that are not easily measured that increase people’s vulnerability to HIV infection.” (emphasis added.)

AIDS 2031: Auerbach, et al. (2009, 2011) Definition: The core social process and arrangements—reflective of social and cultural norms, values, networks, structures and institutions—that operate around and in concert with individual behaviors and practices to influence HIV epidemics in particular settings.
"The social determinants of health are the conditions in which people are born, grow, live, work and age, including the health system. These circumstances are shaped by the distribution of money, power and resources at global, national and local levels, which are themselves influenced by policy choices. The social determinants of health are mostly responsible for health inequities - the unfair and avoidable differences in health status seen within and between countries" (emphasis added).
The HIV Risk Environment

- **Levels:**
  - Macro
  - Micro

- **Types:**
  - Physical
  - Social
  - Economic
  - Policy

Adapted by Strathdee et al., 2010, from Rhodes 1999 and Glass and McAttee 2006
Social/Environmental Factors: IDU
(Adapted from Strathdee et al. 2010)

- **Macro**
  - Drug trafficking & distribution routes
  - Deportation
  - Police per capita
  - Weak civil society
  - Ethnic/racial inequalities
  - Lack of health service revenue & spending
  - Immigration policy & law
  - Drug treatment policy & law

- **Micro**
  - Drug injection locations
  - Homelessness
  - Exposure to violence & trauma
  - Local policing practices
  - Sexuality & sexual orientation
  - Education
  - Cost of living & of health treatments
  - Access to low-threshold and social housing
How Do Social/Environmental Factors Operate?

- Not unilateral variables with causal, one-to-one linkages
- Interactive phenomena reflective of social processes
- Complex, fluid, non-linear, contextual
- Interact dynamically with biological, psychological, behavioral, and other social factors
- Must be characterized situationally and contextually
The Example of Violence Against Women (VAW) & HIV
A WHO multi-country study found that between 15–71% of women reported experiencing physical and/or sexual violence by an intimate partner at some point in their lives.

Women who have experienced partner violence more likely to be HIV infected than those who have not:

- Women under 30 in Tanzania: 10 times more likely
- Women in Rwanda: 89% more likely
- Women ANC attendees in South Africa: 53% more likely
- Married women in India: 3 times more likely

(See WHO 2010 for references)
Pathways of association between IPV and women’s risk of HIV infection (from C. Watts, 2012)

- Poverty & economic stresses
- Gender inequality & social norms condoning some use of violence
- Social constructions of masculinity
- Early experiences or witnessing of violence

- Partner physical and/or sexual intimate partner violence
- Problematic alcohol use

- Woman has concurrent sexual partners
- Partner has concurrent sexual partners

- Reduced access to Info & HIV services
- Genital trauma
- Low or inconsistent condom use
- Increased probability partner has HIV and/or STI

- Increased likelihood that woman is HIV infected
Links Between VAW & HIV: Direct & Indirect (from WHO 2010)

- Gender and relationship power inequality
- Rape, child sexual abuse and intimate partner violence
  - Direct transmission
  - Indirect transmission
  - More risky male partners: More controlling and violent masculinities More sexual risk taking More likely to have HIV and STIs
  - Reduced protective powers: More acquiescent femininities More frequent sex Less condom use
  - Psychological distress: Chronic anxiety Depression Post-traumatic stress disorder Substance use
  - More risky sex: More partners Concurrency Transitional sex Sex work Sex while intoxicated
  - HIV
  - Rape
Where to Enter in the Causal Chain?

- Religious/Cultural Systems
  - Gender Inequality
  - Male Perogative

- Gender/Sexual Violence
  - Partnerships
  - Conflict Settings

- HIV Transmission
  - Perpetrator
  - Victim/Survivor
Social/Structural and Environmental Interventions
Aims of Social/Structural/Environmental Interventions

- Policy-Legal Changes
  - Criminalization of homosexuality
  - Criminalization of drug user/users
  - Marriage, property & inheritance rights
- Environmental Enablers
  - Access to and affordability of services
  - Educational & economic opportunities
- Shifting Harmful Social Norms
  - Gender/sexuality discrimination & violence
- Catalysis of Social & Political Change
  - Adopting human rights frame; building civil society capacity
- Empowerment of Communities
  - Advocacy among PLWHA
  - Community engagement in research

(Auerbach, 2009; Vincent, 2009)
Structural approaches must begin with understanding of:

- Level targeted—specific group of individuals or broader social, legal, economic environment.
- Extent to which fundamental behavioral patterns are seen as fixed or changeable.

Interventions may be “ameliorative” or “fundamental”, targeting proximal or distal risk factors, respectively.

(See, e.g., Gupta et al. 2008; Blankenship et al. 2006; Cohen 2000; Coates et al. 2008)
VAW & HIV Intervention Strategies
(from WHO 2010)

Socioeconomic conditions

Individual Behaviour:
- Choice of partner
- Choice to have sex
- Partner reduction
- Condom use
- Drug use or non-use

Cultural norms

Laws and policies

Countries

Communities

Couples and families

Gender norms and VAW example programmes:
- Image
- Stepping Stones (global)
- Program H (Brazil, India)
- Soul City (South Africa)
- One Man Can (South Africa)

Example strategies:
- Economic empowerment, youth livelihoods, microfinance, girls’ education
- Women’s inheritance laws; laws against marital rape; national standards for post-rape care; protecting sex workers from violence by police
Intervention for Microfinance and Gender Equity (IMAGE) (from Sherry Dworkin WRI 2010)

Using microfinance to empower women & address poverty, gender based violence & HIV
The IMAGE Project

"We joined for money, but we got more"

"With SEF money we feed our children, but with knowledge from health talks, we protect them from HIV"

The IMAGE Project

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Aimed to reduce VAW and HIV by targeting poverty & economic & gender inequalities
Community Randomized Controlled Trial (RCT)
8 rural communities, Lompopo, South Africa
Offered microfinance loans to older women
Paired loans with year-long participatory gender program
Community mobilization, using village leaders focused on VAW and HIV
Primary outcomes: IPV, unprotected sex, HIV incidence
Secondary outcomes: social capital, gender equity, economic well-being, HIV awareness, sexual behavior
Individual-level empowerment [loan recipients vs. controls, p<0.05]
  - Greater self-confidence
  - Disagreement with traditional gender roles
  - Greater household decision-making

Improvements—Gender-based Violence [loan recipients vs. controls, p<0.05]
  - Significant reduction of IPV in the previous 12 months among the intervention arm relative to the control arm [55% reduction]
  - Significant change in attitudes towards IPV

NO Impact on rate of unprotected sex at last intercourse with a non-spousal partner
NO Impact on rate of unprotected sex with a non-spousal partner
No Impact on HIV prevalence
Stepping Stones (from WHO 2010)

- Cluster Randomized Controlled Trial (RCT)
- 70 Villages in Eastern Cape, South Africa
- Male and female (aged 15-26) peer groups
- Small group, participatory learning activities, based on adult education theory, Freirian models of critical reflection, use of theater and assertiveness training techniques.
- Aimed at improving sexual health through building more gender-equitable relationships (and modifying harmful gender norms).
No statistical impact on HIV incidence.

33% reduction in new HSV-2 infections among all (male & female combined) intervention participants [RR 0.67; 95% CI 0.46-0.97].

Reduced reported perpetration of IPV among men by 38% at 24 months (statistically significant).

Reductions in male participant’s engagement in transactional sex & problem drinking at 12 months.

Only behavioral RCT intervention in Africa to demonstrate biological outcome.
Types of Interventions & Programs Targeting VAW & HIV (from WHO 2010)

- Addressing gender equality, VAW, HIV through community engagement & women’s empowerment (e.g., IMAGE, Stepping Stones)
- Service-based programs (e.g., South Africa HIV/AIDS Post-test Support Study)
- Addressing violence against key populations, e.g., sex workers and women who use drugs (e.g., Avahan)
- Mass media campaigns for health and social change, including addressing gender equality through working with men (e.g., Soul City, One Man Can)
### Other Interventions/Programs Addressing VAW & HIV (from WHO 2010)

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<th>Intervention/Program</th>
<th>Outcomes</th>
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<td>SASA!, Uganda—Community RCT</td>
<td>Experience of IPV</td>
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<td>RHANI Wives, India—Cluster RCT</td>
<td>Marital communication, condom use &amp; incident STI</td>
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<td>Avahan—sex workers in Karnataka, India—structural intervention program</td>
<td>Decreased police violence, increased reporting of non-police violence</td>
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<tr>
<td>Program H—young men in Brazil Replicated in Tanzania, Croatia, Viet Nam</td>
<td>Changes in interaction styles (less aggressive, more cooperative, increased HIV test-seeking, delayed initiation of sexual activity with current partner)</td>
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Methods & Measurement: The Evidence Wars

AKA: The Double Imperative of RCT and HIV Incidence
Methods & Measures: RCTs as the “Gold Standard”

Strengths

- Establish efficacy—determines *IF* something works
- Have high internal validity

Limitations

- Cannot determine *WHY* something works
- Low generalizability/external validity
- Rigid structure may hinder innovative research
- Limited applicability to more distal causes

(Mykhalovskiy & Weir 2004; Denzin 2009; Black 1996; Pawson & Tilley 1997; Victoria et al 2004)
“Randomized controlled trials (RCTs) are generally considered the gold standard to define the evidence base for HIV prevention programs and policies. However, only one in seven [ed: now one in five] RCTs of interventions to prevent sexual transmission of HIV has shown efficacy. In fact, the overwhelming majority of completed RCTs are ‘flat’—unable to demonstrate either a positive or adverse effect . . . Before abandoning randomization, it is important to consider the entire universe of RCTs . . . RCTs will undoubtedly remain our gold standard in defining the evidence base for HIV prevention programs and policies.” (Emphasis added.)

“We argue that by limiting prevention program evaluation to experimental methods and HIV incidence as outcome, the perfect becomes the enemy of the good. The evidence base for ‘what works in prevention, where and for whom?’ will remain incomplete, sustaining confusion for program planners and contributing to the crisis of confidence in combination prevention, and subsequent inaction.”

(Laga, et al., Evaluating HIV prevention effectiveness: the perfect as the enemy of the good. AIDS 2012)

- The Zomba cash transfer program **reduced the prevalence of HIV and HSV-2 infection** at 18 month follow-up in school-age girls who were enrolled in school at baseline [1.2% (seven of 490 participants) in the combined intervention group versus 3.0% (17 of 799 participants) in the control group (adjusted odds ratio [OR] 0.36, 95% CI 0.14–0.91); weighted HSV-2 prevalence was 0.7% (five of 488 participants) versus 3.0% (27 of 796 participants; adjusted OR 0.24, 0.09–0.65)]. (Emphasis added.)

- “These effects are supported by changes in self-reported sexual behaviour. The findings suggest that financially empowering school-age girls and their families can have substantial effects on their sexual and reproductive health.”
“Although these findings are exciting, they are attenuated by the key weakness of this study: the investigators did not measure HIV incidence, the gold standard in HIV prevention trials. However, the balance of covariates between study groups at baseline and the consistency of effects across outcomes suggest that the intervention was probably effective in reducing HIV and HSV-2 infections.” (Emphasis added.)
## Different Methods for Different Goals

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<th>Common Methods:</th>
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<td>Role of Multiple Factors</td>
<td>Multi-method studies</td>
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Efficacy and Effectiveness

- **Efficacy**: is the improvement in health outcome achieved in a research setting, in expert hands, under ideal circumstances: it measures the *individual-level* effect of an intervention.

- **Effectiveness**: is the impact an intervention achieves in the real world, under resource constraints, in *entire populations*, and in specified *sub-groups of a population*.

Effectiveness is a **contingent** outcome of:

- the collective activity of a diverse range of actors both human and non-human, including the technologies themselves
- scientific practices and clinical services
- legal decisions and environments
- norms, values, and discourses that animate human behaviour/practice.

Race (2011); Haraway (2011); Michaels & Rosengarten (2010)
Efforts to combat HIV among women need to engage underlying social and environmental factors/determinants that contribute to vulnerability.

Drawing causal linkages between social and environmental factors and HIV is complicated by:
- Complex, nonlinear and interactive relationships between drivers/determinants and HIV
- Importance of specific local contexts.

Non-traditional methods/approaches required
- Start from place of “sociological plausibility”
- Draw from epidemiological as well as social science data.
- Observational, modeling, triangulated methods tell stories of what worked and can work

Changing risk environment may not show HIV outcome in short term. Does it count and should it be supported as HIV prevention?

Social change is inherently political
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