HIV Prevention
What Do We Do Next?

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Los Angeles
2007 National HIV Prevention Conference
Promoting Synergy Between Science and Program
Conference Program

December 2–5, 2007
Hyatt Regency Atlanta & Atlanta Marriott Marquis
Atlanta, Georgia
HIV
Some Major Successes

- Anti-retroviral medications
- Prevention of mother-to-child transmission
- Declines in risk behavior among youth
  - Delay on onset of first intercourse
  - Condom use at first and last intercourse
- Harm Reduction: syringe access and drug treatment
- Male circumcision
HIV
Some Major Successes

- HIV voluntary counseling and testing
  - Rapid HIV testing technology
  - Provider-initiated counseling and testing
  - Impact on HIV+ persons
  - Couples counseling and testing
  - Family and household based testing
  - Mobile testing
  - HIV testing as a standard of care

- Improved surveillance
HIV Prevention
Some Major Successes

Community-based response
Advocacy and activism
HIV Prevention
Some Country-wide Successes

- Gay communities in US, Europe, and Australia
- Thailand, Uganda, Kenya, Senegal, Zimbabwe
- Urban Rwanda, Burundi, Haiti
- Harm reduction approaches to reduce transmission via sharing of injection equipment
Randomized Controlled Trials (RCTs) for HIV Prevention

- RCTs are an experiment in human beings to test whether a new intervention is more efficacious for HIV prevention than a control comparison (e.g., placebo or standard care)

- Large scale, rigorous studies

- Regarded as the “gold standard of proof” in medicine
## Randomized Clinical Trial Scorecard
(from Wasserheit, U of Washington)

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Completed</th>
<th>Effective</th>
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</thead>
<tbody>
<tr>
<td>Behavior change</td>
<td>7</td>
<td>0 (2)</td>
</tr>
<tr>
<td>Circumcision</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Diaphragms</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Microbicides</td>
<td>9</td>
<td>0 (4)</td>
</tr>
<tr>
<td>PrEP</td>
<td>1</td>
<td>0 (3)</td>
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<tr>
<td>STD treatment</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>Herpes prophylaxis</td>
<td>2</td>
<td>0 (1)</td>
</tr>
<tr>
<td>Vaccines</td>
<td>4</td>
<td>0 (1)</td>
</tr>
</tbody>
</table>

STD Control for HIV Prevention

- Evidence that bacterial and viral STDs are associated with HIV acquisition and transmission.

- Is this association causal?
  - Do STDs cause HIV,
  - or do high risk sexual behaviors cause both STD and HIV infection? (Confounding)

- Needed randomized trials
Results of STD Control for HIV Prevention

- 5/6 trials of bacterial STD control show no benefit
- 2/2 trials of herpes suppression show no benefit
- Preponderance of evidence suggests that control of bacterial or viral STDs does not reduce HIV infection in African populations
- Contrary to prior non-trial evidence
- WHO still recommends STD control for HIV prevention
Microbicide and Diaphragm Trials

- Microbicides are needed to reduce HIV acquisition in women
  - Surfactants (detergents)
  - Buffering and HIV binding agents. No trials completed
  - Antiretroviral drugs. No trials completed
- Diaphragm provides a physical barrier to cervical infection. One trial completed
Results of Trials

- **Surfactants**
  - Cellulose Sulphate, 1 trial, increased risk of HIV acquisition, vaginal inflammation (Van Damme L, 4TH IAS 2007 WESS301)
  - Diaphragm and Lubricant Gel (Padian Lancet 2007)
  - No trial showed benefit, 2 showed significant increased risk of HIV
  - All trials show increased vaginal, irritation, inflammation and micro-ulceration
Why Microbicide/Diaphragm Trials Fail?
Nature 2007; Gray Lancet, 2007; Lugakos NEJM 2008;358:1543

- Need for female controlled methods led to multiple trials with insufficient planning
- Screening of microbicides inadequate, not tested in presence of seminal fluid which inhibits effects on HIV (Patel JID 2007;196:1394)
- High risk populations with frequent intercourse requires multiple use of microbicide resulted in:
  - **Poor compliance**
  - **Vaginal irritation which may increase HIV risk**
- Not tested for safety in pregnancy
  - Use stopped during pregnancy
- Trial failures could discourage future donor funding or participant enrollment
HIV Vaccines evaluated in large-scale trials

- Prevent initial infection
  - Neutralizing antibody vaccines (Vaxgen, 2 trials).
    No evidence of efficacy

- Reduce HIV viral load and disease progression
  - Stimulate cellular immunity to HIV to contain viral replication and prevent disease progression
Vaccines to induce cellular immunity (S Buchbinder CROI 2008)

- Merck MRKAd5 vaccine uses an adenovirus vector (Ad5) to deliver vaccine containing synthetic fragments of HIV genes

- 2 trials stopped due to lack of efficacy and possible harm

- Risk of HIV significantly increased in participants with prior immunity to the Adeno 5 vector
Why have HIV vaccine trials failed?

- We do not know correlates of immunity to HIV, so screening candidate vaccines is problematic (Excler AIDS 2007)
- HIV is rapidly disseminated, targets and depletes immune cells throughout the body
  - Once disseminated intracellular virus cannot be eliminated
  - Vaccines that induce an immune cell responses may actually increase targets for HIV (e.g., Adeno 5) (Sodora AIDS 2008)
Male Circumcision and HIV Prevention

- Multiple observational studies suggest that male circumcision reduces HIV acquisition in men
- **Three randomized trials:**
  - Men randomized to immediate circumcision (intervention) or circumcision delayed for 24 months (controls)
  - Orange Farms, South Africa (Auvert PLoS Med 2005),
  - Kisumu, Kenya (Bailey Lancet 2007)
  - Rakai, Uganda (Gray Lancet, 2007)
  - All trials stopped early because of >50% reduction of HIV infection in the circumcision arm
How does circumcision work?

- Foreskin contains target cells for HIV

Inner surface of foreskin lightly keratinized, vulnerable to HIV

Outer skin heavily keratinized
How does circumcision work?

- Foreskin retracted during intercourse exposure to vaginal secretions
- Foreskin vulnerable to trauma during intercourse causing micro-tears
- Foreskin vulnerable to ulceration
- Moist space under foreskin may prolong HIV survival
Circumcision and Male-to Female HIV transmission Rakai, Uganda (Wawer et al CROI, 2008)

- Circumcision of HIV+ men
  - No direct effect on male-to-female HIV transmission
  - Possible increased risk of HIV to women if the couple resume sex before full wound healing completed
Breast milk HIV Transmission

- Breast milk ~40% of all MTCT in breast feeding populations
- Exclusive breastfeeding can reduce risk, but most women do not exclusively breastfeed
- Formula feeding is unsafe in most African settings
- 14 weeks antiretroviral treatment of infant decreased breast milk transmission by 33-44% and reduced mortality (Taha CROI 2008, 42LB)
- Can the health systems deliver care in Africa??
HAART Treatment

- World total: 2 million people on HAART
- Sub Saharan Africa: 1.3 million people
  - 28% of those in need of ART

Patients on HAART via PEPFAR
HAART cannot control the epidemic

- HAART reduces infectivity but treatment is initiated late in disease
  - ~20% of transmissions in late stage
  - Most transmissions during early or latent infection (Wawer JID, 2005)

- The number of HIV+ persons will increase due to:
  - Longer survival with HAART
  - Continued transmissions
What does not work and what needs to be done?

- **STD control for HIV prevention**
  - STD control is a benefit and should be provided
  - Promoting STD control for HIV prevention is highly questionable

- **Microbicides. Back to basics**
  - Need better screening of products in presence of seminal fluid
  - Must avoid vaginal irritation
  - Improved trial design

- **Vaccines. Back to basics:**
  - Understand immunologic barriers to acute infection
  - Better screening of vaccine candidates
  - Mucosal vaccines to block HIV entry??
What works?

- Biomedical interventions proven to be effective in randomized trials
  - Male circumcision
  - pMTCT
  - HAART

- What is needed for these interventions to be effective?
  - Improved health infrastructure and manpower
  - Political will and funding
  - Acceptance of effective interventions
How do Biomedical and Behavioral Interventions Intersect?

- Biomedical and behavioral interventions are complementary and must be integrated in programs.

- Behavioral and health systems science is needed to increase uptake and compliance with effective biomedical interventions.
Combination Prevention

- Leadership & scaling up of treatment/prevention efforts
- Behavioral Change
- TREATMENT/ ARV/ STI/ ANTIVIRAL
- Highly Active
- HIV Prevention
- Biomedical Strategies
- Social Justice and Human Rights
- Community involvement
November 2005

Partnered Female, 30 years old, Soweto

I: Please tell me about this community? What kind of a community is Mapetla?
P: It is a good community.
I: When did you start living here?
P: I was born here.
I: You were born here? So, what is it that you like about it? What do you like about Mapetla?
P: It is not rough. There is crime but not that much.
I: Are there any problems that you see here in Mapetla? Anything that you see is not right in this community?

P: Yes especially here in the streets. There is too much accidents on the road.

I: What causes these accidents really?

P: You see this tar road here in Mapetla. I think they need robots, because you know cars don’t give each other chances. When someone wants to cross, he doesn’t see as to what is what.
**I:** May I please ask you about HIV, is HIV here in Mapetla a problem or not?

**P:** I can say it is a problem. Cause I mean it is something that we all have inside of us. So it is not as if we can ignore it. Because maybe we tell ourselves that we do not have it. Tell me how we people kill ourselves. Don’t we talk? Even if one of the people in our house has got this thing, it is always a secret. They do not tell others so they may help you, but you are too afraid that they will give you names from out of the street.
I: Do you discuss HIV with your family and friends in general? Is it something you always talk about?

P: Yes, we do talk about that.

I: But what do you really discuss?

P: It is like this we ask each other what would you do if where to find out? With all of us it is a question mark. We don’t know.

I: You also do not know what you’ll do if you found out that you are HIV positive?

P: It was a question mark to us here at home.

I: Hmm, why is it a question mark?

P: Because it is another illness we do not expect in our lives. Our partners are the ones who wander, so, we don’t know maybe it might happen that those partners are the ones who bring this illness. So it means we are scared, eish! It means you wish that it might not happen.
I: Have you ever tried maybe, yourself to tell your partner that he should use condom with you?
P: Yes.
I: How did your partner react on this issue?
P: Eh, sometimes he uses it, sometimes he does not. You know how these men are.
I: Sometimes he doesn’t want to? What is the reason again, why he is not using it sometimes, what is the problem?
P: He said he feels like he is artificial, that it is not himself. He is not original, that it has to be flesh to flesh.
I: Okay, so, but yourself, thinking of your safety how would you feel that time when you tell your partner “use a condom” he said “no”? What do you do?
P: If he doesn’t want to, I will tell him that, you know what, I sometimes feel like there is something wrong or fishy with you. If you are used to a person you know him. If you have stayed with someone for a long time, you know him. So if he doesn’t agree, I will also not agree.
I: The last time you went to the clinic, did you decide that you are going to test when you reached the clinic or did they say you must gotest because you are pregnant?
P: Yes, they told me that.
I: Did they tell you that because you are pregnant you have to test?
P: I did not test for my first child in 2000, I tested with my second born in 2002 when I was very sick. So I thought I would give it a try and go and test again cause I felt sick, only to find out that there was nothing wrong with me I’m still negative.
I: And then how did you feel? You were afraid? What exactly scared you?
P: What scared me is that I was sick. My partner was with the other partner he has somewhere. So that is the thing, that makes me to stress you know. I thought I might lose the child the way I was not okay.
I: You just told me that is your partner who made you sick, so what do you mean? How did he make you sick?
P: The way I see it, because I ended up sick in my private parts. When I went to the doctor, the doctor said to me I have an infection. Hao! Infection how, how did I pick it up? Okay fine we had our ups and downs me and this man. Then I told him that, the doctor said that I am sick and I have an infection, and he said to me that he is not sick. Hao why aren’t you sick? Okay where did I get it from? I realized that “no man, this girl, there is something that she gave to me, I do not believe in muthi of the (Tswanas) but there is something that she gave me.
**I:** How did you find out about the affair of him and that other woman?

**P:** I went there to go and ask money for the child at the end of the month. It has been the whole week since I did not see him. I needed the money for the child and the child must go to crèche and I must also buy food for us. When I went I knocked but he didn’t want to open for me. I then just sat down to wait. When the door opened, I then saw this girl. I then told her that I wanted to talk to him. When he came, I then told him that I would like to see him and asked the child’s money. He then didn’t want to listen.

**I:** Are you and your partner still together? How did you sort this problem out?

**P:** I left him. He came begging again. As he came back to me I never asked him about the girl up to today… never.
18 months later, June 2007

I: Ok, when you were asked about community problems [in the last interview], you said that you spend a lot of time in the house but you noticed that there are many accidents on your main road so has anything changed?
P: Yes, they installed the robots.
I: Ok.
P: Yes, people were getting injured. Some woman died a painful death. She was cut into two.
I: Here in this main road?
P: Yes.
I: Wow!
I: Ok, so have you seen any problems in your community except for the one you mentioned already [traffic]?
P: Crime…Yes more especially rape.
I: Are there many rape incidences here?
P: It happens a lot. More especially on young children who can’t fight for themselves. They can’t fight with the rapists. It breaks my heart.
I: Have you also had that problem here in Mapetla?
P: Yes. Here in my neighborhood. The culprit got arrested…Right here on our street. But he did it again after that.
I: Yes.
P: My husband’s niece…was raped by that guy. She was eight years old at the time. The police (…) do not take it seriously. Our children are being victimized. And that affects them.
I: I would like to know how you are and how your family is more especially your children, are they ok?
P: I’m fine. But I lost the father of my children. I lost the father of my children last year.
I: Do you mean that he passed away?
P: Yes.
I: Ok, what went wrong?
P: He was sick.
P: He was sick for just a short period. He suddenly became sick. By the time he was taken to hospital it was too late.

I: So for how long was he at the hospital?
P: He only stayed there for three days.
I: Oh, but were they able to see what killed him?

P: I think that medical doctors could not find out what was wrong with him because his illness was not a medical one but traditional.
I: Traditional? So you think it was a traditional issue?
P: Yes.
I: Not a medical one?
P: Yes I think so.
P: When I ask him what is wrong, he told me that he was fine. He told me that he is not sick. Then I would say, If the doctor can’t find the problem, then we have to consult another doctor.

I: Yes, another one.

P: For a check up. One day when I was just sitting at home. I made that call, I asked to speak to the doctor. I asked the doctor what was wrong with my husband. He said I should come to his surgery on weekend because then he will be able to tell me what is wrong, and then I became scared.

I: Mmm, you started to wonder what was happening.

P: Yes. They told me that I have to. When I went to see the doctor; he told me that my husband has pneumonia. He told me that my husband is very sick. It is a serious thing. Sometimes you don’t survive, it kills you…but he gave him an injection so that he can rest and said I should go and see him. That was the last time I saw him. When they called me, they said he passed away.
I: Before, you were suspecting HIV?
P: Yes.
I: Were you suspecting HIV because of something he did?
P: He was a busy person.
I: Mmm.
P: Yes.
I: Ok.
P: He was the kind of a person whom when I went to the country, he would bring different women in our house.
I: Do you have somebody to talk to when you don’t feel ok?

P: Yes. Mmm it’s just that if you lived with someone for a long time, it’s hard to forget them.

I: Yes.

P: It’s difficult. But anyways, they say life goes on right? I become very stressed and ask myself why he left me with our kids being so young.

I: Yes.

P: We are still young, and I thought we still have a long road to travel together.

I: That you were still going to travel together.

P: But when God wants him, there’s nothing we can do.
I: Since you say many people die because of HIV, is there anything that is being done by the community to show people that…?
P: Everyone relies on themselves.
I: Yes.
P: We don’t have solidarity, people are jealous of each other.
I: Yes.
P: Yes, we are jealous of each other, we don’t have that spirit…
I: Of togetherness?
P: Yes.
I: As a community (mmm).
P: We don’t have it.
NIMH Project Accept: HPTN 043

- Phase III randomized controlled trial to determine the efficacy of a community-level intervention in reducing HIV seroincidence and stigma in entire communities

- Randomizing 48 communities:
  - 8 in rural Zimbabwe
  - 10 in rural Tanzania
  - 8 in Soweto, South Africa
  - 8 in rural KwaZulu Natal, South Africa
  - 14 in Northern Thailand
Project Accept: Protocol Team

- David Celentano ScD, Johns Hopkins
- Alfred Chingono PhD, University of Zimbabwe
- Thomas J. Coates PhD, UCLA, Chair
- Deborah Donnell PhD, SCHARP, Seattle
- Chris Gordon PhD, NIMH
- Glenda Gray MBChB, Perinatal HIV Research Unit, South Africa
- Michal Kulich PhD, Charles University, Prague
- Stephen F. Morin PhD, UCSF
- Jessie Mwambo MD, Muhimbili National Hospital, Tanzania
- Michael Sweat PhD, Medical University of South Carolina
- Linda Richter PhD, University of KZN and Human Sciences Research Council, South Africa
The Three Strategies of Project Accept

Community Mobilization
- Community Buy-in
- Support at the highest levels
- Testimonials from early adopters
- Event testing
- Linkage to other community goals

VCT
- Mobile Vans
- Rapid testing
- Routine VCT
- Adequate counseling

PTSS
- Discussion
- Disclosure
- Partner Referral
- Linkage to Services
~25% of sexually active Zimbabwean adults are infected with HIV, yet only a small percentage know their HIV status.
ACCEPt CHANGE!
MAKE A DIFFERENCE IN LIFE!
KNOW YOUR HIV STATUS!

WE OFFER:
- Free Community-based voluntary counselling and testing for HIV (CBVCT)
- Same day results using rapid test
- Referral to existing support services in the community for people who have tested for HIV

Look out for our caravan in your area!

Contact us at:
New Nurses’ Home, First floor, East Wing, Chris Hani Baragwanath Hospital, Soweto
Tel: 989-9700, 989-9895
Trial Design & Sustainability

- **Community-level**
  - Goal is sustainable change in community norms
  - Diffusion model; participation of partners
  - Repeat cross-sectional design; household probability samples

- **Multi-level**
  - Community preparedness and mobilization (community)
  - VCT (individual & increased proportion aware of status)
  - PTSS (individual & development of advocacy)
The Intervention

- Community-level
  - Goal is sustainable change in community norms
  - Diffusion model; participation of partners
- Community Mobilization
- Mobile and Rapid Counseling and Testing for HIV
- Post-Test Support Services
Community Mobilization

This component of the intervention is based on diffusion of innovation theory and uses community outreach to increase awareness of HIV status through HIV testing, education and encouraging discussion in the community. Endpoints:

- increase HIV/AIDS-related awareness
- increase rate of HIV testing
- increase frequency of discussions about HIV
- reduce HIV/AIDS-related stigma at community level
The Village Drummer Announces Project Arrival
CM Activities

<table>
<thead>
<tr>
<th>Site</th>
<th>Time in field</th>
<th>Current Total</th>
<th>36 Months Projection</th>
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<tbody>
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<td>Thailand</td>
<td>25 Months</td>
<td>1155</td>
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<tr>
<td>Zimbabwe</td>
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<tr>
<td>Tanzania</td>
<td>23 Months</td>
<td>2496</td>
<td>3907</td>
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<tr>
<td>Soweto</td>
<td>21 Months</td>
<td>1987</td>
<td>3406</td>
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<tr>
<td>Vulindlela</td>
<td>21 Months</td>
<td>976</td>
<td>1673</td>
</tr>
</tbody>
</table>

Site - Time in field
Crowd pullers often CBOV and COWS
Community drama
Couples’ Counseling Campaign

Karibu Kwenye

Maonyesho ya Video!

Wapi: ___________________________
Lini: ___________________________
Saa Ngapi: _______________________

Pima na mwenzi wako kusalimisha
Mobilisation through social networks

Msimude High School Pageant

Peer Educator Graduation
Social events: Soccer tournament
**Mobile VCT**

This component of the intervention is based on tipping point theory and is designed to remove practical barriers (fees, inconvenience, waiting times for results) and increase the proportion of communities aware of their HIV status.

Endpoints:

- increase rates of HIV testing
- Increase in awareness of status is a social norms
- increase the frequency of discussions about HIV in communities
- decrease behavioral risk for HIV
“Plan for Tomorrow – Get HIV Tested Today”
Project Accept Vans Deployed in Soweto
CBVCT: Current and projected uptake
Uptake of HIV Testing among Residents by Randomized Community – Thailand, Zimbabwe, Tanzania (initial 12 months)
Age Distribution

- Thailand: 37.8% Younger, 62.2% Older
- Zimbabwe: 52.5% Younger, 47.5% Older
- Tanzania: 50.7% Younger, 49.3% Older
- Soweto: 54.5% Younger, 45.5% Older
- Vulindlela: 69.9% Younger, 30.1% Older

Legend: Younger (30 years or less), Older (More than 30 years)
Gender Distribution

- Thailand: 50.3% Male, 49.7% Female
- Zimbabwe: 55% Male, 45% Female
- Tanzania: 66.9% Male, 33.1% Female
- Soweto: 50.2% Male, 49.8% Female
- Vulindlela: 53.4% Male, 46.6% Female
The third component of the intervention is based on a social action theory and is designed to develop a core group of change agents to respond to community level stigma, build psychosocial support to improve the quality of life for individuals diagnosed with HIV and help those who are HIV-negative to stay negative. Endpoints:

- increased disclosure
- increased effectiveness in coping with HIV
- decreased behavioral risk
- decreased community-level stigma
Crowd pullers often CBOV and COWS
Community drama
Poetry in community venue
Mobilisation through social networks

Msimude High School Pageant

Peer Educator Graduation
Social events: Soccer tournament
PTSS Activities

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**Site - Time in field**

<table>
<thead>
<tr>
<th>Site</th>
<th>25 Months</th>
<th>24 Months</th>
<th>23 Months</th>
<th>21 Months</th>
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<tr>
<td>Vulindlela</td>
<td></td>
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</table>
NIMH Project Accept
Years 6-8

- Year 7: Post-Intervention Assessment
  - N ~ 56,000 for biological samples
  - N ~ 13,000 for behavioral data
  - Finalize cost data
  - Finalize qualitative cohort data

- Year 8: Study Completion/Close Out
  - Process and clean data; provide results to subjects
  - Analyze primary and secondary endpoints
  - Cost-effectiveness analysis
  - Qualitative analysis
  - Fulfill ethical obligations to control communities
  - Transfer methods to NGOs and health ministries
Thank you!
2+ million ➤ <1 million
Global summary of the AIDS epidemic
December 2007

Number of people living with HIV in 2007

<table>
<thead>
<tr>
<th>Category</th>
<th>Total</th>
<th>[ ] 30.6 – 36.1 million</th>
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<tbody>
<tr>
<td>Total</td>
<td>33.2 million</td>
<td>30.6 – 36.1 million</td>
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<tr>
<td>Adults</td>
<td>30.8 million</td>
<td>28.2 – 33.6 million</td>
</tr>
<tr>
<td>Women</td>
<td>15.4 million</td>
<td>13.9 – 16.6 million</td>
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<tr>
<td>Children under 15 years</td>
<td>2.5 million</td>
<td>2.2 – 2.6 million</td>
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</table>

People newly infected with HIV in 2007

<table>
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<tr>
<th>Category</th>
<th>Total</th>
<th>[ ] 1.8 – 4.1 million</th>
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<tbody>
<tr>
<td>Total</td>
<td>2.5 million</td>
<td>1.8 – 4.1 million</td>
</tr>
<tr>
<td>Adults</td>
<td>2.1 million</td>
<td>1.4 – 3.6 million</td>
</tr>
<tr>
<td>Children under 15 years</td>
<td>420 000</td>
<td>350 000 – 540 000</td>
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</table>

AIDS deaths in 2007

<table>
<thead>
<tr>
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<th>Total</th>
<th>[ ] 1.9 – 2.4 million</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>2.1 million</td>
<td>1.9 – 2.4 million</td>
</tr>
<tr>
<td>Adults</td>
<td>1.7 million</td>
<td>1.6 – 2.1 million</td>
</tr>
<tr>
<td>Children under 15 years</td>
<td>330 000</td>
<td>310 000 – 380 000</td>
</tr>
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</table>
Step 1: More Rapid Rollout of Effective Strategies

- VCT
- ARV Access
- PMTCT
- Male Circumcision
- Syringe Access
- Drug Treatment
Step 2: Focus on youth

- 60% of new infections are women
- 68% are in sub-Saharan Africa
- Majority are under age 25
- 11.4m orphans
- 500,000 children under 12 with HIV
- Need to include young men
Step 3: Education

- Address education, and especially safe education for young women

- Address the need for young men to become educated
Step 4: Equity--Gender

- Move from rhetoric to action
- “Gender” does not equal “women”
- Need to avoid making men the enemy
- But notions of masculinity must evolve
Step 5: Advocacy and Accountability

Local leadership
Local community response
Local/global accountability
Including all government, ASOs, foundations
Domestic HIV Prevention

Before: 45,000 ➤ 25,000

Now: 60,000 ➤ 30,000

Washington Post, Dec 1, 2007
Domestic HIV Prevention

Step 1: Focus
HIV Prevalence 10%  
HIV Prevalence 1%

- Varghese et al, Sex Transm Dis 2002
HIV Prevalence, NHANES 1999-2002

- McQuillan et al, NCHS: JAIDS April 2006
AIDS Diagnoses and U.S. Population by Race/Ethnicity, 2006

AIDS Cases

- White, not Hispanic: 30%
- Black, not Hispanic: 49%
- Hispanic: 19%
- Asian/PI: 1%

U.S. Population

- White, not Hispanic: 66%
- Black, not Hispanic: 12%
- Hispanic: 15%
- Asian/PI: 5%
Size of the Risk Groups

Men

~ 27\% : Black/Hispanic MSM
~ 16\% : Black/Hispanic Non-MSM
  → 7\% heterosexual ; 9\% IDU

~ 24\% : White MSM
~ 3\% : White Non-MSM Men
  → 1\% heterosexual ; 2\% IDU
Size of the Risk Groups
Women

~ 19% : Black/Hispanic Heterosexual Women
~ 5% : Black/Hispanic Female IDU
~ 4% : White Heterosexual Women
~ 2% : White Non-Heterosexual Women
Step 2: Access

Goal 1
Equal Serostatus Knowledge

Goal 2
No Differential Mortality
Blacks Less Likely to be Aware of HIV Status

Limited Seeking and/or Access to HIV testing

Among HIV-infected MSM (15-29 years of age), the following proportion unaware of status

- 91% of Blacks
- 69% of Latinos
- 60% of Whites

• Lack of knowledge of HIV seropositive status is associated with higher risk behaviors
• Large proportion of HIV infections is thought to be from those unaware of status
Disproportionate Mortality in Blacks versus Whites with HIV in HAART ERA

Black/White MRR * (95% CI)

<table>
<thead>
<tr>
<th>Gender</th>
<th>Age Group</th>
<th>MRR (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Men</td>
<td>25-34 yrs</td>
<td>6.4 (6.1-6.6)</td>
</tr>
<tr>
<td></td>
<td>55-64 yrs</td>
<td>9.5 (9.0-10.0)</td>
</tr>
<tr>
<td>Women</td>
<td>25-34 yrs</td>
<td>13.2 (12.4-14.1)</td>
</tr>
<tr>
<td></td>
<td>55-64 yrs</td>
<td>13.6 (12.1-15.2)</td>
</tr>
</tbody>
</table>

- Less access to care
- Less access to prevention messages
- Less access to ART
- Ineffective ART
- Limited adherence

Step 3: Stimulants

New treatment strategies
Community leadership
Supply side interruption
Stimulant use among MSM
CDC NHBS survey (n = 10,030)

- 12 month prevalence of stimulant use
  - 37% cocaine
  - 27% methamphetamine
  - 9% crack
  - 74% of substance users reported being under the influence during sex

- Annual prevalence of above substances in general population: 2.3% cocaine, 0.5% meth, 0.6% crack (2005 National Survey on Drug Use).
Stimulant use among MSM

CDC NHBS Survey: SF Data

- 12 month prevalence of meth
  - Asian/Pacific Islanders = 24%
  - Latinos = 19%
  - Whites = 19%
  - African-Americans = 18%

- 12 month prevalence of cocaine
  - Asian/Pacific Islanders = 9%
  - Latinos = 20%
  - Whites = 19%
  - African-Americans = 12%
## HIV Incidence by Frequency of Stimulant Use, EXPLORE

### Overall Seroincidence 2.1/100 p-yrs

<table>
<thead>
<tr>
<th>Frequency of use</th>
<th>HIV incidence</th>
<th>% of cohort</th>
<th>% of infections</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>1.6</td>
<td>75%</td>
<td>56%</td>
</tr>
<tr>
<td>Less than weekly</td>
<td>3.4</td>
<td>20%</td>
<td>32%</td>
</tr>
<tr>
<td>Weekly or more</td>
<td>6.4</td>
<td>5%</td>
<td>12%</td>
</tr>
</tbody>
</table>
Step 4: Time to prepare ASOs for change!

- Strategies
- Expertise
- Delivery Methods
Step 5: Advocacy/Accountability
National HIV Prevention Plan

Clear goals
Implementable strategies
Measurable outcomes
Sufficient resources
Step 5: Advocacy/Accountability

Research matching needs

What would we do with 2x the research budget?
Move the bi-annual IAS Conference from rhetoric to accountability and action
Onto The Future!