

Session B3: HIV Prevention - Using Strategic Information to Identify and Address Prevention Priorities

Analysis of Prevention Response and Modes of HIV Transmission In Kenya, Lesotho, Mozambique, Swaziland and Uganda

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Outline

- Emerging evidence and rationale
- How this was done – Tools, Analytic Components, Process & Partnerships
- Lessons Learned
- Future Outlook & How We Would Do This Differently

Emerging evidence and rationale

Emerging evidence

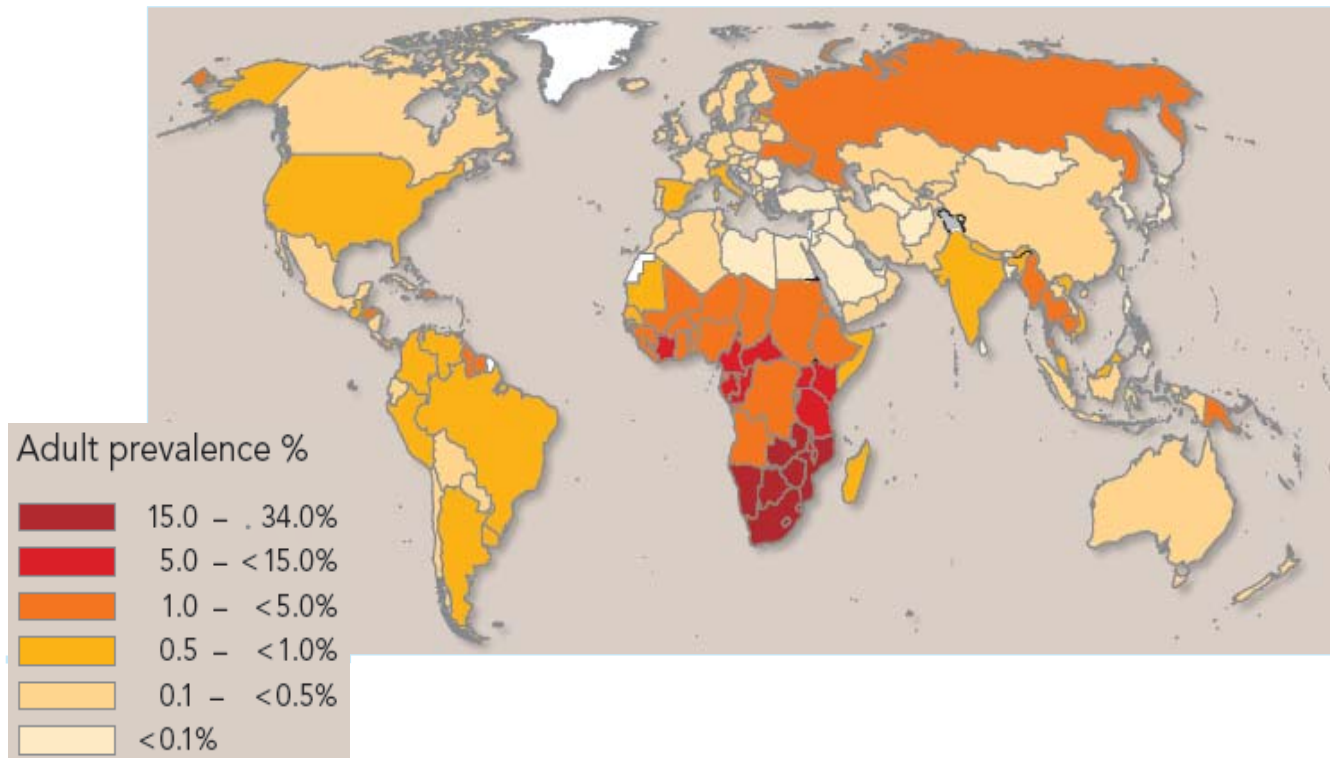
- 1. Varied epidemics between and within countries.**
- 2. Poor analysis of evolving country epidemics leading to poor strategic focus and continued misallocation of responses.**
- 3. Inadequacy of prevalence data in directing attention to evolving priorities for response.**
- 4. Poor understanding of HIV incidence in countries further limits prevention planning efforts.**
- 5. Weak leadership for prevention resulting in lack of coordination, accountability and technical direction for prevention.**

A global view of HIV infection

33.2 million [30.6–36.1 million] people living with HIV, 2007 – **two-thirds in sub-Saharan Africa**

2.5 million [1.8 – 4.1 million] new infections, 2007 – **two-thirds in sub-Saharan Africa**

2.1 million [1.9 – 2.4 million] AIDS-related deaths, 2007 – **3 out of 4 in sub-Saharan Africa**

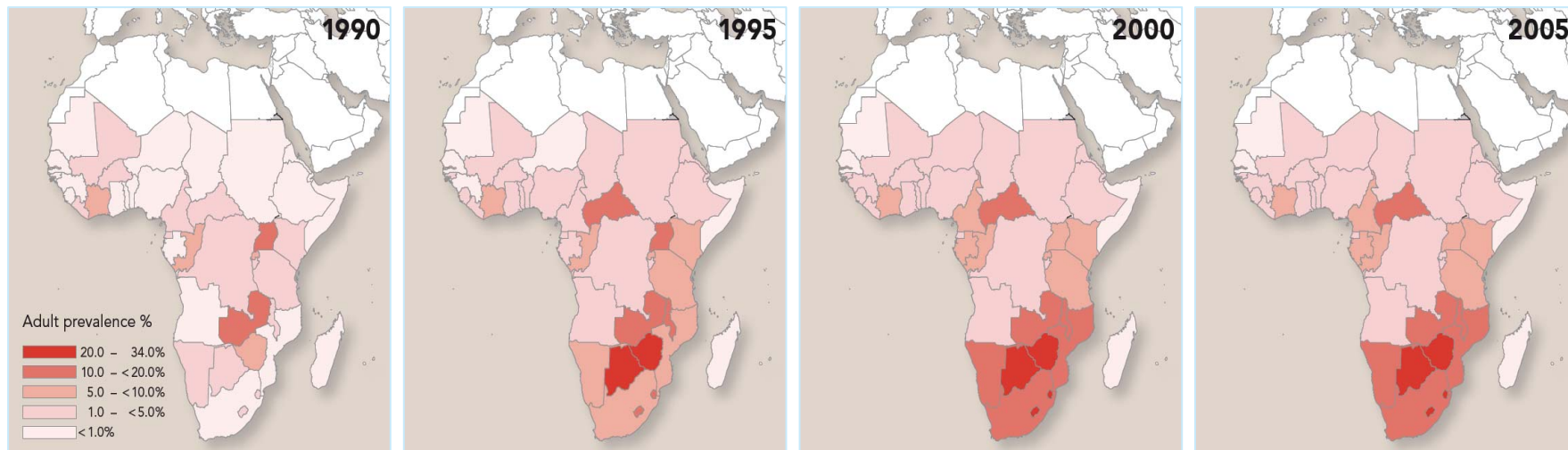


HIV prevalence in adults in sub-Saharan Africa, 1990–2005

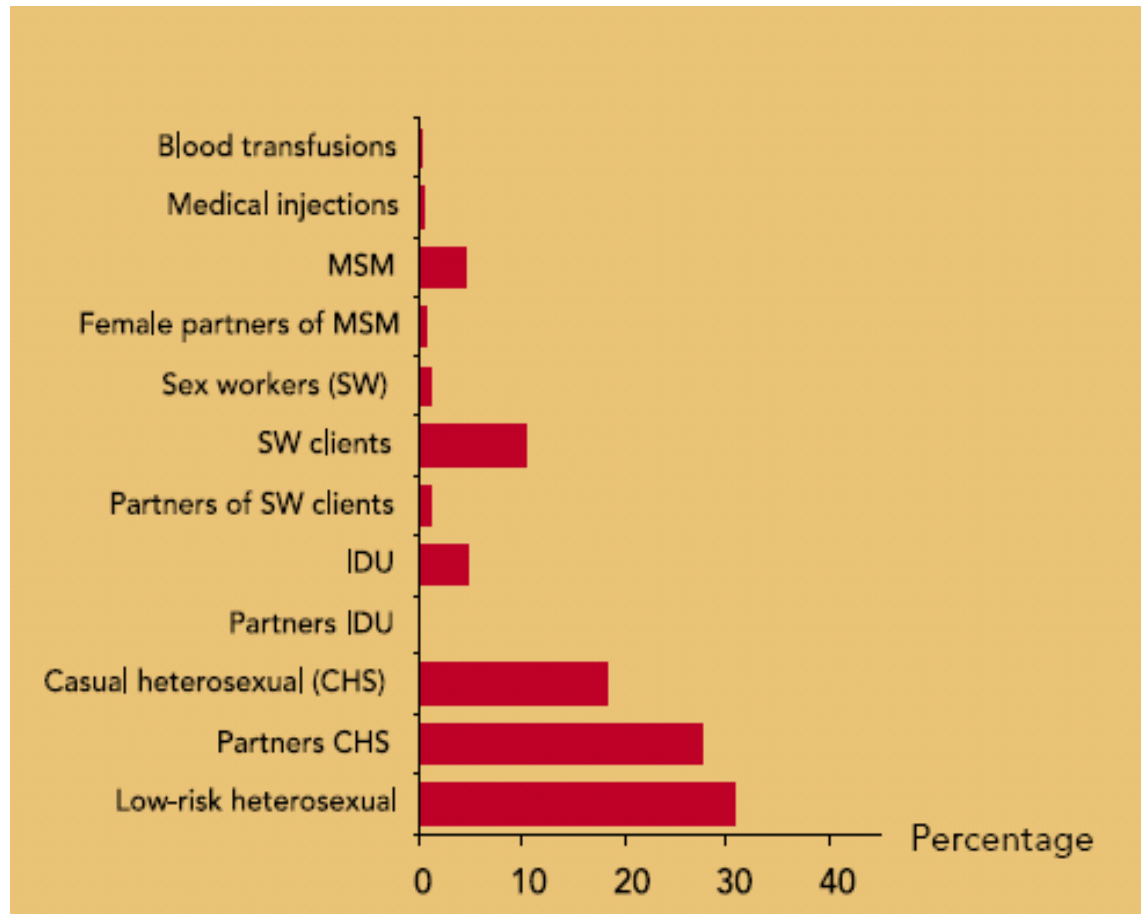
Epidemic not uniform in sub-Saharan Africa

By end 2007, countries in east Africa moving towards stabilization or decline

By end 2007, most countries in southern Africa plateauing



In-Country Heterogeneity: Risk variations in Kenya



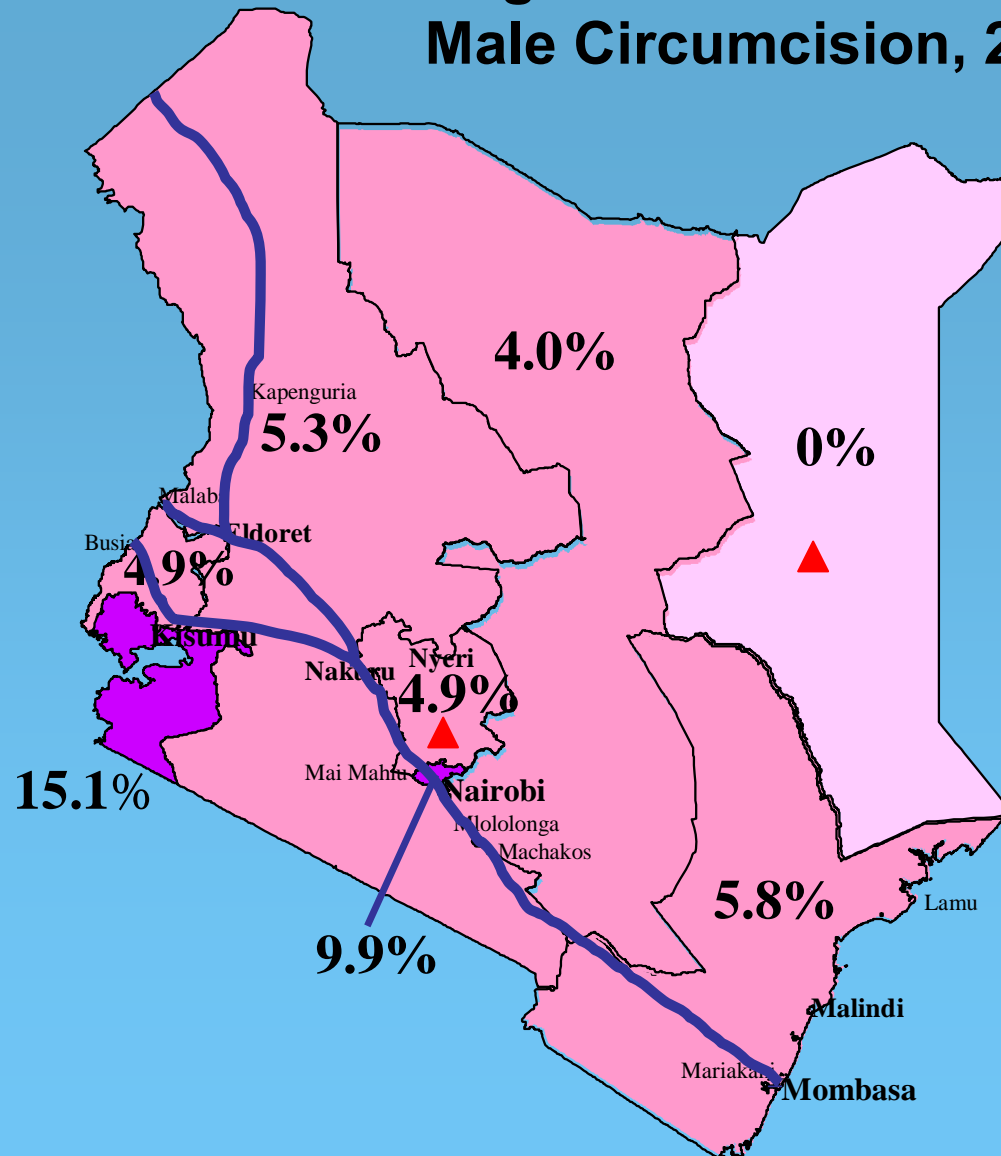
Source: Gouws et al, June 2006

Regional Variation in HIV prevalence and Male Circumcision, 2003

Kenya: 6.7%

- Greater than national average
- Less than national average
- No significant prevalence of HIV
- ▲ High Male Circumcision

(*No HIV positive tests among the sample of 108)

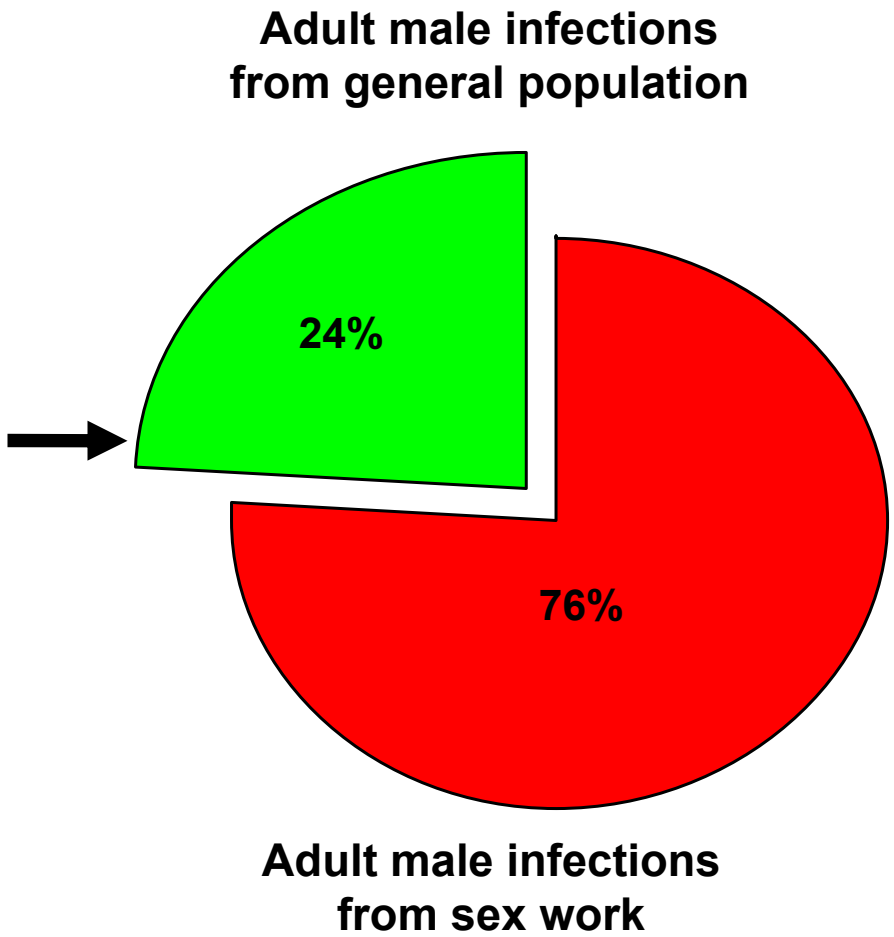
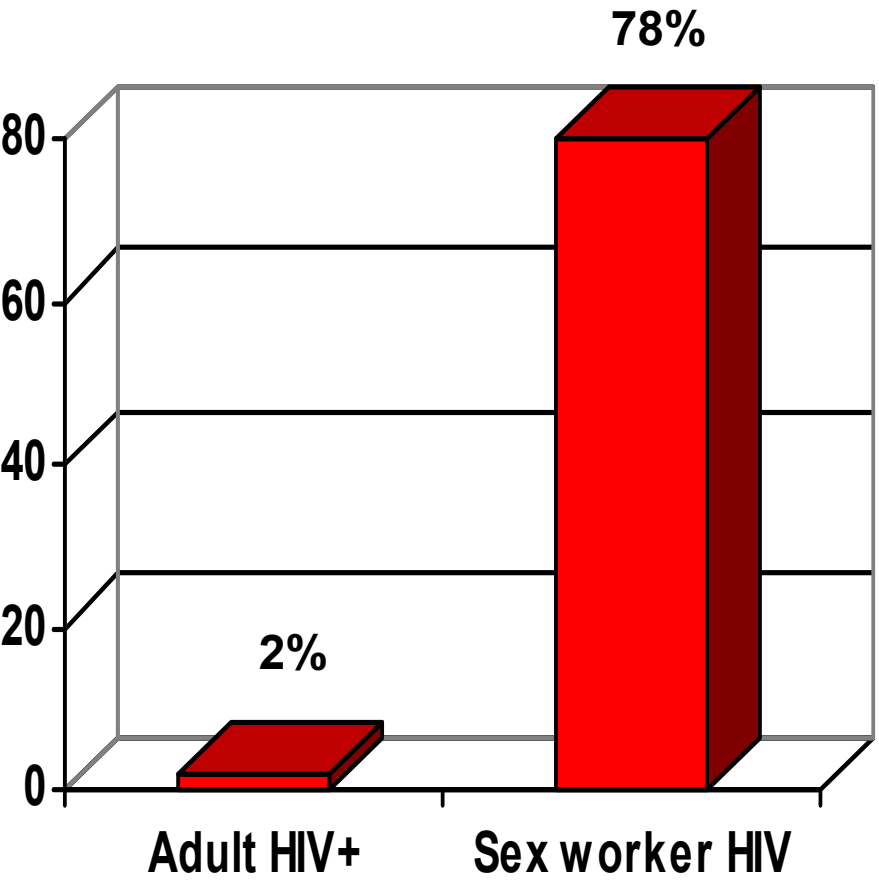


Black lines = Provincial boundaries

Blue lines = Main highways cutting through Kenya to Uganda and Sudan

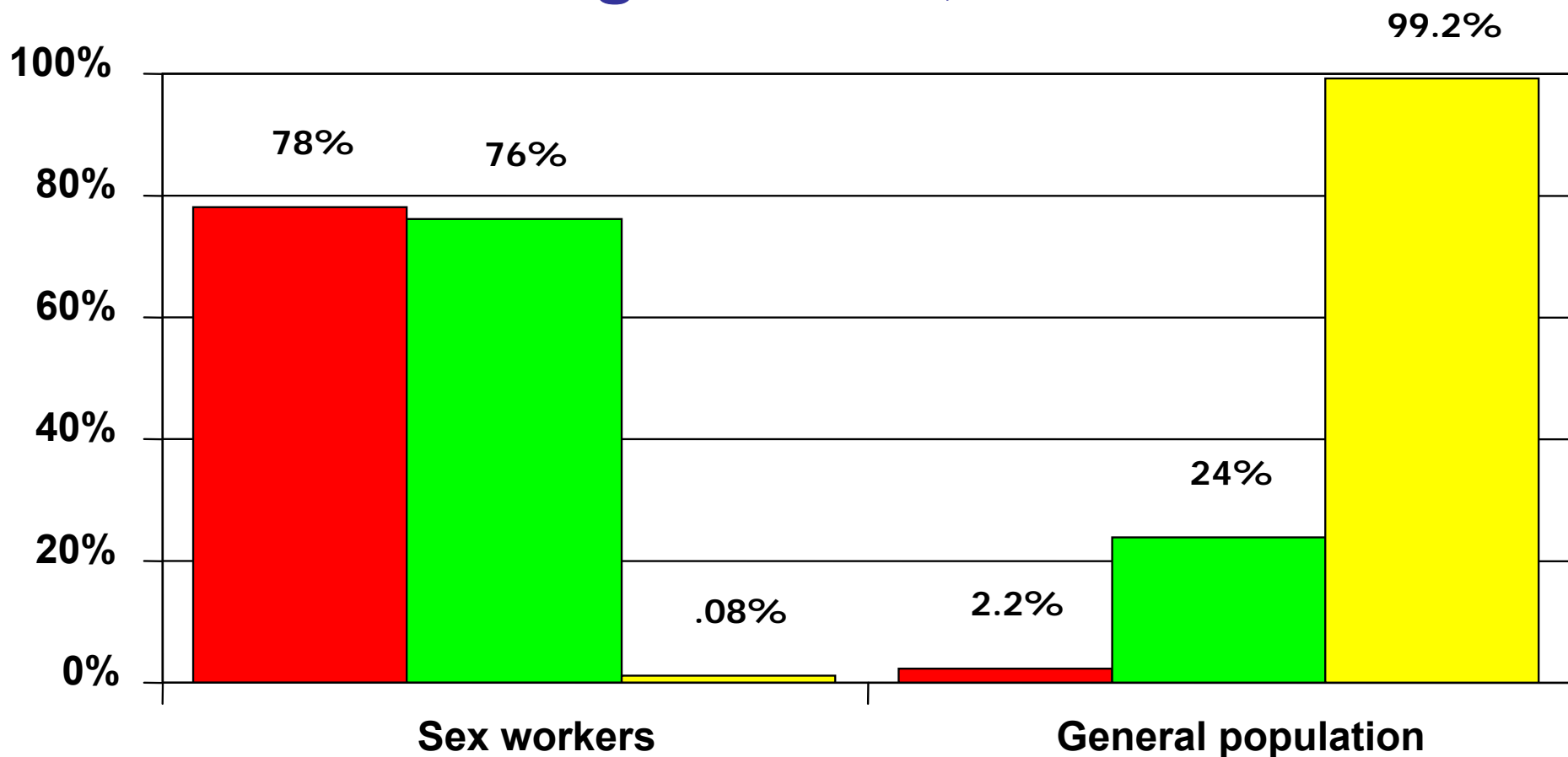
Source: Kenya DHS 2003

HIV Prevalence & Transmission Sources in Accra, Ghana



Sources: Cote et al, 2005, cited in Wilson, D, 2007

HIV Prevalence, Transmission Sources Funding in Accra, Ghana



 HIV prevalence  Transmission sources  Funding

m of Modes of Transmission Process

To complement “**Know Your Epidemic**” and “**Know your Responses**” efforts: improve strategic decisions about HIV prevention responses

Key objective:

Help countries become more systematic in the approach to prevent

- **Use of strategic information:** Strengthen the country’s use of available strategic information about the HIV epidemic, HIV prevention response funding for HIV prevention through different meta-analysis techniques.
- **Evidence-informed planning and decisions:** Translate this knowledge into improved national prevention strategies, plans and budgets.
- **Strengthening leadership:** Formalize or strengthen a national leadership forum for prevention.

EVIDENCE-INFORMED HIV PREVENTION STRATEGY

COST-EFFECTIVENESS ANALYSIS

PRIORITIES FOR PREVENTION

Identifying gaps in research, M & E

MOT SYNTHESIS

NASA

UNGASS

JAPR

New data collection about HIV prevention

NATIONAL RESPONSE MONITORING

SURVEYS & RESEARCH

How this Was Done?

MOT Process

June 2007:
1st Working Group Meeting:
UNAIDS, SADC, WB, CDC, UNICEF, UNFPA, HAD

Results:
- Agreed to undertake process in 6 – 8 countries

July 2007:
2nd Working Group Meeting:
UCCs ESA, WCA; HDA

Results:
- Definition of tools
- Country Selection
- Costed Workplan

October 2007:
NAC Directors' Meeting
(Kenya, Lesotho, Mozambique, Swaziland, Uganda)
UNAIDS, UNFPA, SADC, WB

Results:
- Agreement on Country process

October to Date:
- Formalization of UNAIDS/WB collaboration
- 5 country studies
- Team recruitment
- Country partner orientation
- Team Training
- Data gathering
- Data analysis
- Draft report writing

Target Completion Date: July 31st 2008

Analytical Components

Epidemiological review of quality existing data:

- examine trends in general population and specific groups (age most at risk groups) and describe local factors affecting their risk

Model the incidence based on existing data:

- establish where next infections likely to occur.

Review of HIV prevention response:

- examine the current national prevention programme and distribution of resources for response.

Review of resources for HIV prevention

- Match the HIV prevention funding to HIV prevention response categories

A. Managing data for Epidemiological Review & Incidence Modelling

Existing Data Sources

- Surveillance, MOH statistics
- Household surveys
- Special studies (special populations, qualitative & KAP studies)
- DHS, Behavioral Surveys
- Prevention spending, service statistics
- Published & grey literature (national, regional, international)
- Information from key informants

Establish clear quality criteria

Record decisions & select data for inclusion in epi review and modelling

Code up epi data using pre-agreed categories

Identify data gaps

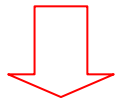
Incidence Modelling

spreadsheets analyzing distribution of infections based on major modes of transmission (sexual, IDU, transfusion, injections) will use

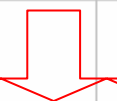
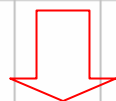
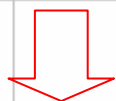
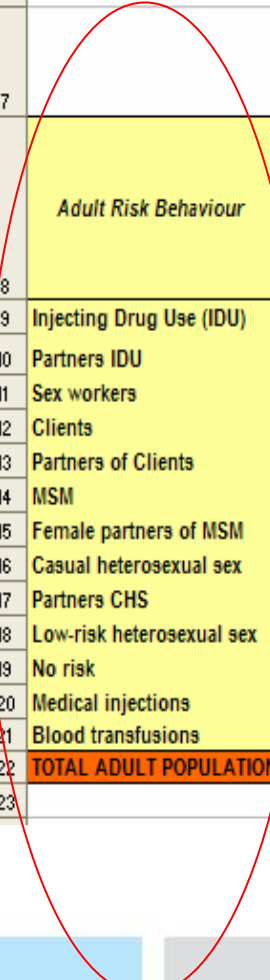
- the current prevalence of HIV infection
- numbers of individuals with particular exposures, and
- the rates of these exposures

calculate the *expected incidence of HIV infection over the coming year*

analyzes incidence in low risk heterosexual sex and casual sex groups 15 – 24 years, 25+ years and effect of age mixing.



	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	
1	Country:	Example ctry					Blue cells: Input necessary					Transmission per act						
2	Adult (15-49) population size	20,000,000					Peach cells: Input optional					Male -> female		0.0020				
3	Adult (15-49) HIV prev. (%):	6.7					Orange cells: Output					Female -> male		0.0020				
4												% men circumcised		0.0%				
5												STD cofactor		3				
6	Use either method 1 or 2 to determine number with risk behaviour for each group (column F).																	
7	Method 1: Percent of population with risk behaviour (%)		Method 2: Population with risk behaviour									Transmission probability per risky exposure act						
8	Adult Risk Behaviour	Male	Female	Male	Female	Total number with risk behaviour	Prevalence of HIV (%)	Number HIV+	Prevalence of STI (%)	Number of partners per year	Number of acts of exposure per partner per year	Percentage of acts protected (%)	with STI	No STI	Incidence	% of incidence	Incidence per 100,000	
9	Injecting Drug Use (IDU)	0.30%				30,000	20.0%	6,000	3.5%	5	50	50%	NA	0.01	4,879	2.41	16,263	
10	Partners IDU		0.15%			15,000	12.0%	1,800	NA	1	70	7%	0.0060	0.0020	341	0.17	2,275	
11	Sex workers		0.65%			65,000	40.0%	26,000	65.0%	163	4	65%	0.0060	0.0020	1,850	0.91	2,846	
12	Clients	2.90%				290,000	8.1%	23,490	15.0%	16	9	65%	0.0060	0.0020	23,857	11.79	8,227	
13	Partners of Clients		1.45%			145,000	9.0%	13,050	NA	1	70	7%	0.0060	0.0020	1,630	0.81	1,124	
14	MSM	1.00%				100,000	20.0%	20,000	15.0%	3	10	35%	0.0300	0.0100	3,800	1.88	3,800	
15	Female partners of MSM		0.50%			50,000	15.0%	7,500	NA	1	50	7%	0.0060	0.0020	953	0.47	1,907	
16	Casual heterosexual sex	26.89%	12.41%			3,929,820	13.1%	513,971	7.0%	2	35	35%	0.0060	0.0020	44,719	22.10	1,138	
17	Partners CHS	9.93%	21.51%			3,143,856	6.5%	205,588	NA	1	70	7%	0.0060	0.0020	52,390	25.89	1,666	
18	Low-risk heterosexual sex	36.73%	37.53%			7,426,324	7.5%	556,974	3.5%	1	70	7%	0.0060	0.0020	66,596	32.91	897	
19	No risk	22.25%	25.80%			4,805,000	0.0%	-	0.0%	0	0				0	0.00	0	
20	Medical injections					20,000,000	6.7%		NA	2.2	1	80%	NA	0.002	1,114	0.55	6	
21	Blood transfusions	0.50%	0.50%			100,000	6.7%		NA	1	1	96%	NA	0.9	244	0.12	244	
22	TOTAL ADULT POPULATION	100%	100%			20,000,000	6.87%	1,374,374						Total incidence	202,375		1,012	
23														Total incidence in partners of high-risk individuals	55,315	27.333	1,649	



Limitations of the Model

- Model uses crude groupings of the population according to the main exposure to HIV infection
- Results are only as good as the data entered into the spreadsheet
- Model does not take account of distribution of behaviours within risk groups, mixing patterns, and influence of specific STI's

However:

- It does allow the user to identify where most of the new infections will be found, and
- The relative order of magnitude of incident infections possible within risk groups

C. Review of Prevention Response

- **Two Part Interview Tool:** What should be done **vs** What is Being Done
- **Adapted from** “Practical Guidelines for Intensifying HIV Prevention: Towards Universal Access” (**UNAIDS 2007**)
- **Part One: 3 checklists for action in hyperendemic contexts:**
 - Policy Actions
 - Strategic Information required for a prevention response
 - Programmatic Actions
- **Part Two: Assessment of HIV Prevention Programmes to Address Needs of Specific Target Groups**
 - Implementers
 - Coverage
 - Programmatic Scope, Key Messages
 - Scale of Coverage

Bringing it All Together - National Synthesis Report

Where (in which sub-populations and in which geographic areas) are the most new infections occurring and why?

What does behavioural data say about priority groups? (Who should we be focusing on for HIV prevention?)

Where should we be reaching them?

What are we doing at the moment, where and with what resources?

What is the degree of alignment between what/where we are spending on and what we should be doing?

Lessons Learned

Quality Control, Leadership, Partnership

- **Technical team/Study Team**

- Country Study Focal Point (NAC, UNAIDS)
- Team leader/Lead epidemiologist (UNAIDS/GAMET)
- Prevention lead
- Modeling lead (and supporting epidemiology review)

- **Technical steering committee**

- Prevention Reference Group
- Advises the study team
- Multi-disciplinary and multi-sectoral team made up of technical focal points on prevention (government, international partners, civil society)
- Specialized peer review committees (e.g. modeling – Uganda)

- **NAC-led Policy Steering Committee**

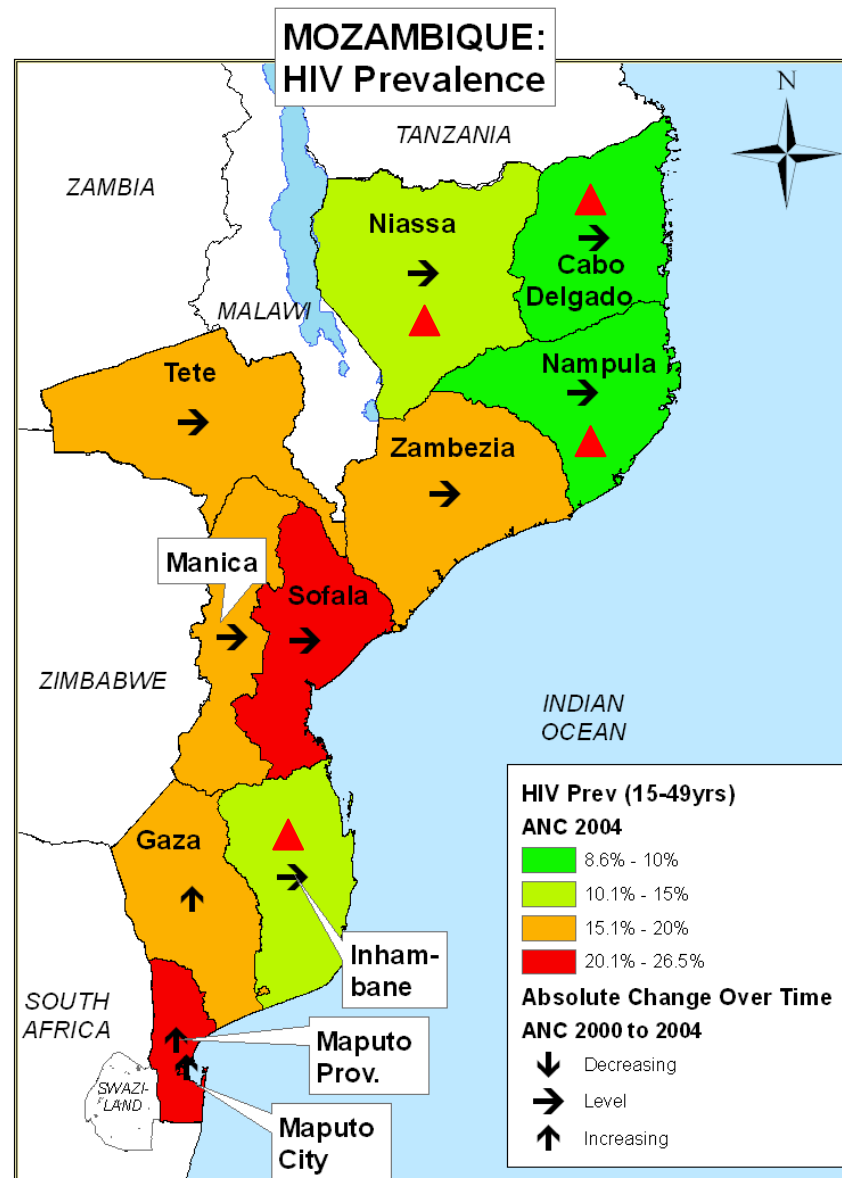
- High level team responsible for advocacy and guiding follow up to MOT.
- Convened by NAC with lead support from UCC

Key elements highlighted from analysis in all 5 countries

- **Gender inequality** – exacerbating risk and limiting options
- **Social norms** – leaving men and women open to infection through expected masculine and feminine conduct in sexual relationships
- High levels of **casual and high risk sex**
- **Low and inconsistent condom** use against backdrop of high levels of **concurrency**
- **Male circumcision**
- **Mobility and Transactional Sex**
- Limited access to and use of **testing** services particularly within the general population and in long-term relationships
- Very **limited data** and therefore **poor targeting** to respond to realistic challenges and prevention and care needs of **most at risk groups**:
 - Fishing communities, Sex Workers and Clients, Migrant workers and Partners, Truck drivers, MSM and Partners, IDU, Discordant couples

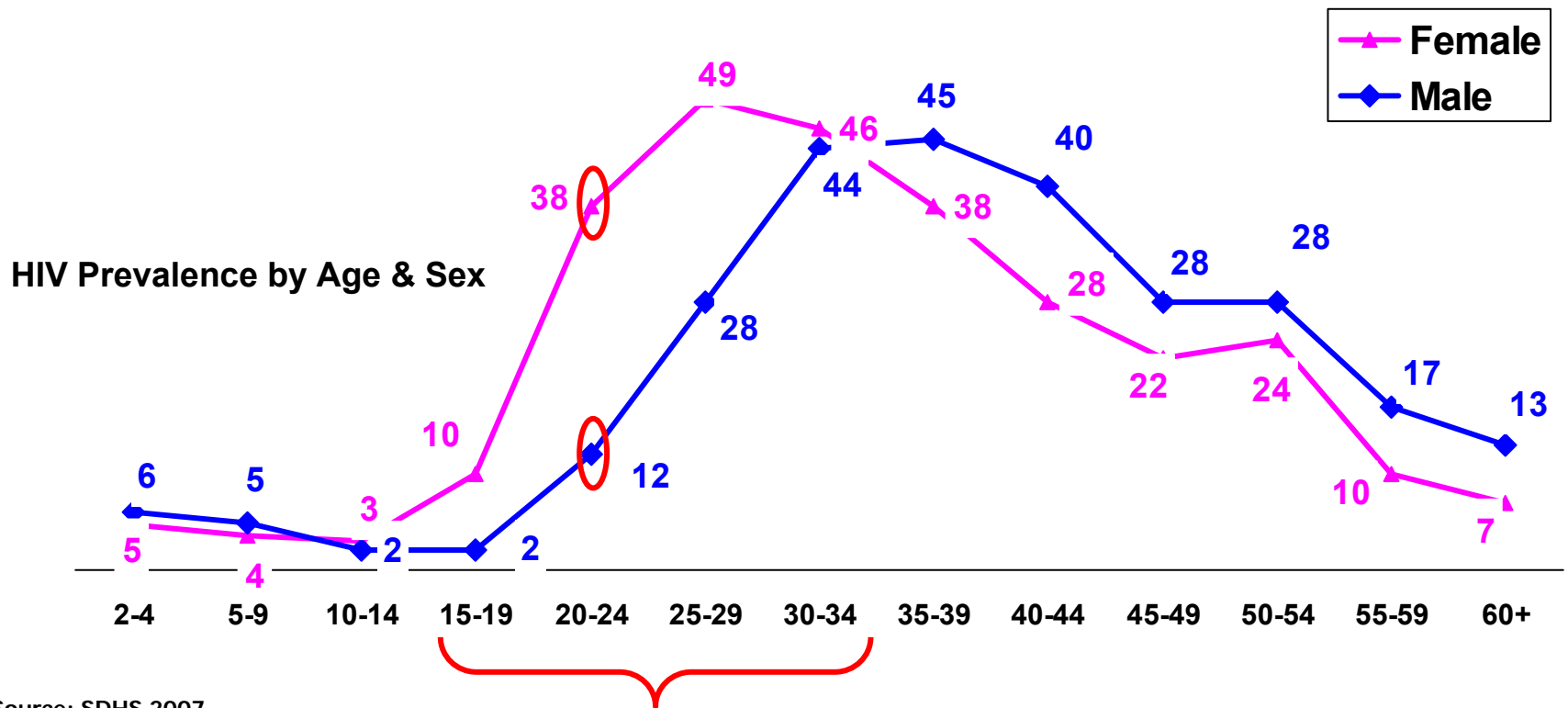
Male Circumcision & Concurrency - Mozambique

- **All provinces:** high levels of intergenerational sex and social acceptability for infidelity among men
- **Northern provinces & Inhambane:** High MC (over 76%)
- **High prevalence associated with:**
 - Transport corridors and mobility linking sexual networks in & between countries
 - Commercial sex and cash.
 - High alcohol & drug use
 - Seasonal or other migrations (related to labour, natural disasters, political instability) leading to disruption of social structures, increased transactional sex and new relationships



Source: NAC, UCSF, Mozambique Data Triangulation, 2007

Dramatic disparity in risk for infection in girls and young women - Swaziland



Next Steps & Future Outlook

Key Events

- **April – end June/early July:**
 - Final country technical meetings
 - Final modeling workshops
 - Country synthesis writing and training workshops using GAMET synthesis training materials (final draft report, policy briefs)
 - Peer review of country reports
 - Regional Experience-Sharing meeting
 - Final country stakeholder validation workshops
- **July onwards:**
 - Dissemination (country, regional, global)
 - Advocacy & integration of findings in NSP review and prevention strategy development processes
 - Writing policy briefs and a regional information sharing, ‘lessons learned’ workshop

Key Factors for Success

- **Country Leadership** in process
- Strength of **national technical team**
- Existence of **strong national prevention working group** to steer analysis
- **Involvement of country partners** at all stages in process of analysis
- **Integrating the analytical components** in process
- **Clear results from outset** and **availability of common analytic tools** to achieve them
- **Capacity development** as a consistent objective
- **Effective partnership** (UNAIDS, GAMET, UCSF) and **coordinated technical support** responding to specific country needs
- Availability and flexibility of **resources**
- Building on/building in **existing country analytic work**

Acknowledgements

- UCCs, NAC and country teams in Kenya, Lesotho, Mozambique, Swaziland and Uganda
- World Bank GAMET team
- Regional MOT support team

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