

Current Status on HIV

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Post Graduate Seminar

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Overall Plan for talk

- Epidemiology:

Old

Current

- ARTs
- Prevention

Current Epidemiology

HIV Burden in SSA/Tanzania 2013

**National HIV and Aids response report 2013 Tanzania Mainland*

- SSA: 25 million
- Tanzania adults & children: 1.4 million
- Children 0-14 yrs: 28%
- Young people (15-24 yrs): 11.2%

HIV prevalence rate by region Tz

*National HIV and Aids response report 2013 Tanzania Mainland

Highest

Iringa:	<u>9.1</u>
Mbeya:	9.0
Shinyanga:	7.4
Dar es Salaam:	6.9

Lowest

Manyara:	1.5
Tanga:	2.4
Lindi:	2.9

Others

Arusha:	3.2
<u>Kilimanjaro:</u>	<u>3.9</u>

HIV trends over time in Tz 15-49 yrs

*National HIV and Aids response report 2013 Tanzania Mainland

2005

Prevalence rate: **7.0%**

New infects: **133,176**

Deaths: **140,013**

2013

5.1%

78,843

79,338

2012

Vertical: **15%**

2013

8.8%

2011

TB pts on ART: **38%**

2012

54%

HIV trends over time in Youth

15-24yrs

**National HIV and Aids response report 2013 Tanzania Mainland*

	2003/4	2011/12
Women 20-24 yrs:	6%	5%
Women 15-19 yrs:	2%	1.5%
Men 20-24 yrs:	4%	2%
Men 15-19 yrs:	2%	1%

Percentage with >1 partners in past 12 months

*National HIV and Aids response report 2013 Tanzania Mainland

	2003/4	2011/12
Women 15-24 yrs:	6%	4%
Women 15-49 yrs:	5%	3.8%
Men 15-24 yrs:	33%	17%
Men 15-49 yrs:	27%	21%

Reasons for decline in HIV

- Education
- Counselling
- HIV testing since 1997
- Care & ART since 2004

Transmission

Mode of Transmission

- Heterosexual: 80%
- Vertical: 18%
- Medical: 1.8%

Heterosexual Transmission

- Epidemic transition: *50% of epidemic is discordant couples*
- Infectiousness varies with:
viral load
HIV stage
- Transmission increased in:
primary HIV infection
late disease
STIs, genital ulcers

Risk Groups in Tz

*National HIV and Aids response report 2013 Tanzania Mainland

- Female/Male ratio: 60/40
- Women: 15-35 yrs: 25-30% of epidemic
- Children <14 yrs: 28% of epidemic
- High Risk Groups: % HIV infected
 - Sex workers:* 31.4%
 - IVDUs:* 50%
 - MSM:* 23.3%

*Risk Factors HIV Transmission in Tz 1.

- Men with mutiple sex partners (MSPs): 21%
- No *or* low condom usage: 27% *m:f* with MSPs use condoms
- Occupation: truck drivers, miners, fishermen, etc

*Risk Factors HIV Transmission in Tz 2.

Comprehensive **HIV knowlege**: *15-24 yrs*:

Females: **40%**

Males: **46%**

Condom **usage** (*15-24 yrs*) with multiple partners:

Females: **34%**

Males: **41%**

Knowledge of **own HIV status** (anytime) *15-49 yrs*:

Females: **62%**

Males: **47%**

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National HIV and Aids response report 2013 Tanzania Mainland

Prevention In Tz (Mainland)

*HIV prevention initiatives in Tz Mainland

*National HIV and Aids response report 2013 Tanzania Mainland

- Education
- Voluntary Counselling (VCT)
- Mother Child Transmission Prevention (MCTP)
- Condom provision
- Circumcision
- STIs Treatment
- Blood Screening
- IVUDs
- **Care & ART**

HIV prevention Activities*: Education **1**

2011-12

*National HIV and Aids response report 2013 Tanzania Mainland

Life skills education:peer education programs

School: **48,000 Life skills** teachers manuals provided

Out of school youth activities:

Work place prevention policies in place: **80%**

% of 15-24 yrs correctly identify ways of preventing sexual transmission: **F:44%, M: 53%**

HIV prevention Activities*: Education 2 2013

*National HIV and Aids response report 2013 Tanzania Mainland

No teachers trained HIV prevention life skills: 13,183

Learners exposed to life skills & Aids educ: 111,301

Targeted intervention: 216,822

peer education

mass media

drama etc:

HIV prevention Activities*: Voluntary Counselling Testing (VCT) in Tz 2012

*National HIV and Aids response report 2013 Tanzania Mainland

- Client initiated testing & counselling (CITC)
- Provider initiated testing & counselling
 - Any illness
 - Antenatal: *birthing, postpartum, family planning*
 - STIs
 - HRGs: *sex workers, high risk occupations*
 - Children: **<10 yrs**
- A HIV test (15-49 yrs) within the previous 12/12
 - Females:** **38%**
 - Males:** **30%**

HIV prevention Activities in Tz: eMTCT

*National HIV and Aids response report 2013 Tanzania Mainland

- Aim: reduce MTCT from **15%** in 2012 to **5%** in 2015 with improved maternal, newborn & child health & survival interventions
- In 2011/12 a total of 88,538 /1,353,106 (*approx 7%*) pregnant women tested *positive* for HIV
- 63,868 (**72%**) recieved ART (*29,959 were already on ART*)
- 26,617 infants screened for HIV 2,200 or **8.3%: HIV positive**
- Knowledge of own HIV status in pregnancy (20-24 yrs): **49%**

HIV prevention Activities* Condom promotion & provision 2011-12 Tz

No male condoms sold/distributed: **110,000,000**

No female condoms sold/distributed: **1,750,000**

At least one outlet in each village

Condom usage with **>1** sexual partner:

men (15-24 yrs): **40%**

men (40-49 yrs): **15%**

women (15-24 yrs): **34%**

women (40-49 yrs): **11%**

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National HIV and Aids response report 2013 Tanzania Mainland

HIV prevention Activities*: Circumcision in Tz

*National HIV and Aids response report 2013 Tanzania Mainland

- Voluntary Male Circumcision
- Implemented in **12** targeted regions
- As of Dec 2013 a total of **676,225** circumcised
- Target by 2017: **>2million**

HIV prevention Activities* Sexually Transmitted Infection Control

*National HIV and Aids response report 2013 Tanzania Mainland

- Aim: Syndromic management of STIs
- All public health facilities, referral, regional, district & HCC
- Some faith based & private health facilities
- Now scaled up to **72%** of dispensereries
- Approx **250,000 STI** cases reported: *Jan-Sept 2013*

HIV prevention Activities* Blood Screening & Infection control

*National HIV and Aids response report 2013 Tanzania Mainland

- Aim: Safe Blood Screening in all hospitals
- Six zonal blood banks: **DSM, Mbeya, Moshi, Mtwara, Mwanza & Tabora**
Estimated Units of blood used: **430,000**
Total units of blood screened: **160,121**
- **60%** collected through family/friends & ? Screened locally
- Infection control in health care settings

HIV prevention Activities* IVDUs

Infection control 2011,12

*National HIV and Aids response report 2013 Tanzania Mainland

- No national program for needle exchange
- Medicin Du Monde NGO in DSM distributed:
296,434 syringes
- Survey of 620 IDUs **84%** reported sterile syringe use for last injection
- IVDUs highest risk group in Tz: **50%** HIV infected

Care & Treatment in Tz 2013*

*National HIV and Aids response report 2013 Tanzania Mainland

- A total of **512,555 HIV** infected persons on ART
 - Females: **63%**
 - Males: **29%**
 - Children <15 yrs: **8%**
- Four Regions: **Mbeya, Dar es Salaam, Iringa & Mwanza** account for **>50%** of all HIV persons on ART
- **74%** of pts starting ART still on after 12 months 2010

Problems & Challenges re HIV & AIDS among **Tanzanians**

- Inadequate *knowledge*
- Inadequate provision of *life skills education* to in & out of school **youths/girls**
- Limited supply condoms (**female**)
- Inadequate blood screening
- Harmful cultural practices & **Stigma**
- Laxity education implementation in work places
- Limited financial resources

Specific Problems in Tz

- Only 50-60% are aware of their own HIV status
- Only 50% deliveries are at a health facility
- Weak identification & enrollment of infants
- Ineffective PMTCT e.g. 20% of some new borns are HIV pos
- Low coverage of screening for TB in HIV

Tuberculosis in HIV in Tz 2012

- 63,892 cases were notified (NTBLP)
- 52,499 (82%) counselled & tested for HIV
- 20,268 (39%) were co-infected with HIV
- 17,224 (85%) were registered for HIV care
- 19,501 (96%) on Co-trimoxazole (CPT)
- 10,993 (54%) initiated on ART

Management of HIV

ART

Management HIV in Adults

- Does patient have a HIV related disease that requires treatment *e.g.* TB?
- Should the patient start on ART
- If so when?

When to **start ART** acc **WHO Stage**

Stages 1 & 2

CD4 <350

Stages 3 & 4

ART irrespective of CD4

Active TB

ART irrespective of CD4

Goal of ART

- **Prevent & reduce disease**
- **Prolong survival**
- **Reduce infectiousness to others**
- **ART** needs to be started before irreversible damage to immune system. *The earlier the better*

Antiretroviral Therapy (**ART**)

- All inhibit HIV replication: **3 main classes**
- Nucleoside reverse transcriptase inhibitors (**NRTI**)
- Non-nucleoside reverse transcriptase inhibitors (**NNRTI**)
- Protease inhibitors (**PI**)

Pre ART Care

- If ART is not indicated *e.g* **CD4 >350** then enroll in **pre-ART care**
- Provide on going: **counselling**
- Treat: **HIV symptoms**
- Watch & evaluate carefully for **TB**
- CD4 counts: **every 6 months**

ART combinations

- Chosen on basis of:
 - effectiveness
 - tolerance
 - pill burden (compliance)
 - cost
- Two NRTI & one NNRTI
 - or*
- Two NRTI & one PI
- *Dont use the following together*
 - Stavudine & didanosine
 - AZT & Stavudine
 - two NNRTIs

2012/2013 Tanzania Guideline

1 st Line	
Preferred	Alternative
TDF+3TC+EFV (TLE)	1.TDF + FTC + EFV (ATRIPLA) 2.AZT + 3TC + EFV 3.AZT + 3TC + NVP

TDF: Tenofovir (NRTI)

3TC: Lamivudine (NRTI)

EFV: Efavirenz (NNRTI)

AZT: Zidovudine (NRTI)

NVP: Nevirapine (NNRTI)

2012/2013 Tanzania Guideline

2 nd Line	
If AZT was used as 1 st line	If TDF was used as 1 st line
TDF + FTC + ATVr (preferred)	AZT + 3TC + ATVr (Preferred)
TDF + FTC + LPVr (Alternative)	AZT + 3TC + LPVr (Alternative)

TDF: Tenofovir (NRTI)

3TC: Lamivudine (NRTI)

FTC: Emtricitabine (NRTI)

AZT: Zidovudine (NRTI)

ATVr: Atazanavir/ritonavir (PI)

LPVr: Lopinavir/ritonavir (PI)

DRUG SIDE EFFECTS

TYPE	COMMON SIDE EFFECTS
Tenofovir	nephrotoxicity
Emtricitabine	Skin hyperpigmentation on palms and soles (3%) mostly africans. Rare gastrointestinal intolerance.
Lamivudine	Rare –headache, gastrointestinal intolerance
Effavirenz	CNS side effects (52%), Rash (15-27%), hyperlipidemia
Nevirapine	Rash (17%) severe skin reaction (7%) Hepatotoxicity
Zidovudine	Bone marrow suppresion Mitochondrial toxicity – myopathy
Atazanavir/ritonavir	Reversible nderict hyperbilirubinemia (7%) Gastrointestinal intolerance (1-6%)
Lopinavir/ritonavir	Diarrhea (15-25%), elevated transaminases (10-12%)
Abacavir	Hypersensitivity reaction

Monitoring ART

- Clinical improvement
- CD4 @ 6 monthly intervals
- Viral load: <50 copies/ml
- HIV resistance

Resistance

- **Drug resistance** a major cause of Rx failure
- Occurs because of *high rate* of viral replication
- **Primary resistance:** person infected with a resistant strain (*10% in UK*)
- **Secondary resistance:** viral load rebounds despite stated adherence: *main cause poor adherence*. Indication for 2nd Line: *10%/yr/Tz*

Immune reconstitution Syndrome 1.

- Viral load falls & results in improved immunity
- HIV related opportunistic process (*mostly infection*), can lead to inflammatory reaction & tissue damage
- Clinical manifestations called **IRIS**
- Occurs in about **15%** of patients

Immune reconstitution Syndrome 2.

- Risk is highest in pts with low CD4 count :<50/ml
- Two forms of IRIS
 - **Unmasking:** infection not apparent @ start of ARTs
 - **Paradoxical:** worsening of existing condition which was responding prior to start of ART e.g *TB, CM, CMV, KS*
- Case Fatality Rate: 20%
- Rx:
 - Mild: **NSAIDs**
 - Severe: **steroids but watch for *partially treated* OI in Paradoxical or Unmasked OI**

Indicators for HIV Care Tz: Dec 2013

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- No ever in Care: **1,366,402**
- No ever on ART: **850,274**
- No currently on ART: **512,555**
- No receiving home based care (HBC): **59,599**
- No health care facilities (HCF) providing ART: **1,209**
- Tz average HCF: **3/100,000**
- % still on ART 12 months*₂₀₁₀ post starting: **74%**
- Reasons for loss to follow up: **Death, Compliance**

Outcome in Hospital

- Overall Mortality: 25-36%
- Mortality is higher in newly diagnosed: 50%
- Mortality is highest 70-80% in CM, CNS & Lymphoma
- Predictors of mortality: anaemia & low CD4 count.

The Way Forward 1. General

- ART has changed the epidemiology of HIV, & people are living longer, healthier lives with HIV
- Almost half of people living with HIV in Tz do not know they have the disease
- Many present **clinically late** & undiagnosed
- Recognition & **testing of people at risk** is crucial

Universal testing is recommended in certain populations

*There is no reason for any clinician **not to screen** for HIV*

The Way Forward 2: Specific

- Focussed education/skills in HRGs & high at risk groups
- Support implementation of eMTCT strategies
- Increase HC access to HIV screening & persons living with HIV
- Strengthen: human resources, monitoring and evaluation & drug/HIV testing supply chain
- Strategies to finance above

Est Funds spent HIV/AIDS in Tz

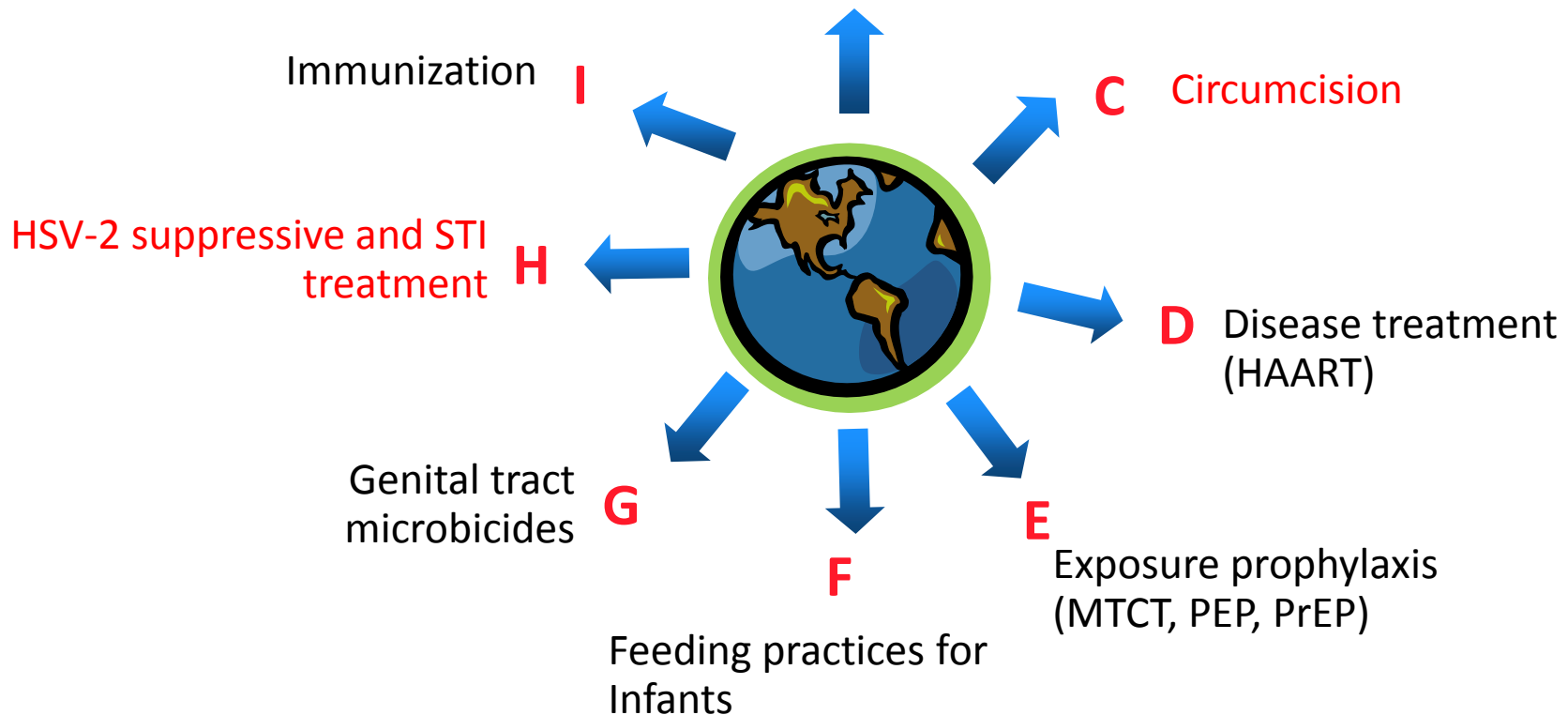
2013/14

Source	TZS, millions	%
GoT	13, 772	2
<u>Global Fund</u>	224,000	<u>37</u>
JIC	360	0.05
CIDA	11,000	2
Danida	8,760	1.4
UNDP	9,627	1.6
UNFPA	612	0.1
<u>USG</u>	347,980	<u>57</u>
Total	615, 115	100

The ABCs for preventing HIV transmission

Abstain, **B**e faithful, **C**ondoms,
Counseling & testing

ABC



The Way Forward 1.

Target the interventions

High Risk Group females

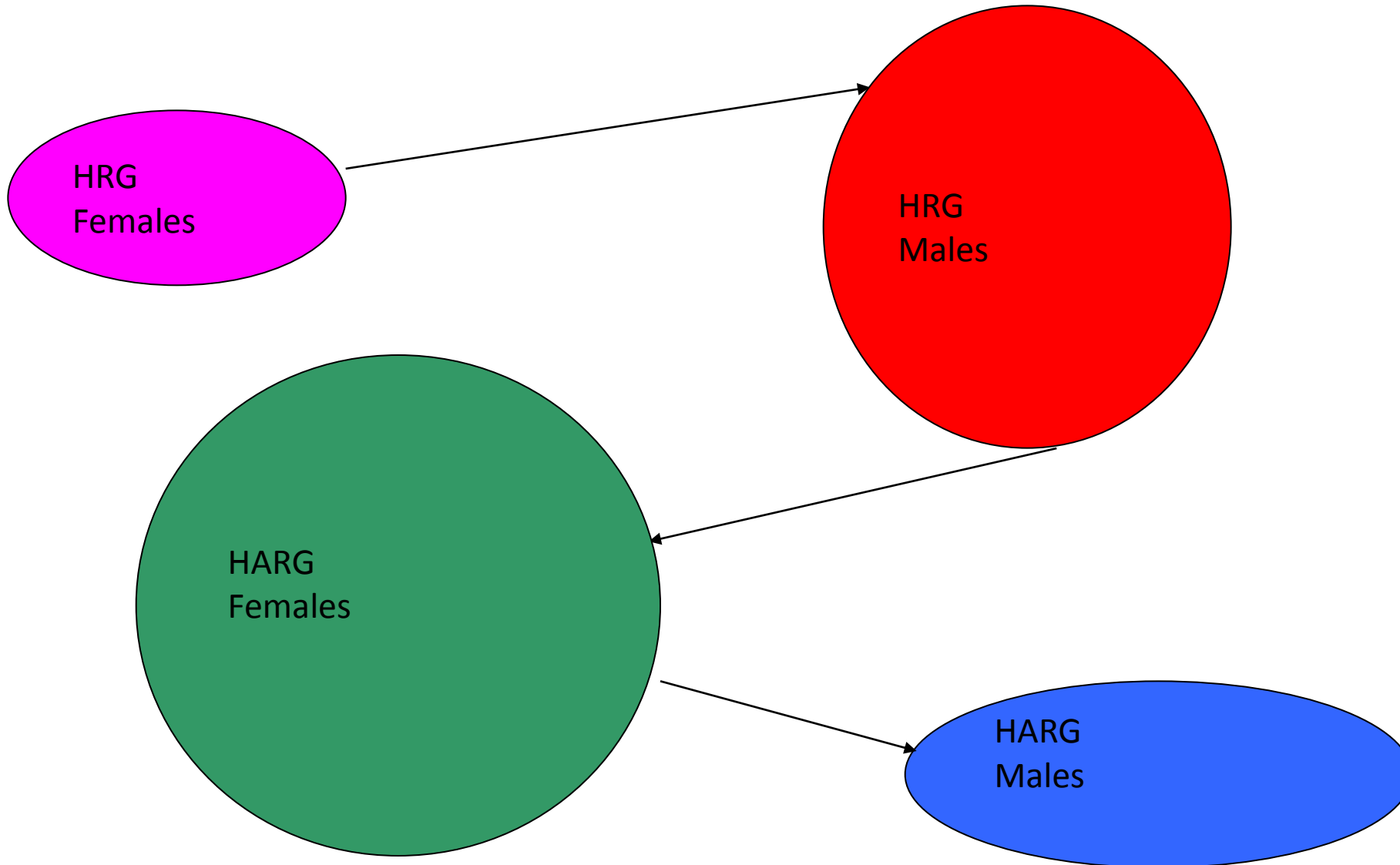
High Risk Group Males

High At Risk Groups:

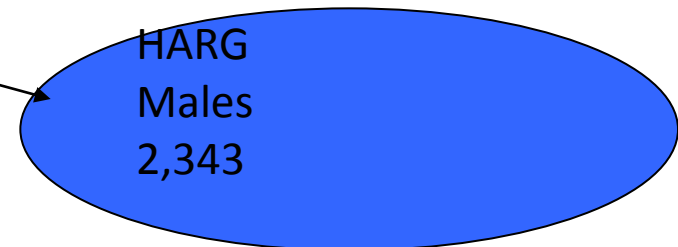
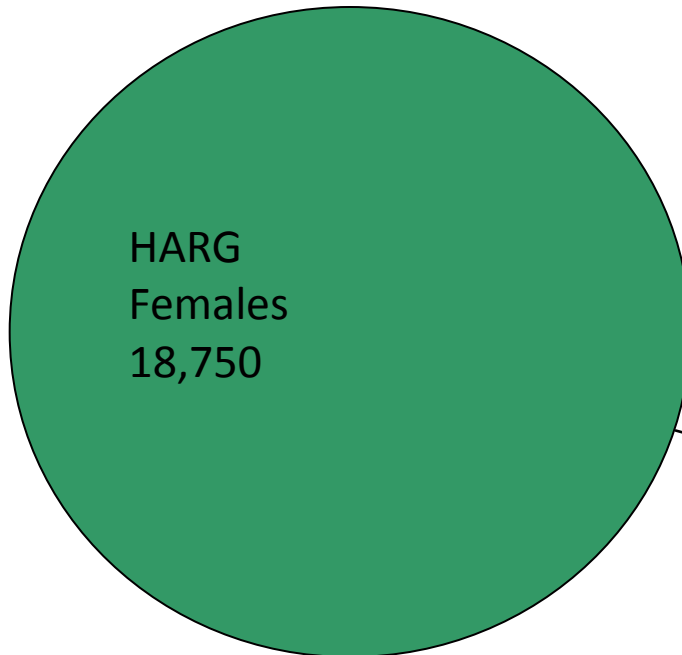
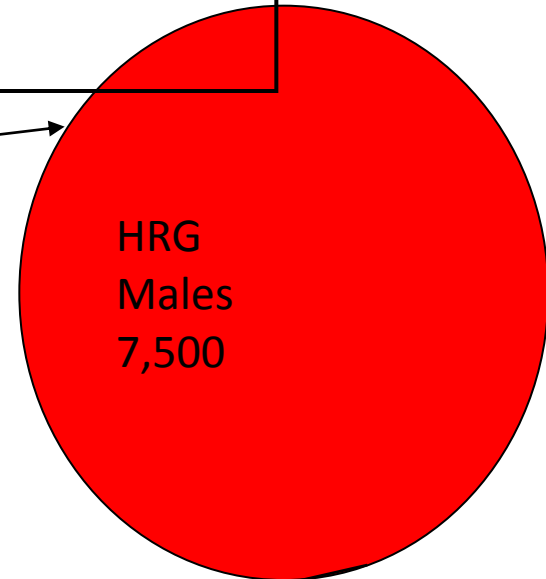
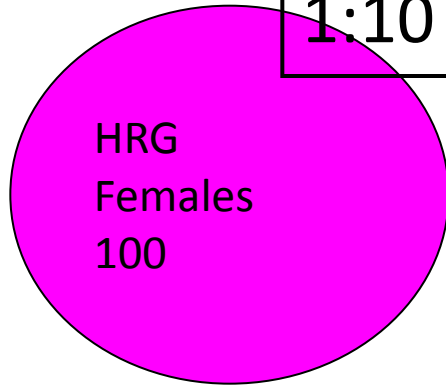
Females 15-24 yr

Females >25 yrs

The main risk groups in the HIV epidemic in Africa

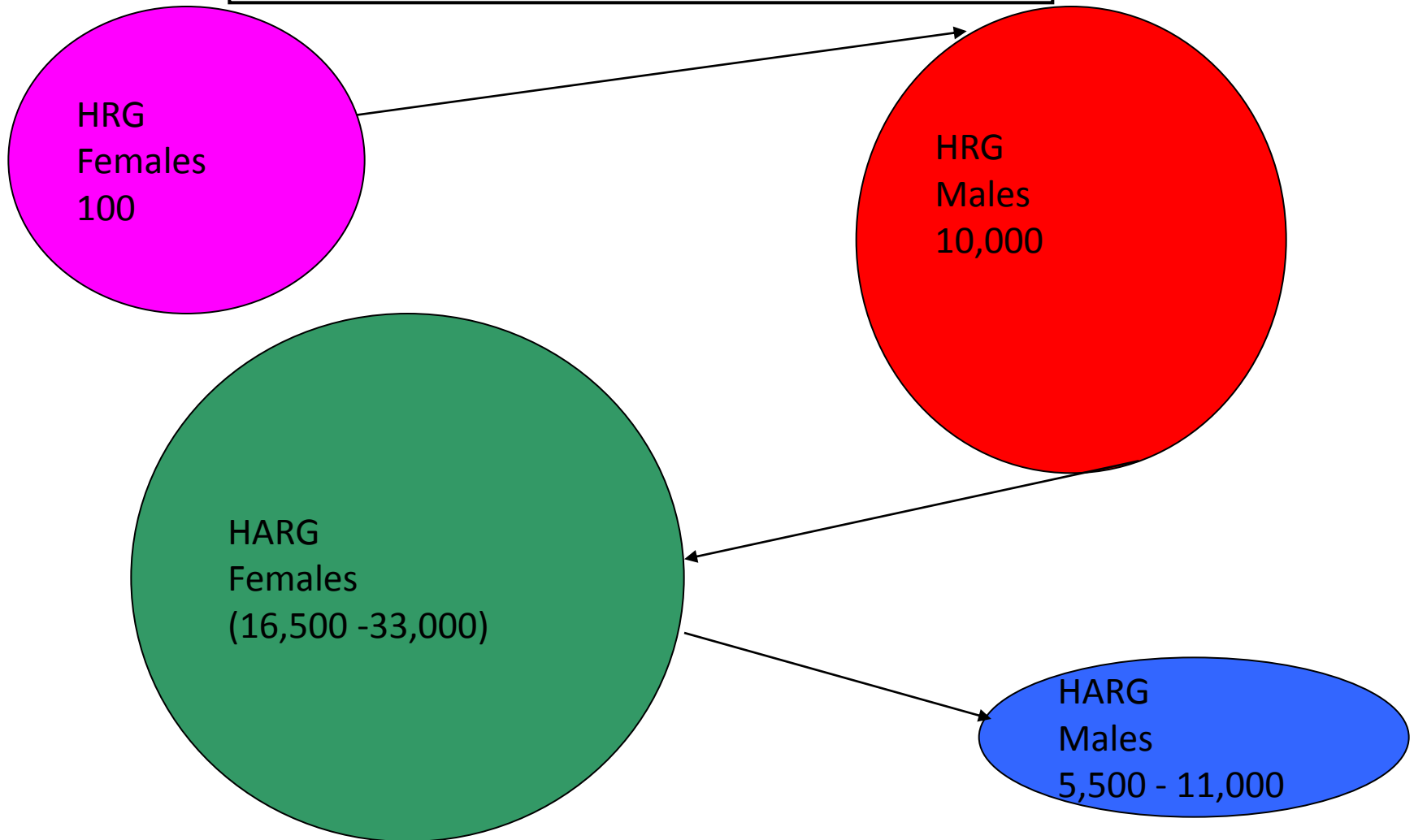


Numbers of cases arising from
100 HRG females in Primary HIV
infection risk of transmission =
1:10

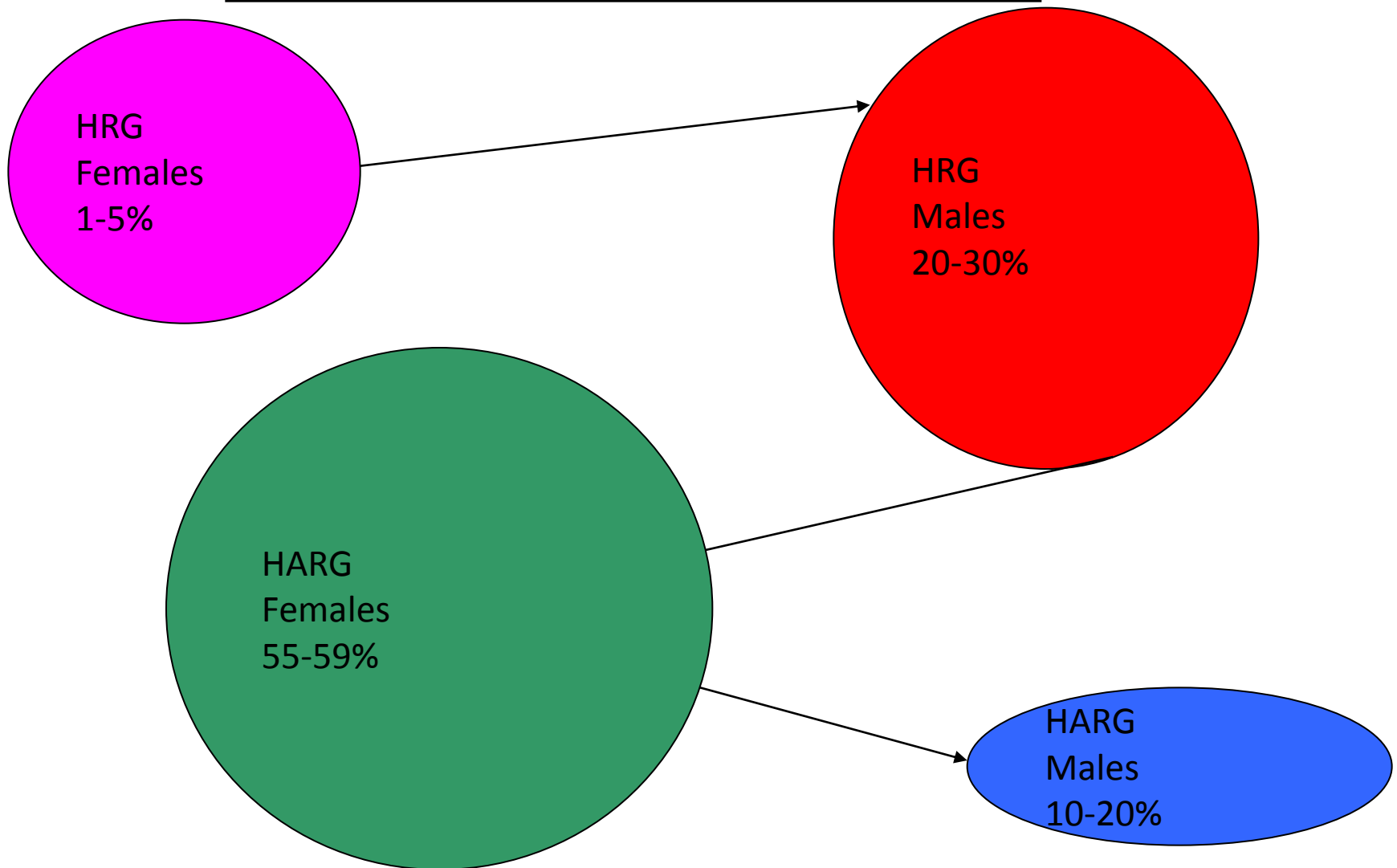


The stable epidemic 1:300

No of cases arising from 100
HRG females over 10 years



Attributable burden of the HIV epidemic in Africa



The Way Forward 2.

Education

Education: *needs a much more rigorous & targeted approach.*

The way forward 3.

barrier protection

The “*condom*” is for HIV as the
“*mosquito net*” is for malaria

The Way Forward

4. Antiretrovirals: *Travada*

ARV prophylaxis: *High Risk Groups*

Intermittent post exposure: *High at Risk Groups*

The way forward. 5

Immunization