# ART stock-outs

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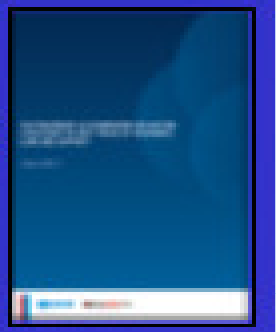
? Take CD4 count to 500

# Some recent SA data in summary

- 1.9m on ART with additional 500 000/yr
- >90% of pregnant women tested for HIV
- >80% of HIV patients screened for TB and > 80% of TB patients tested for HIV
- >400m male condoms and >6m female condoms distributed – scale to 1b male and 12m female
- 619 000 MMCs done since 2010 with 1m estimated to want one
- Vertical transmission down to 2.7% at 6 weeks

# Treatment "2.0" Strategy : Optimizing Treatment and Promoting Efficiency Gains



Drug/Regimen Optimization

Enhance Diagnosis, Taskshifting Descentralization & Service Integration

Facilitate Community Support

Use of PoC and Simplified Lab Diagnostics

Promote Price/Cost Reduction

# Balance of Evidence, Feasibility and Cost-Benefit Analysis Favors Earlier Initiation of ART

## Delayed ART

↓ Drug toxicity

↓ Resistance

↓ Upfront costs

Preservation of Tx options

## Earlier ART

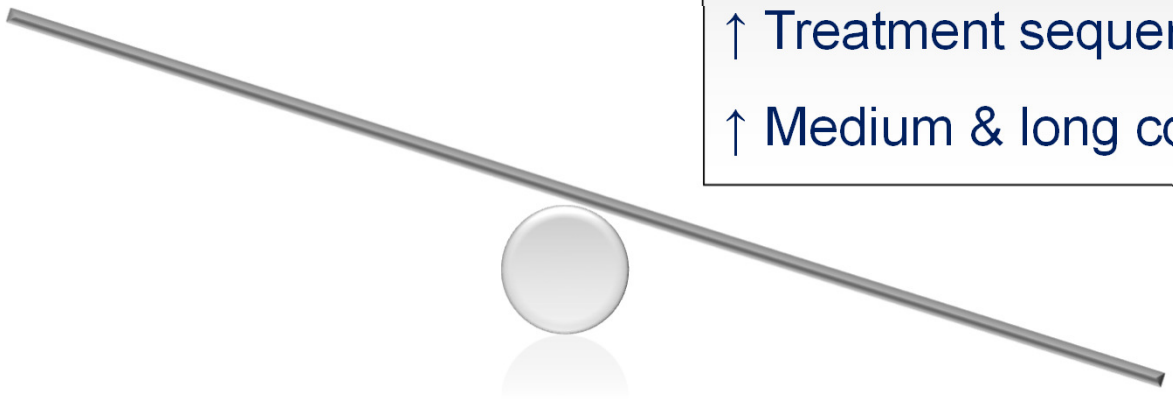
↑ Clinical benefits (HIV- and non-HIV related)

↓ HIV and TB transmission

↑ Potency, durability, tolerability

↑ Treatment sequencing options

↑ Medium & long cost savings



# Evolution of WHO ART Guidelines in Adults

| Topic | 2002 | 2003 | 2006 | 2010 | 2013 |
|---|---|---|---|---|---|
| **When to start** | CD4 ≤200 | CD4 ≤ 200 | CD4 ≤ 200<br>- Consider 350<br>- CD4 ≤ 350 for TB | CD4 ≤ 350<br>-Irrespective CD4 for TB and HBV | CD4 ≤ 500<br>-Irrespective CD4 for TB, HBV, PW and SDC<br>- CD4 ≤ 350 as priority |
| **1st Line** | 8 options<br>- AZT preferred | 4 options<br>- AZT preferred | 8 options<br>- AZT or TDFpreferred<br>- d4T dose reduction | 6 options &FDCs<br>- AZT or TDF preferred<br>- d4T phase out | 2 options & FDCs<br>- TDF and EFV preferred across all populations |
| **2nd Line** | Boosted and non-boosted PIs | Boosted PIs<br>-IDV/r LPV/r, SQV/r | Boosted PI<br>- ATV/r, DRV/r, FPV/r LPV/r, SQV/r | Boosted PI<br>- Heat stable FDC: ATV/r, LPV/r | Boosted PI<br>- Heat stable FDC: ATV/r, LPV/r |
| **3rd Line** | None | None | None | DRV/r, RAL, ETV | DRV/r, RAL, ETV |
| **Viral Load Testing** | No | No<br>(Desirable) | Yes<br>(Tertiary centers) | Yes<br>(Phase in approach) | Yes<br>(preferred for monitoring, use of PoC, DBS) |

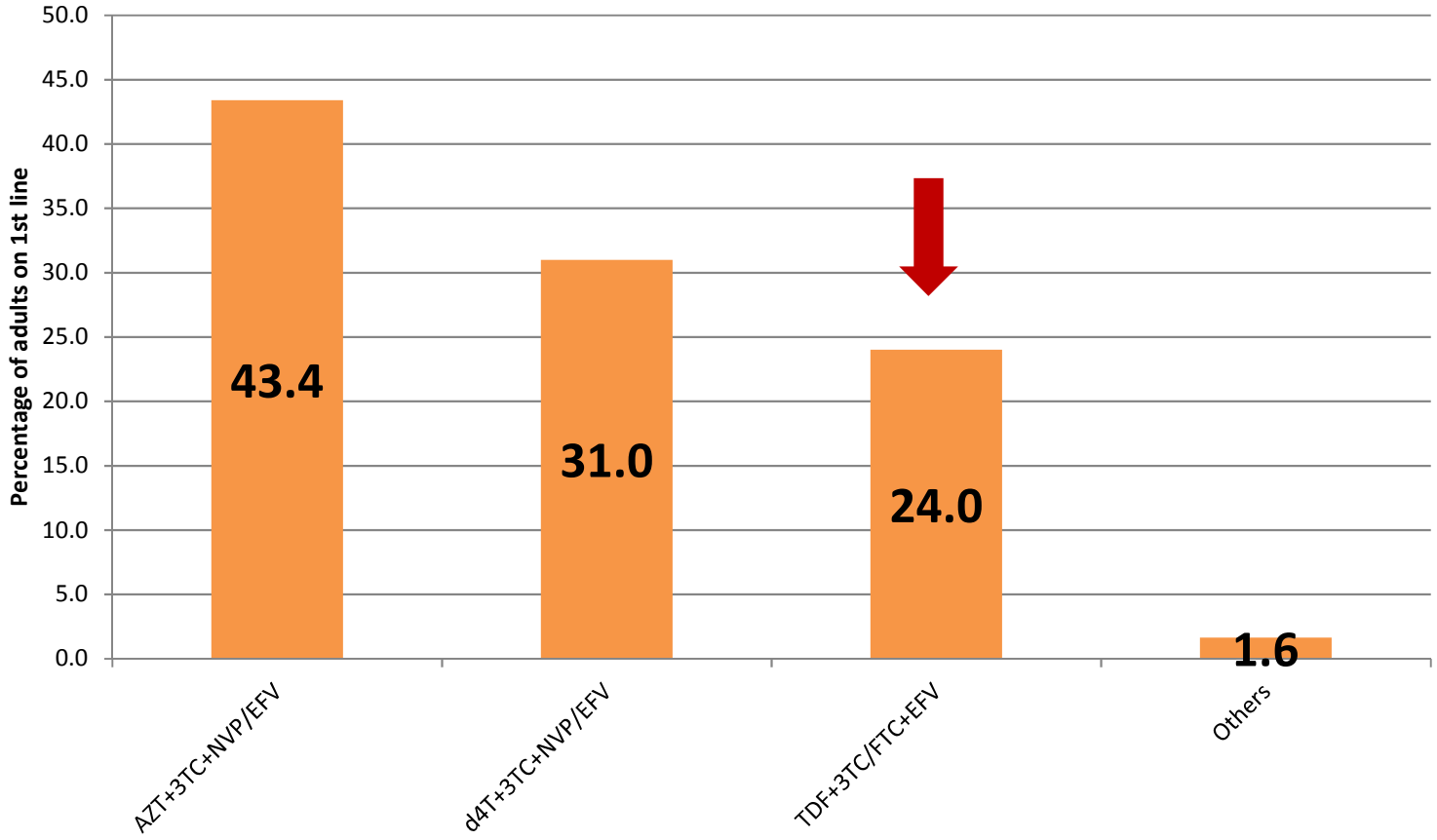
Earlier initiation

Simpler treatment

Less toxic, more robust regimens

Better monitoring

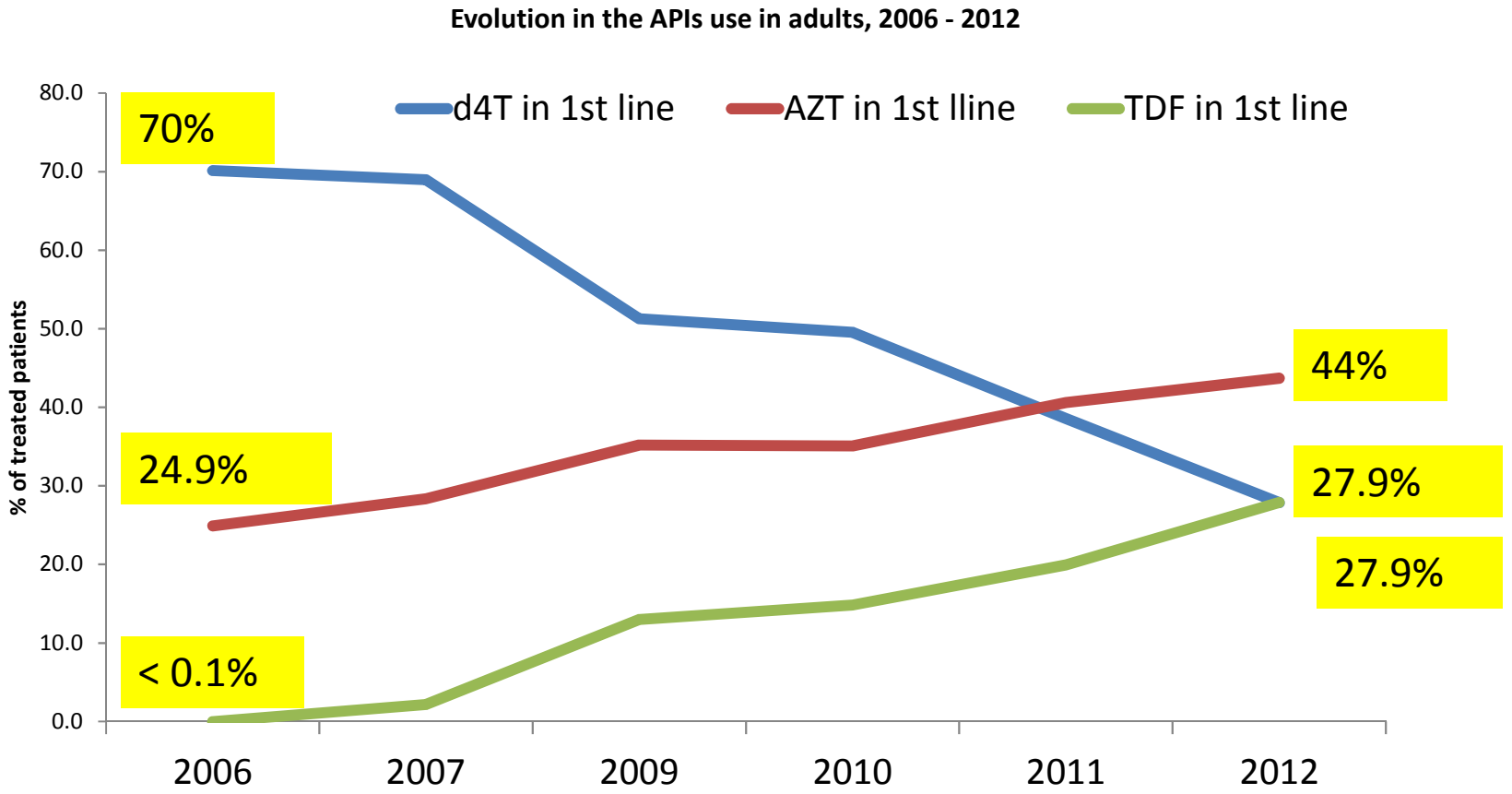
# Main first-line regimens among adults in Group A countries (December 2011)




N=3, 687,179

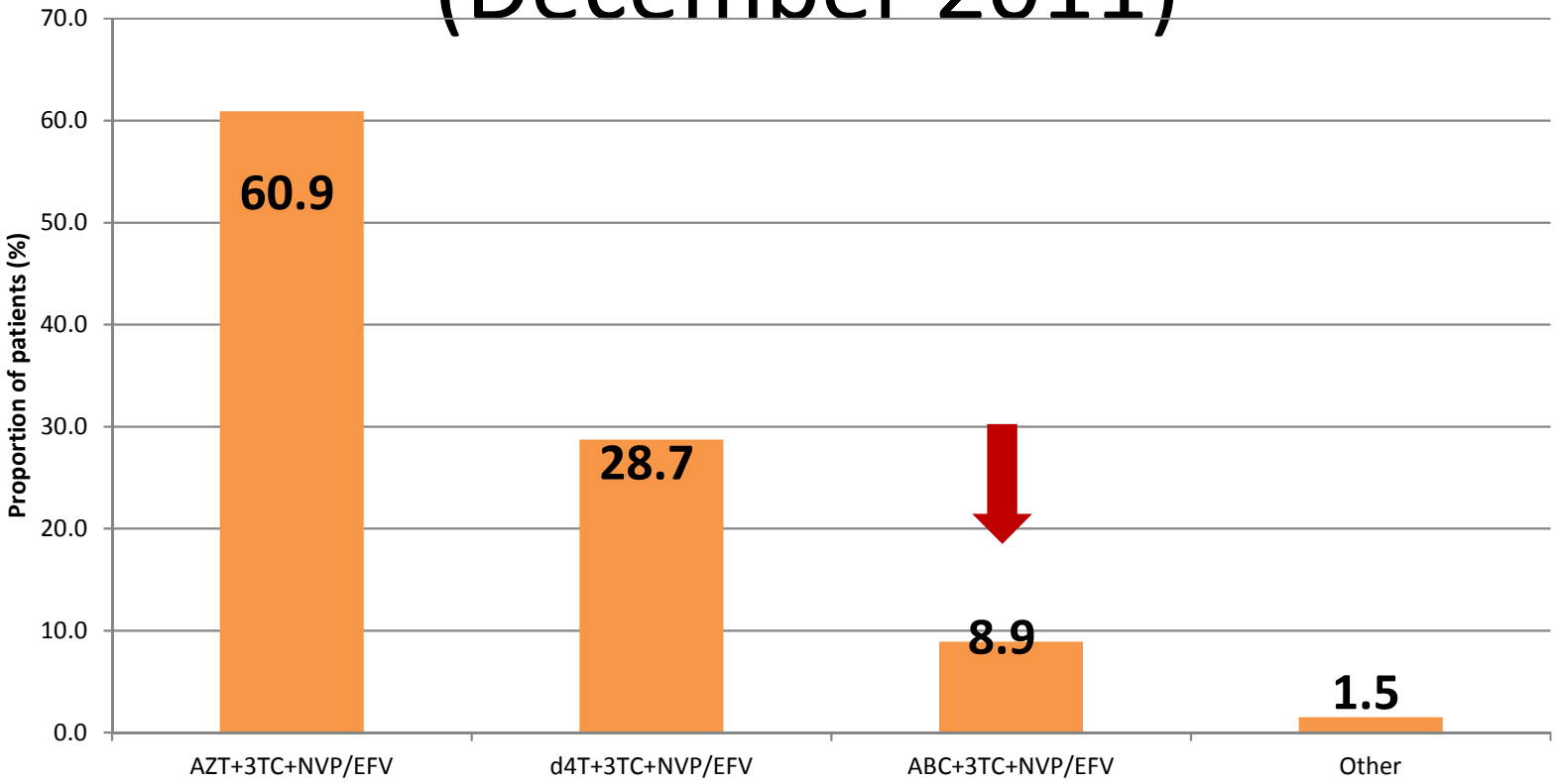
Group A = all countries except Americas (64 countries)

# Trends of d4T, AZT and TDF use in adults first line ART (2006 – 2012 )




N= 12 countries

# Main first-line regimens among children in Group A countries (December 2011)

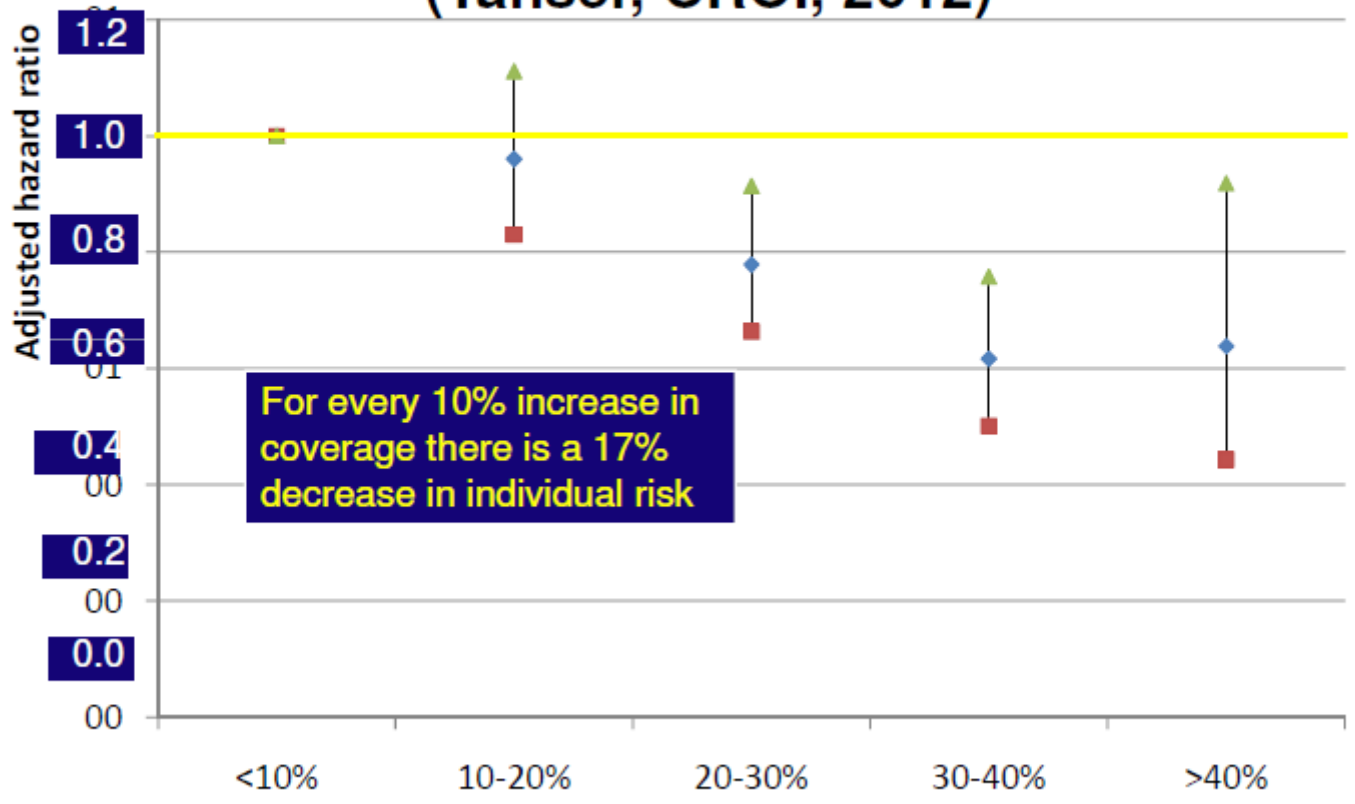



N=245,645

Group A = all countries except Americas (64 countries)

HIV/AIDS Department

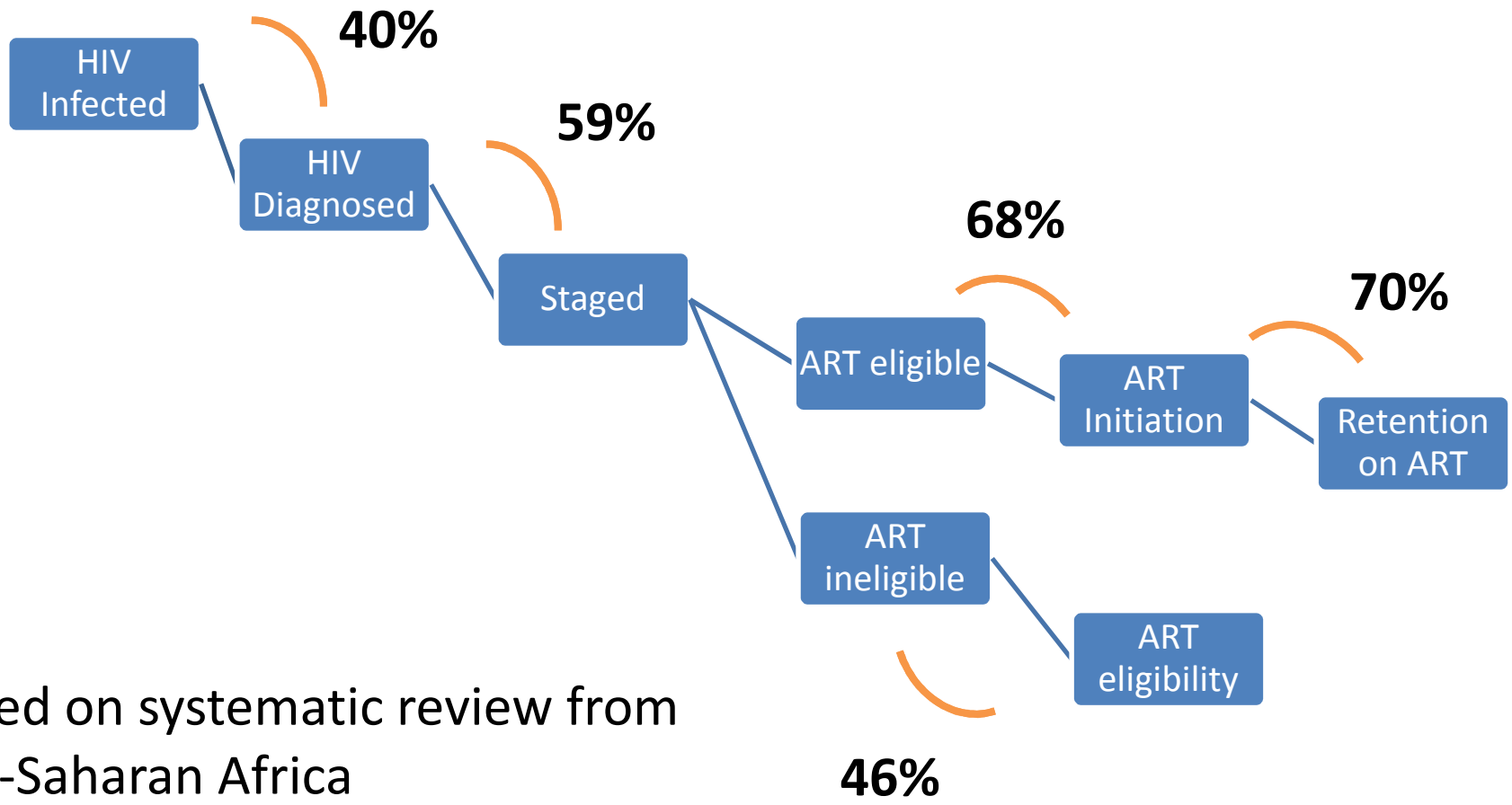
# Effect of ART coverage on rate of new HIV infections in a rural South African population (Tanser, CROI, 2012)



# Country-wide

- Reported in every province

# Retention in Care: A glimpse




Based on systematic review from Sub-Saharan Africa

Rosen, PLoS Med 2011; Fox, TMIH 2010

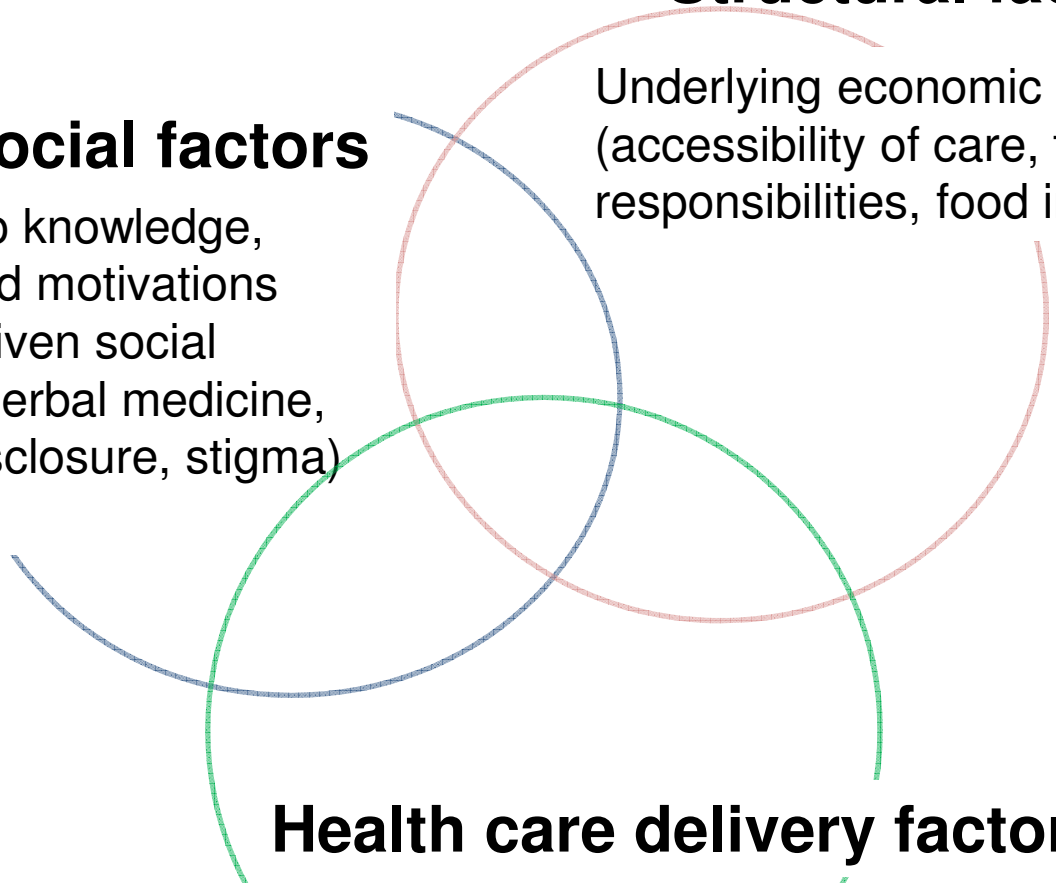
# Retention in care: Barriers

## Structural factors

Underlying economic conditions of daily life (accessibility of care, transportation, work responsibilities, food insecurity)

## Psycho-social factors

Related to knowledge, beliefs and motivations within a given social context (herbal medicine, lack of disclosure, stigma)



## Health care delivery factors

Quality of care at the point of contact with the patients (waiting time, conflict with staff, coordination of care, stigma); service inaccessibility (distance from home)

# Who’s to blame?

- API
- Manufacturer
- Provincial depot
- Local clinic/Hospital

# Treatment 2.0: Innovations to support further scale up

| Topic | 2013 | 2013-2015 | +2015 |
|---|---|---|---|
| **Drugs** | • Promote access to TDF/XTC/EFV as FDC<br>• Improve access to 2nd line (more heat stable bPI options)<br>• Paediatric drug optimization | • Define role of integrase inhibitors and DRV/r<br>• LPV/r FDC for paeds<br>• Access to adults and peads formulations of DRV/r | • Novel formulations (pro-dugs, new FDCs, long acting drugs, nanomedicines) |
| **Diagnostics** | • Viral load phase in<br>• PoC CD4<br>• EID expansion | • CD4 phase out (monitoring)<br>• Immediate paed diagnosis and treatment | • Multi-disease molecular diagnostics (HIV/HCV/TB) |
| **Service delivery / community** | • Better define community ART models<br>• Integration (esp MCH)<br>• Task shifting/ decentralization | • Evaluate impact of community ART models<br>• Define models for 'active case finding' | • Models of long-term ART management |

# What does this do?

- Undermines adherence
- Possible resistance (definite if inappropriate drugs used), problem if switch virologically failing patients
- Possible seroconversion-like syndromes, more CVS events (SMART)
- Progression to AIDS if long enough, delayed immune reconstitution

# What can we do?

- Report, report, report, complain
- http://www.sahivsoc.org/

# Tenofovir

- Do everything in your power NOT to switch hep B patients
- d4T 30mg bd or AZT 300 mg bd in interim
- Anticipate side effects (esp AZT in short term)
- In naive patients – d4T/AZT – do NOT delay

# d4T

- TDF – ideally with VL/creat clearance first
- Do NOT change back, if possible
- AZT, ABC is also a fallback

# ABC

- Prioritise d4T/AZT side effect-affected patients
- TDF, AZT, d4T all options – depends why they are on ABC
- Syrup tastes bad, very bulky – also, affects paeds patients downstream

# NNRTIs

- Use Alluvia – watch side effects

# Other classes?

- PI? Very little you can do, if on second line

# Consider private prescriptions