



Health care worker-managed group



Client-managed group

Focusing the clinical response  
Can Differentiated care accelerate the  
implementation of HIV treatment for all ?

*Eric Goemaere, IAPAC Symposium , Geneva Oct 13<sup>th</sup> 2016*

*Southern African MSF medical unit , School of public health , Cape Town university*



Facility-based individual



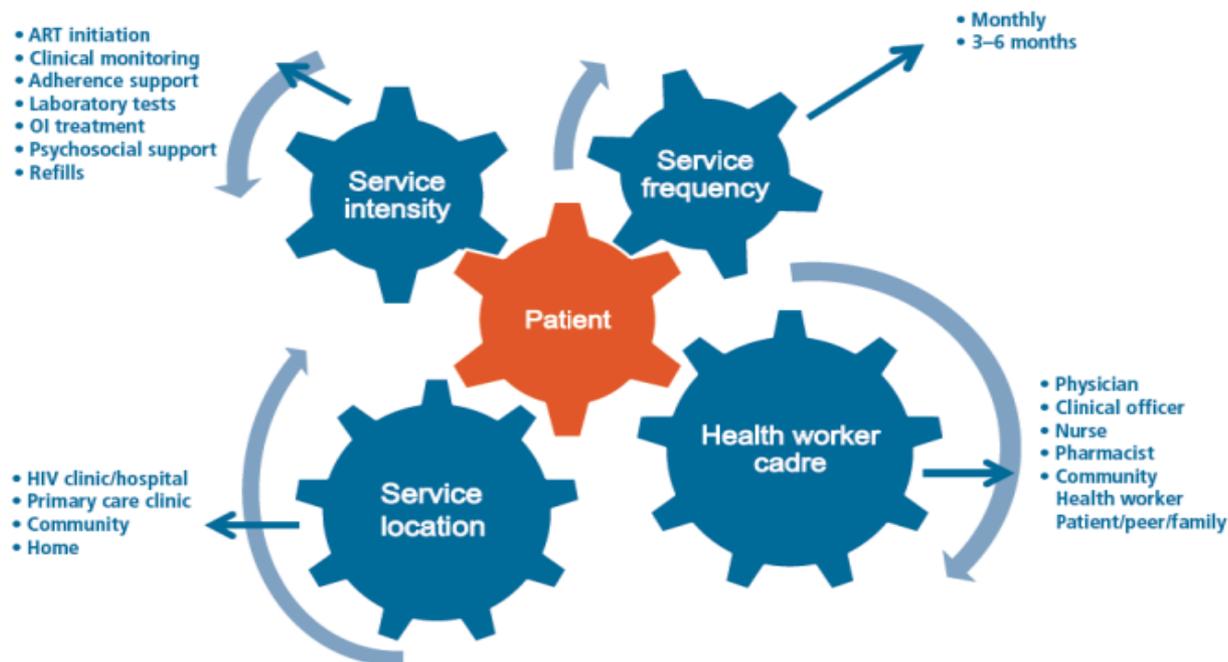
Out-of-facility individual

# Framework for differentiated approach to care

- **Different Care package elements for different PLHIV categories**

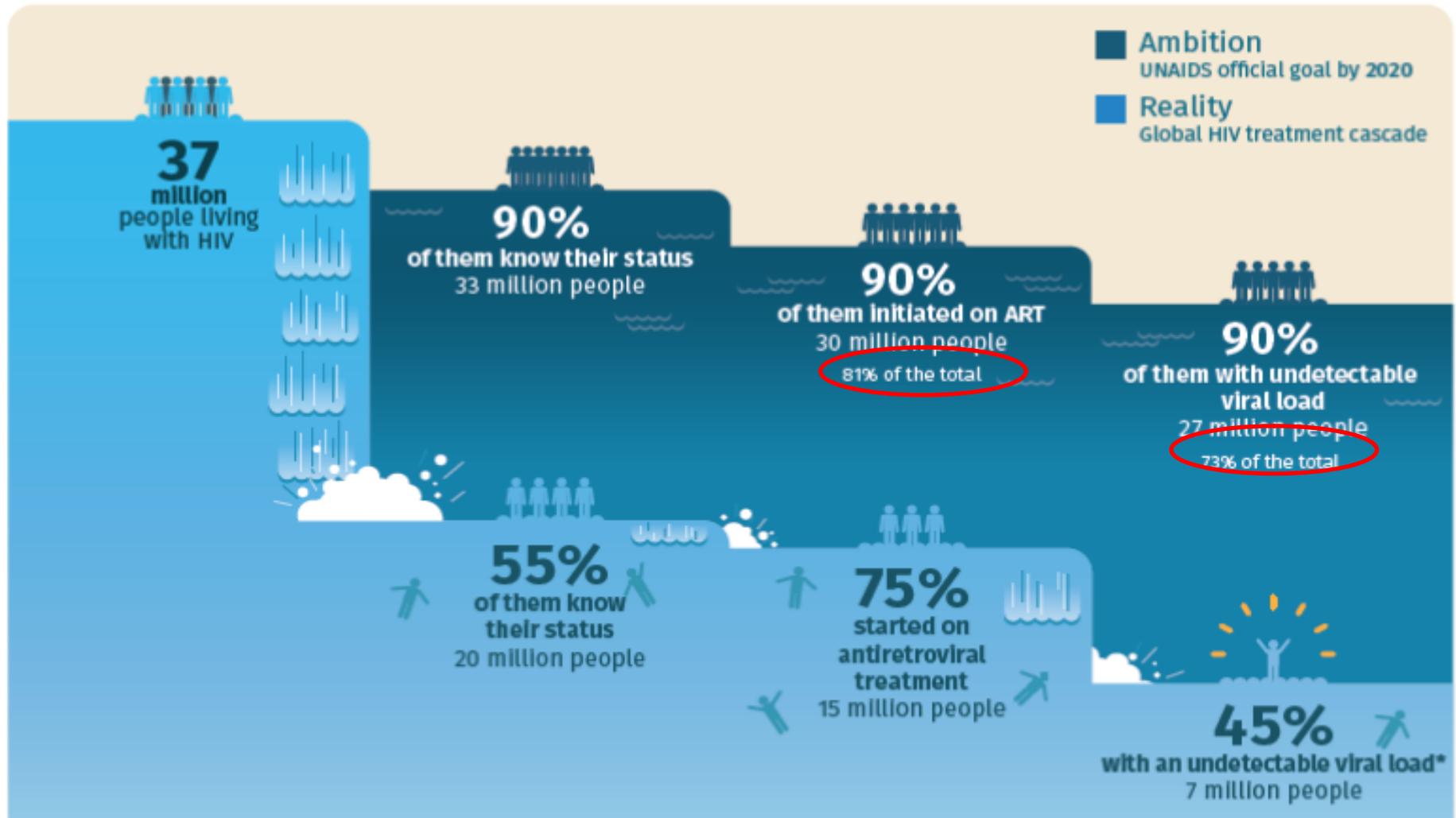
1. Patients presenting well
2. Patients presenting with advanced HIV infection
3. Stable patients on ART stable
4. Patients on ART with complex problems

Fig. 3. Key factors in differentiated approaches to HIV care



# HIV care for epidemic control

## Ambitions vs reality

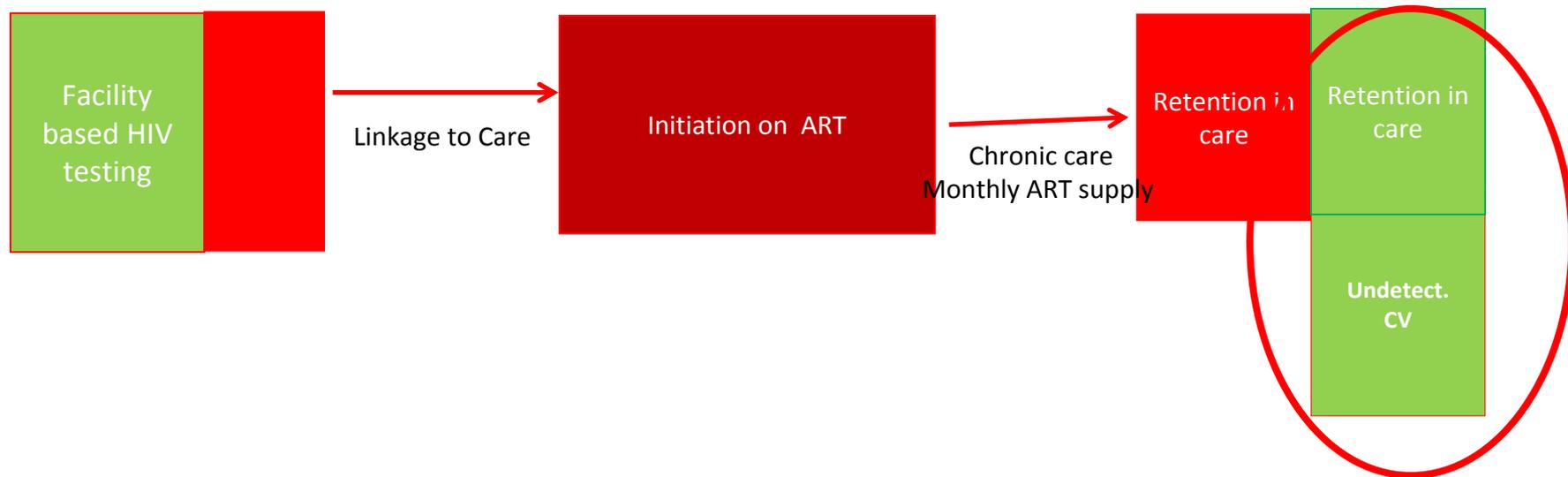


Treatment cascade or treatment cliff? Successful HIV treatment, as measured by an undetectable viral load, is key for epidemic control.

Reaching the 90:90:90 UNAIDS targets will require considerable future commitment and investment.



# ART treatment cascade : focus on back end

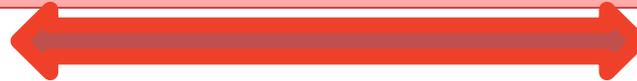


# Main MSF models of differentiated ART delivery

Aim: reduce burden for patients AND health care workers



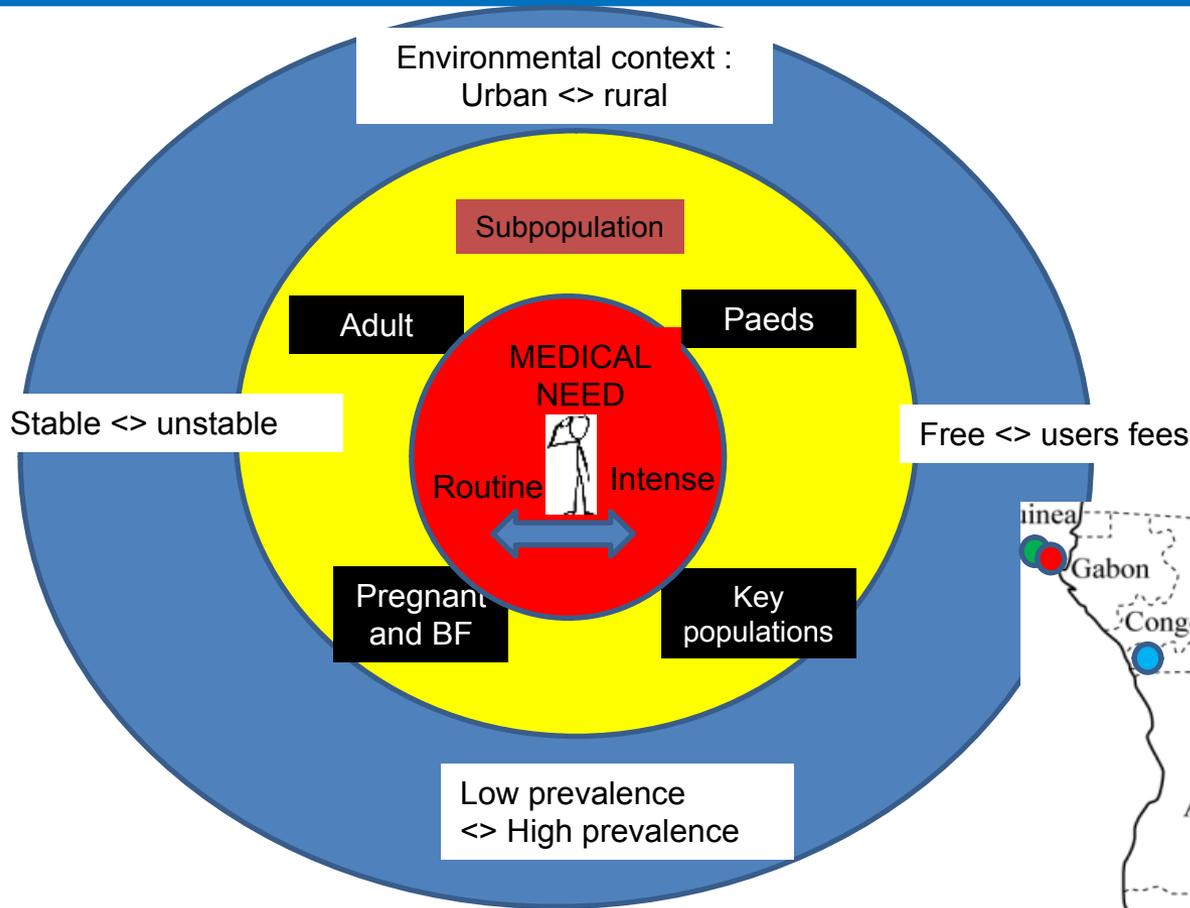
Delinking clinical consultation from ART refill for stable patients on ART



| Appointment spacing and fast-track drug refill | Adherence Clubs      |                       | Community ART Distribution Points (PODI) | Community ART Groups (CAGs) |
|------------------------------------------------|----------------------|-----------------------|------------------------------------------|-----------------------------|
|                                                | Facility-based clubs | Community-based clubs |                                          |                             |

| Context               | Urban & rural     | Urban & rural                       | Urban                         | Rural             |
|-----------------------|-------------------|-------------------------------------|-------------------------------|-------------------|
| ART refill            | 1 to 3-monthly    | 2-6 monthly                         | 3-monthly                     | 1 to 3 Monthly    |
| Mode                  | Individual        | Group                               | Individual                    | Group             |
| Where                 | Health facility   | Health facility or community venues | Community distribution points | Patients' homes   |
| Led by                | CHW               | CHW                                 | Expert patients               | Expert patients   |
| Clinical consultation | Yearly            | Yearly                              | Yearly                        | Yearly            |
| Blood drawing         | Yearly viral load | Yearly viral load                   | Yearly viral load             | Yearly viral load |

# Designing the appropriate model: logical framework



-  Appointment spacing/fast track
-  Adherence Clubs
-  Community ART distr (PODI)
-  Community ART Groups (CAGs)



# The building blocks



WHEN



WHERE



WHO



WHAT



“The amount of time we spend at the health facility in the queues –it's too much time. I want to come to the facility only twice a year... I have a life to live.”

- Patricia Asero Achieng, PLHIV, Kenya



## AN ONLINE KNOWLEDGE REPOSITORY FOR DIFFERENTIATED CARE

This is the go-to resource and online recipe book for implementing differentiated models of antiretroviral therapy (ART) delivery.

Visit [www.differentiatedcare.org](http://www.differentiatedcare.org)



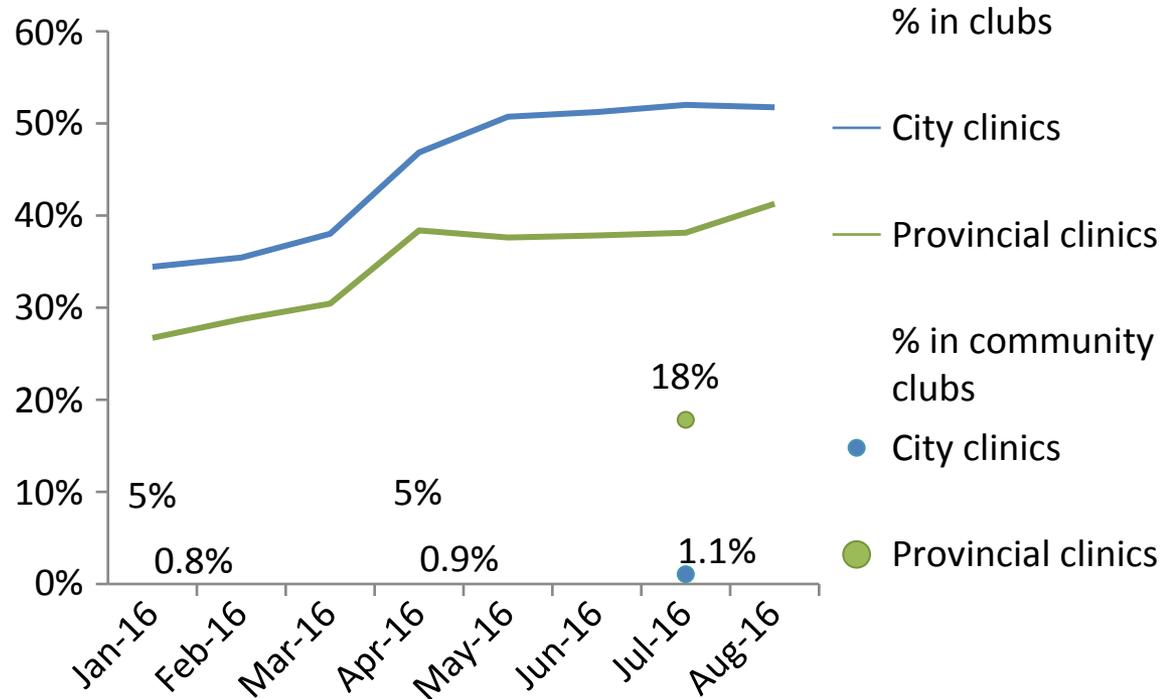
DIFFERENTIATED CARE FOR HIV:

**A DECISION FRAMEWORK FOR ANTIRETROVIRAL THERAPY DELIVERY**

*It's time to deliver differently.*

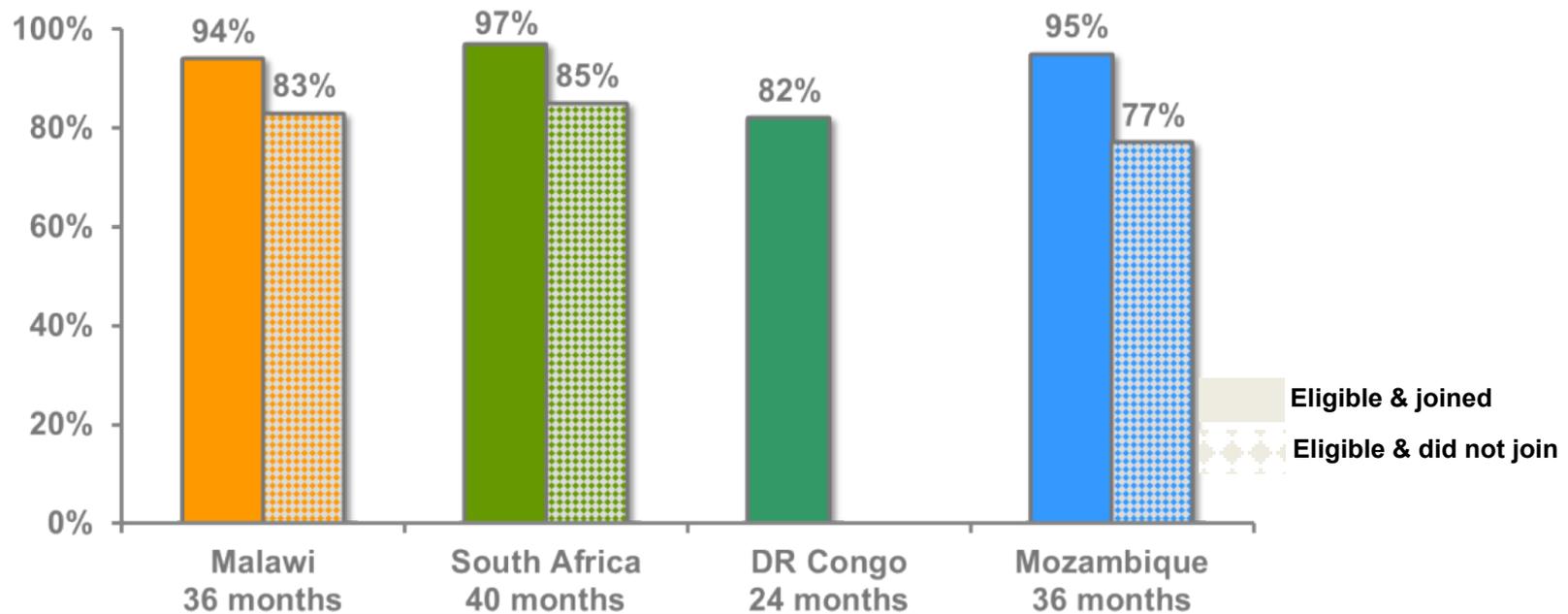
# Can we have 70 -80 % of all ART chronic patients on community models ?

City of Cape Town , South Africa



data sources: sinjani.pgwc.gov.za; community club registers

# Better retention than conventional care



Project data, Chiradzulu, 2013, Luque-Fernandez, 2013, Kalenga, 2013, Preliminary data, Tete, 2015

Clinical outcomes may in fact be superior when it comes to selected outcomes such as **retention in HIV care and viral suppression ( Khayelitsha and Kinshasa )**

In building decentralized ART delivery, adherence, and retention in care support, **community-based ART programs encourage patient autonomy, build social networks, and minimize the structural barriers, such as cost of transport to the clinic,** which in turn appear to result in better outcomes

# Policy and resources: critical enablers



Task shifting to community health workers



Access to quality clinical management



Robust drug supply

## Cost per patient /year

Adherence club

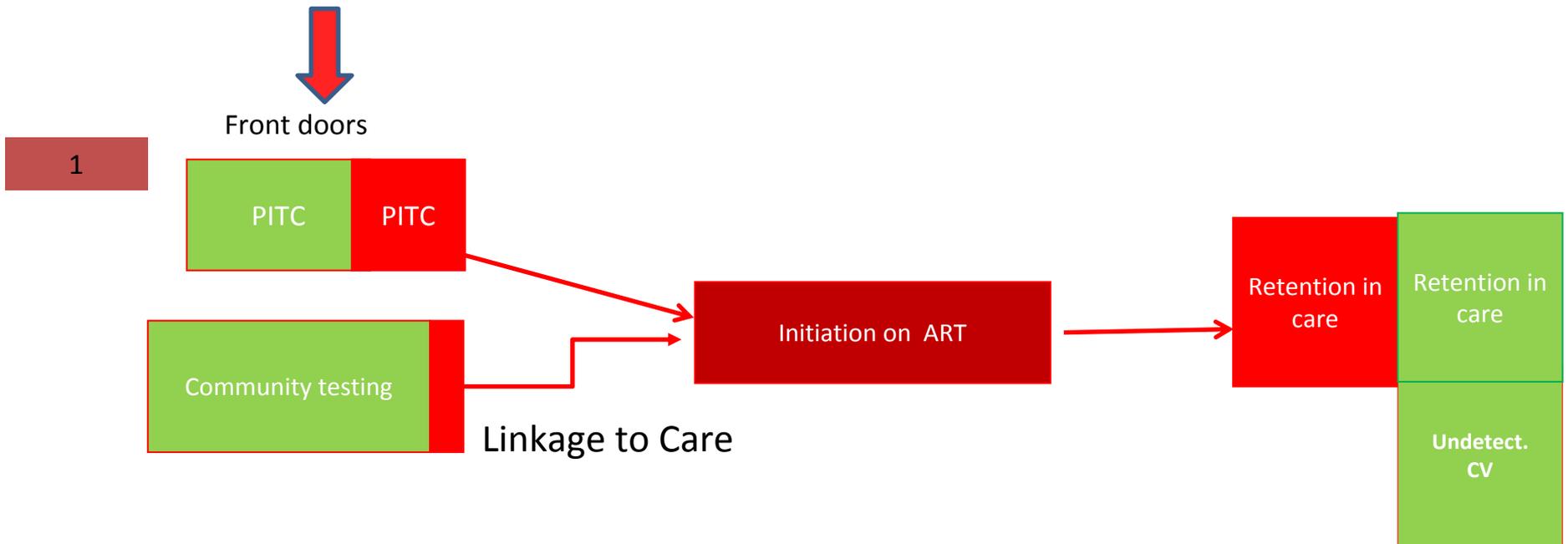
300 US\$

Conventional care

374 US\$

Cost-effectiveness and access analysis from Khayelitsha Adherence clubs Funeka Bango and all , UCT Health Economics Unit

# ART treatment cascade : focus on front doors



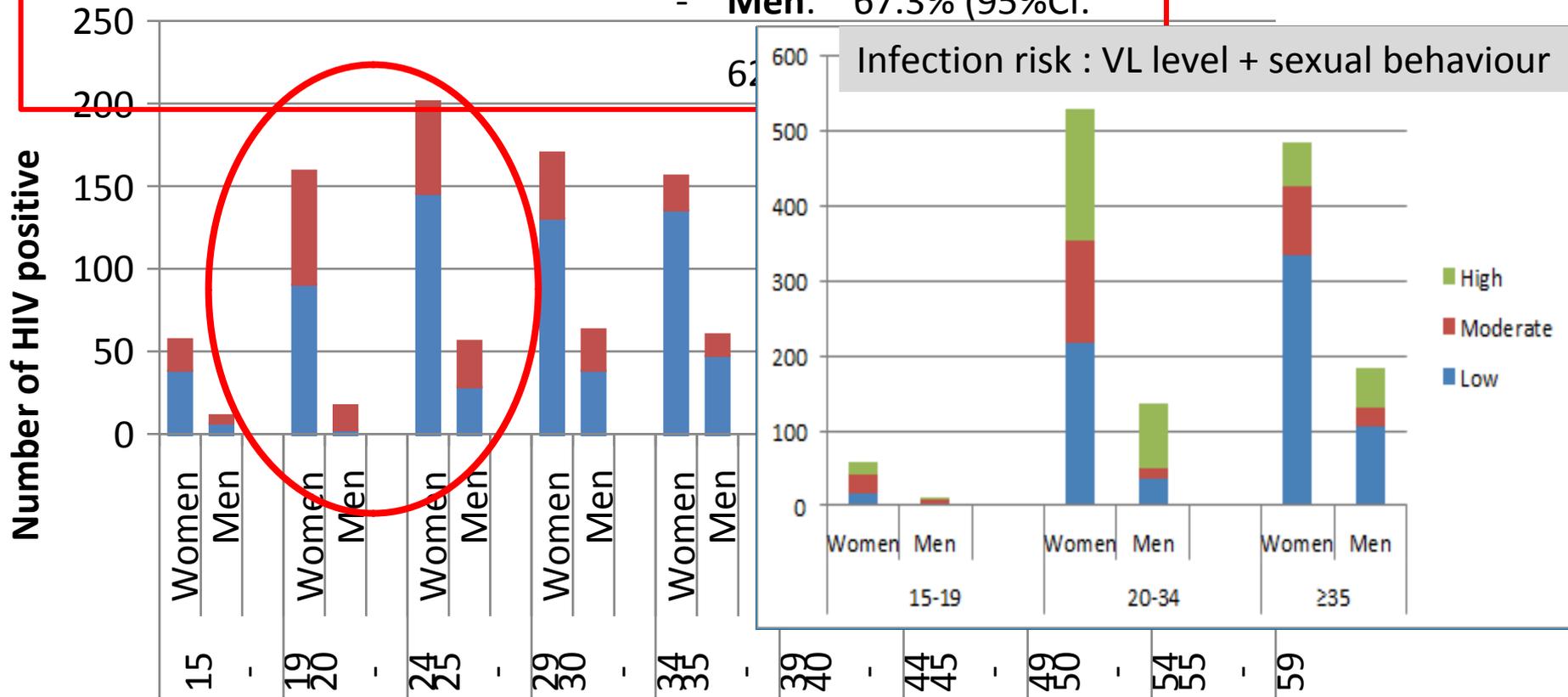
# Not everyone is equal when looking at HIV transmission

## Community survey, KZN , South Africa , 2013

**Awareness: 75.2%**  
(95%CI:72.9-77.4)

- **Women:** 77.7% (95%CI: 75.1-80.1)

- **Men:** 67.3% (95%CI: 62.1-72.5)

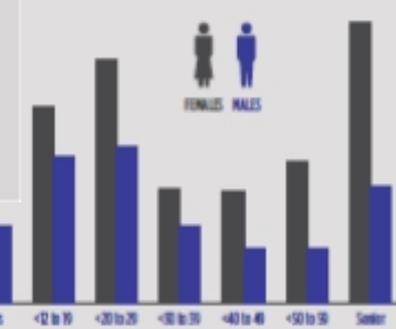
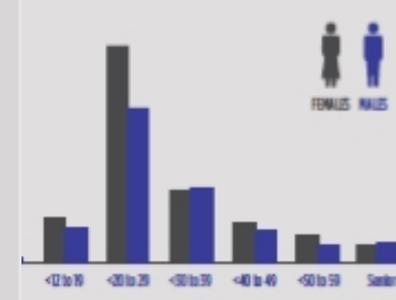
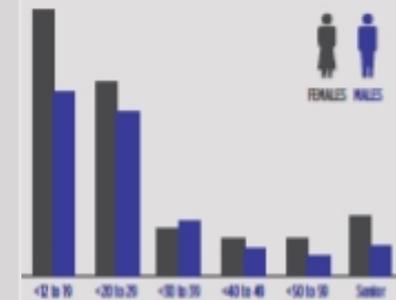


# Moving differentiated care at front end of cascade, PLHA's with VL > 1000 cp/ml, Eshowe, KZN, SA 2016

## CASCADE OF CARE, MSF ESHOWE PROJECT, Q2 2016

HIV CARE FOR EPIDEMIC CONTROL: AMBITIONS VS REALITY

— **Ambition** (UNAIDS official goal by 2020 [8])  
 — **Reality** (Results in Eshowe project, population target = 114 000)

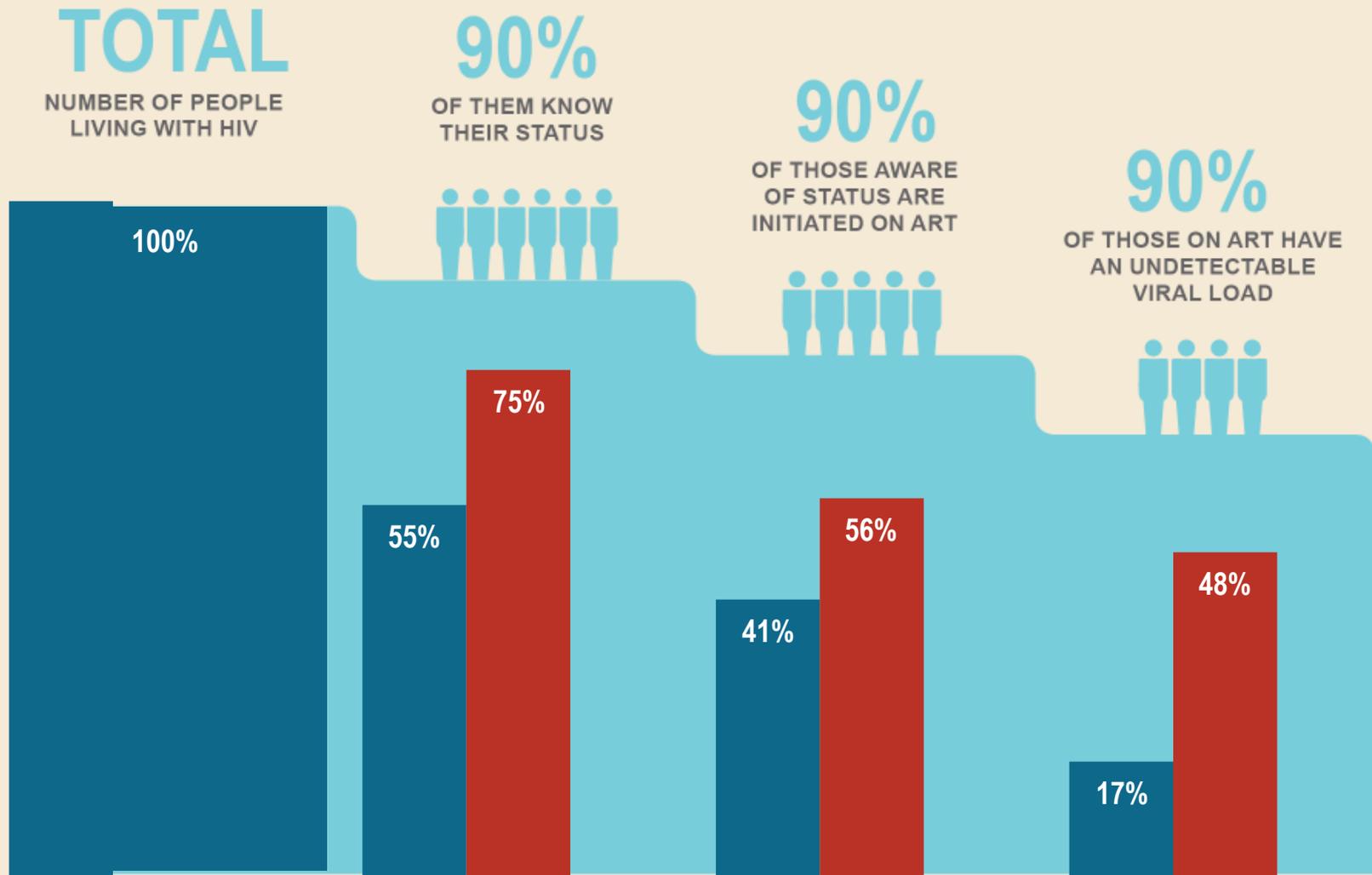


1 - 1 - 2 - 2 - 2 - 2 | 3 - 3 - 3 - 3

■ Undiagnosed ■ Diagnosed/Not A

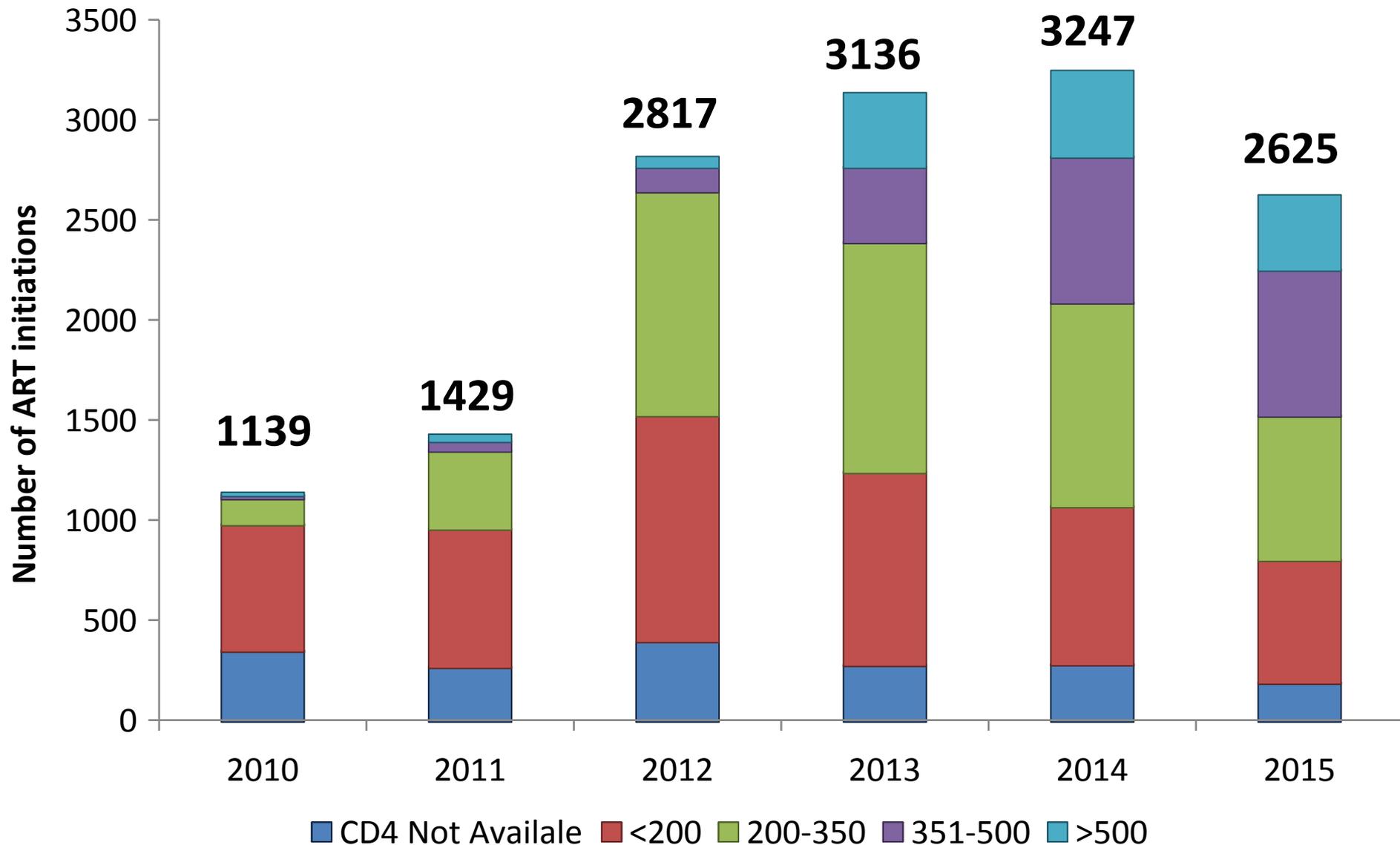


# HIV Treatment Cascade in Eshowe , KZN



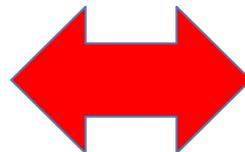
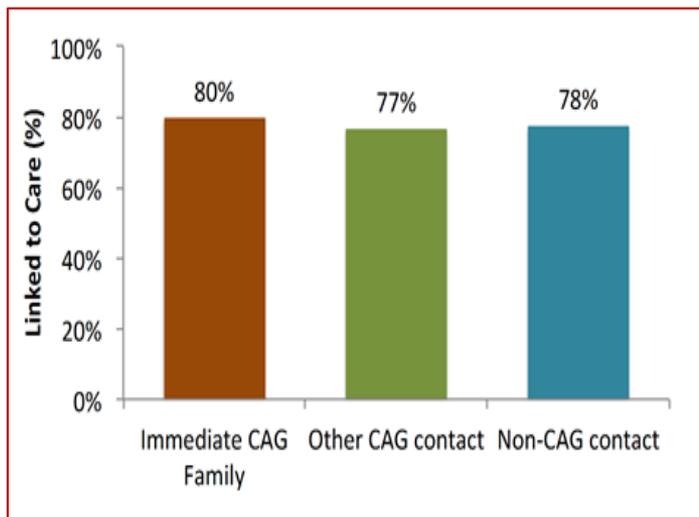
# Number of yearly ART initiations

Eshowe, KZN, South Africa



# Enhanced linkage to care <> community initiation

## Tete, Mozambique <> Khayelitsha , South Africa



Mobile community testing / POC CD4

Staffed by lay HCWs + nurse

CD4 > 350

CD4 < 350 ( or choice )

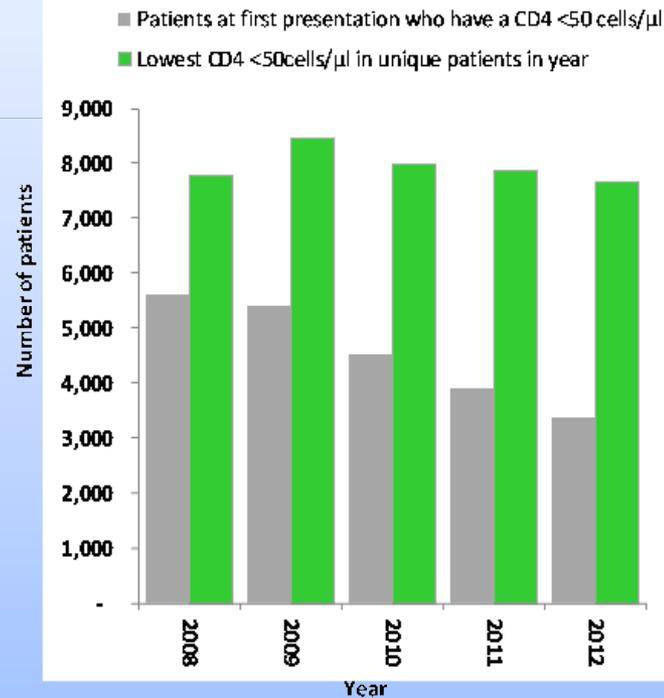
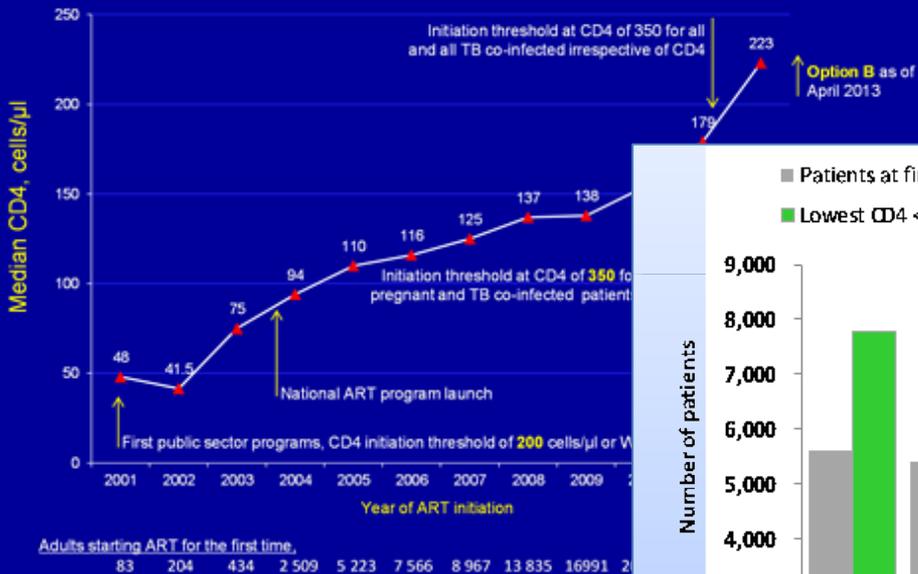


Refer to closest clinic with linkage support strategy ->SOC

| Linkage                                                                           | CHW        | Mobile 1   | Mobile 2   | Fixed site |
|-----------------------------------------------------------------------------------|------------|------------|------------|------------|
| <b>Clients tested HIV+ in Q1_2013</b> who were referred to MSF-supported facility | <b>52</b>  | <b>65</b>  | <b>49</b>  | <b>96</b>  |
| Linked by the end of Q3_2013                                                      | 20         | 29         | 14         | 46         |
| Not linked                                                                        | 32         | 36         | 35         | 50         |
| <b>Proportion linked</b>                                                          | <b>38%</b> | <b>45%</b> | <b>29%</b> | <b>48%</b> |

# Ongoing advanced HIV disease presentations despite increasing median CD4 at initiation . Western Cape , South Africa

## CD4 at ART initiation ART-naïve adults



In 2012

25% previously ART eligible not yet on ART

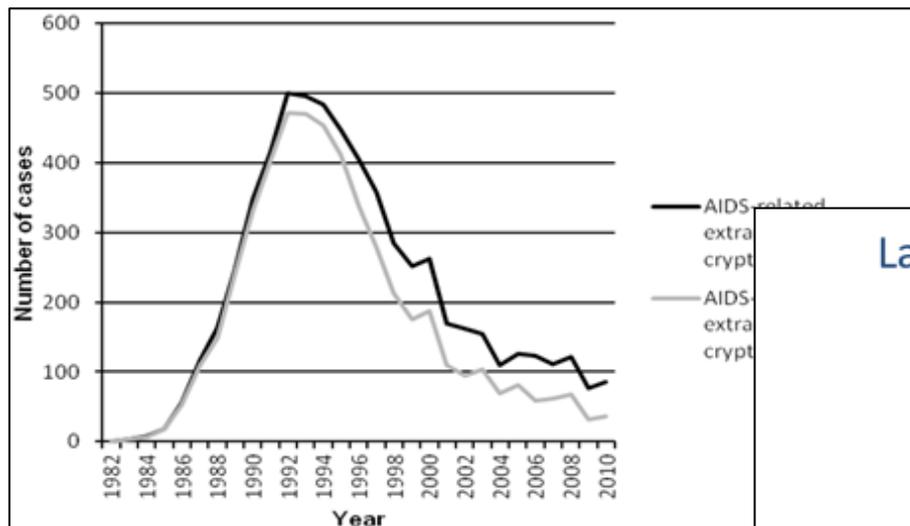
35% on ART

40% first presentation

Community CD4 count as a marker of morbidity potential: Results from the Western Cape, South Africa. M. Osler, A.Boulle, UCT

# Stage IV disappeared in some countries with ARV coverage ...but not in others

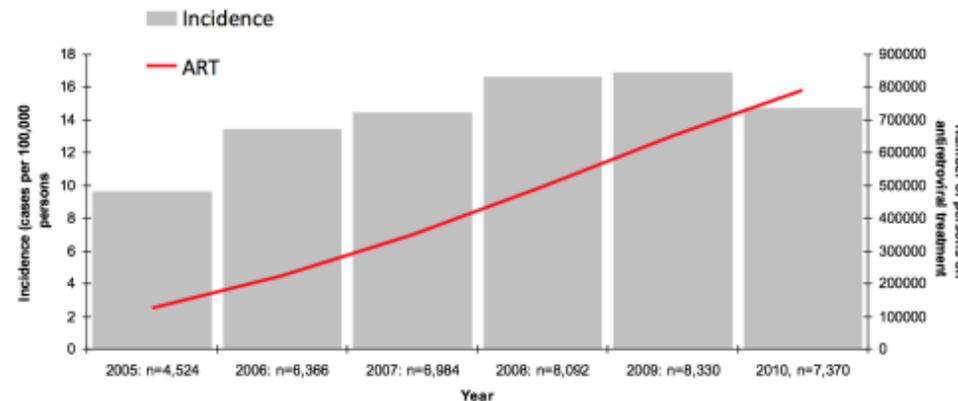
Number of cases of AIDS-related extrapulmonary cryptococcosis cases.  
 Sao Paulo, 1982–2010. Jose E. Vidal Braz J Infect Dis. 2013 ; 17(3): 353–362



## Laboratory-confirmed cryptococcosis in SA



Incidence of cryptococcosis (n=41,666\*) vs. number of persons on antiretroviral treatment (ART)\*\* by year, South Africa, 2005-2010



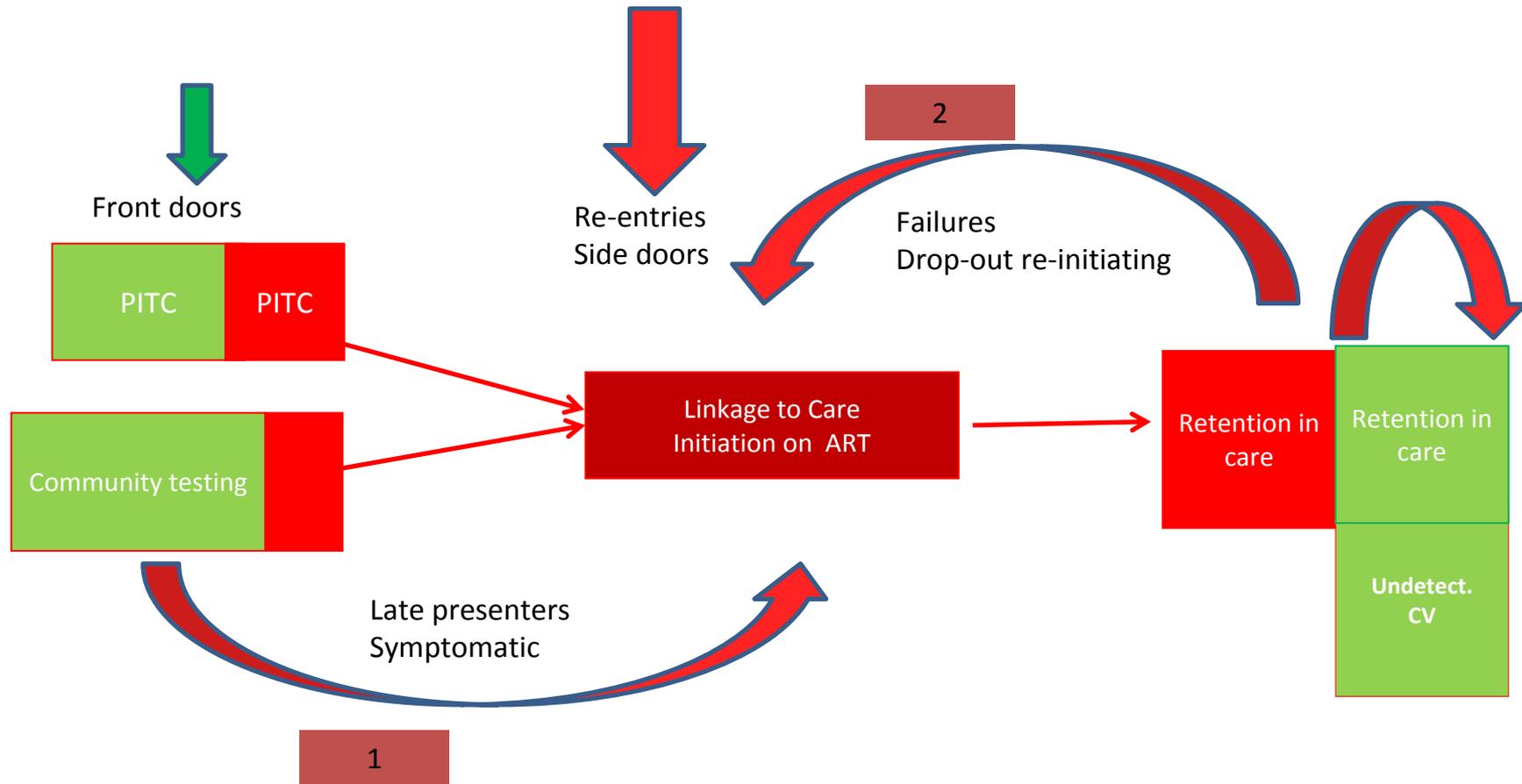
Slide from Nelesh Govender, NICD

\*Complete surveillance audits were conducted from 2008-2010; \*\*ASSA-2003 model

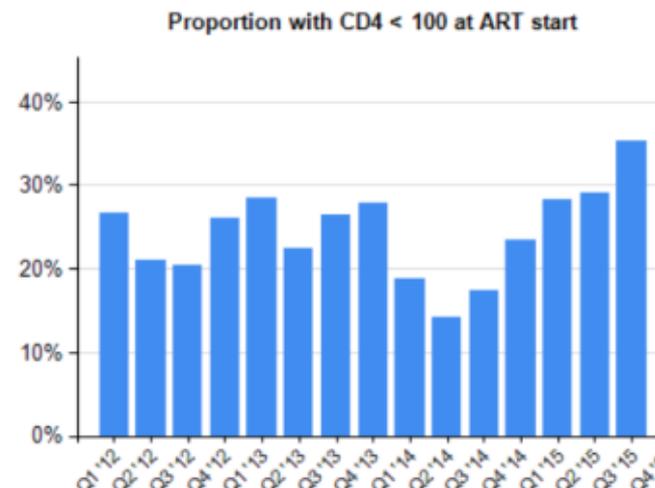
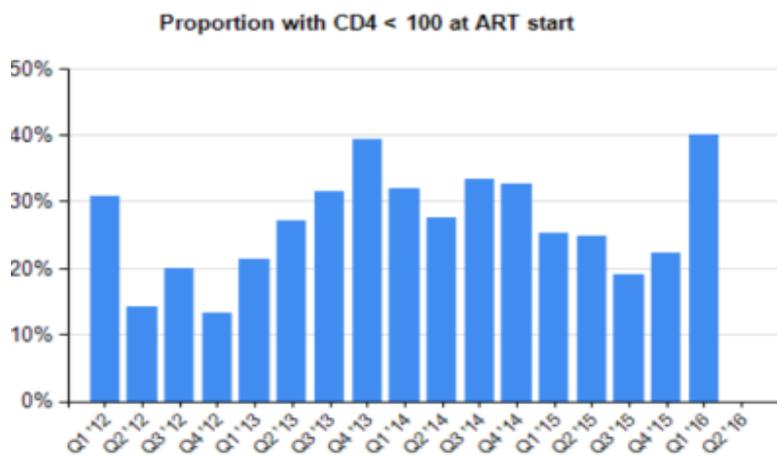
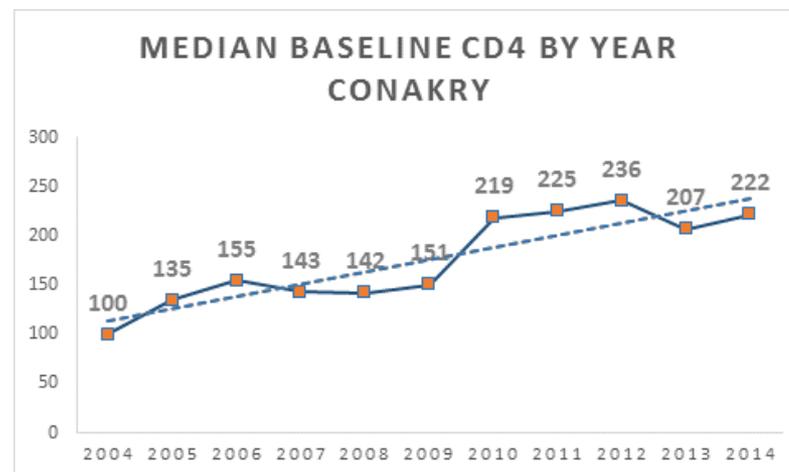
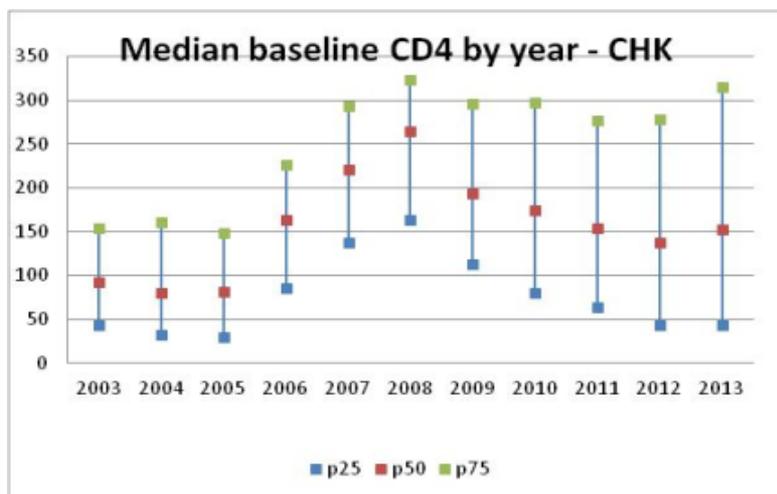


Slide courtesy of Graeme Meintjes

# ART treatment cascade



# Front door : Evolution of late presenters ratio (CD4 < 100) Health centers levels in 2 capital cities



**Kinshasa** – 6 facilities  
9179 ever initiated – low prevalence

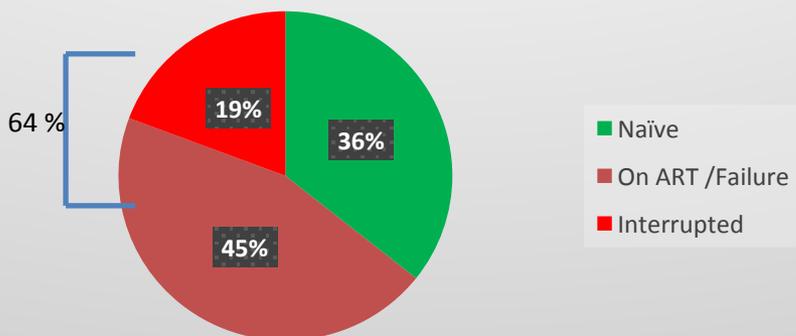
**Conakry** - 5 facilities – 6553 ever initiated – low prevalence



# HIV-Related Medical Admissions in 3 referral hospitals Cape Town, SA, Kinshasa , DRC and Homa Bay , Kenya



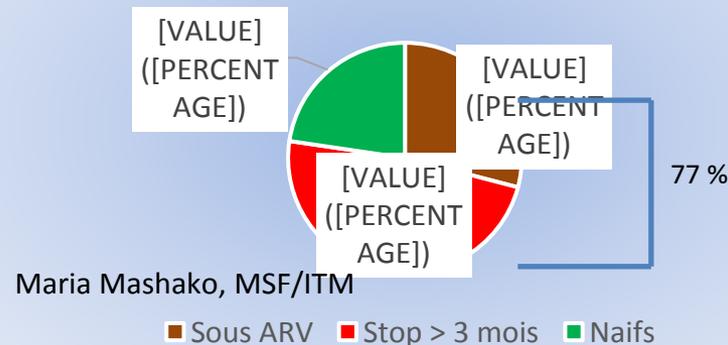
GF Jooste hospital , Cape Town, South Africa,  
June 2012 -October 2013 ,n=609



Graeme Meintjes and all, Medicine Volume 94, Number 50, Dec 2015

- Mortality : 20 % but at 90 days follow-up, 29.9% required readmission and 13.3% died.

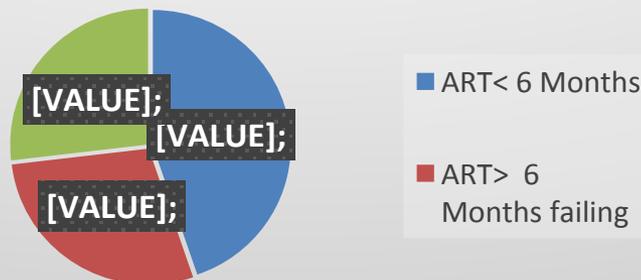
CHK Hospital , Kinshasa,  
n=1285



Maria Mashako, MSF/ITM

- In-hospital mortality : 30 -35 % .
- Post discharge mortality : unknown  
Probably about 50 %

Homa Bay Hospital, Kenya



- Mortality : 29 % .
- Post discharge mortality : unknown  
.Probably reaches up to 40 %

# Late presenters proposed screening package PHC level ( < 100 Cd4 or symptomatic)

Semi-quant CD4 LFA



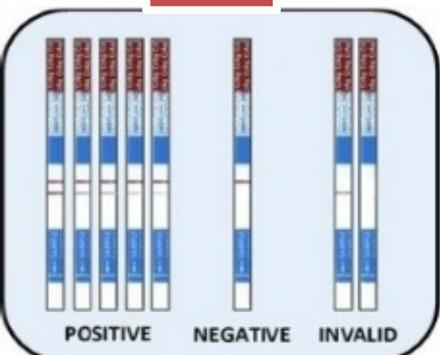
## Minimal PHC screening package

- semi quantitative CD4 LFA
  - TB LAM test : GeneXpert acces
  - CRAG test
  - TDF blood level tests ( DBS)
  - Point mutation genotype ?
- + Clinical management of non naïve patients including referral criteria + aggressive approach ( counselling ,VL algorithm, 2<sup>nd</sup> line switch)

TB -LAM (< 100 Cd4)



CRAG



# CLINICAL MANAGEMENT OF PATIENTS WITH ADVANCED HIV DISEASE

(i.e. those presenting with CD4 count < 200 CD4 cells/mm<sup>3</sup> or WHO Stage III & IV defining illness)

## IMPORTANT BASICS

- Perform a thorough clinical examination.
- Check all 4 vital signs: pulse, respiratory rate, temperature and blood pressure.
- Rehydrate if signs of dehydration (due to diarrhea, vomiting, or other causes).
- Admit a clinically unstable patient to hospital!
- Sepsis is common in advanced disease. If a fever is present, examine thoroughly to find the site. If there is likely to be a delay in admission and a severe bacterial infection is suspected (e.g. pneumonia), give the first dose of antibiotics i.m. or i.v. - e.g. ceftriaxone
- Respiratory disease is also common in advanced disease. Consider especially TB and bacterial or pneumocystis pneumonia (PCP). Administer oxygen if short of breath (including nasal flaring in children) and oxygen saturation < 90% (strongly consider PCP). If respiratory rate > 30 admit to hospital

## EVALUATE FOR EPTB

**CHEST X-RAY** presentations of PTB in HIV patients are well characterized



Nodules

cavities

enlarged lymph nodes

military pattern

## SCREEN AND EVALUATE FOR PULMONARY TB

**CHEST X-RAYS** features of EPTB



Large heart in TB pericarditis (especially if symmetrical and rounded)

TB-related pleural effusion

Needle aspiration of any fluctuant lymph nodes

In patients with CD4 < 100, test urine for disseminated TB antigen with Determine TB LAM

## ABDOMINAL TB CAREFUL

### PALPATION

for abdominal tenderness (especially epigastric area) can indicate organomegaly and/or abdominal lymph nodes due to EPTB. Confirm if possible with ultrasound

## TEST FOR CRYPTOCOCCAL ANTIGEN (CRAG)

**SCREEN** all patients with CD4 < 100 with a rapid serum or plasma CrAg test. If positive, need to decide if patient might have cryptococcal meningitis:

1. **LUMBAR PUNCTURE (LP)** should be performed in all those with headache, confusion, and/or change in behaviour, provided that capacity exists and there are no contraindications!:

Test CSF for evidence of:

- CCM, preferably with a rapid CrAg assay
- bacterial meningitis
- TB meningitis (TBM)

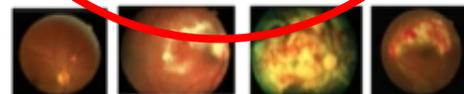
2. If CrAg+ and none of above symptoms, give 'pre-emptive' antifungal therapy<sup>2</sup> (see WHO rapid advice algorithm, 2011)

## BE AWARE OF THE SYMPTOMS OF TOXOPLASMOSIS

Any person with focal neurological impairment - "stroke", weak limb(s), co-ordination problems, facial weakness, speech difficulty - may have an intracranial lesion due to one of several infections, including toxoplasmosis, and should be referred urgently for more comprehensive evaluation

## EVALUATE VISION AND REFER, ESPECIALLY IF RECENT DETERIORATION

CMV retinitis can cause permanent blindness if left untreated. Either examine the fundi yourself using an ophthalmoscope and dilating drops (cyclopentolate or tropicamide) or refer for fuller evaluation and treatment



## CHECK PALATE AND SKIN

for purplish lesions of Kaposi's Sarcoma



## LATE PRESENTERS' NEED

All patients with advanced hiv disease need antiretroviral therapy (ART)

- Initiate within 2 weeks if possible.
- Important exceptions:
  - Wait 4-6 weeks after initiation of treatment for TB and cryptococcal meningitis to avoid life-threatening intracranial IRI
  - Wait 2 weeks after initiation of all other TB treatment if CD4 < 50
  - Wait 2-6 weeks after initiation of all other TB if CD4 > 50

# Conclusions

- Differentiated models of care can help to accelerate the 90-90-90 by
  - offloading workload from overburden health services
  - increasing social fabric and adherence
- differentiated models also apply at front end of cascade ( non sick, non health seeking clients ) and central part ( care)
- Aids is not over in SS Africa : still unacceptable number of deaths ! Advanced HIV diseases management remains an ongoing priority
- we need new tools like new diagnostics and ARV formulation compound including long acting injectable/ implants as well as new delivery models to control this pandemic .

# Aknowledgments

- Graeme Meintjes, Katherine Hilderbrand , Andrew Boule, Meg Osler, UCT , Cape town
- MSF teams in Khayelitsha ,Eshowe and Kinshasa
- David Maman , Aline Niyibizi, Epicentre
- Jean Nachega , Stellenbosch University
- SAMU team mates