

# Challenges to Test and Treat Strategies

## 2018

UTT

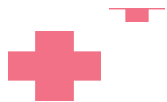
SDI

and other

TLA's

**Dr Julia Turner**

**Right to Care NGO**



# Challenges to Test and Treat Strategies

2019

UTT

SDI

DTG

TLD

and other

TLA's

**Dr Julia Turner**

**Right to Care NGO**





Who was here last year and remembers  
my talk?

1. Yes
2. No





Do you think Universal Test and Treat should be implemented in all clinics and hospitals in South Africa?

1. Yes
2. No



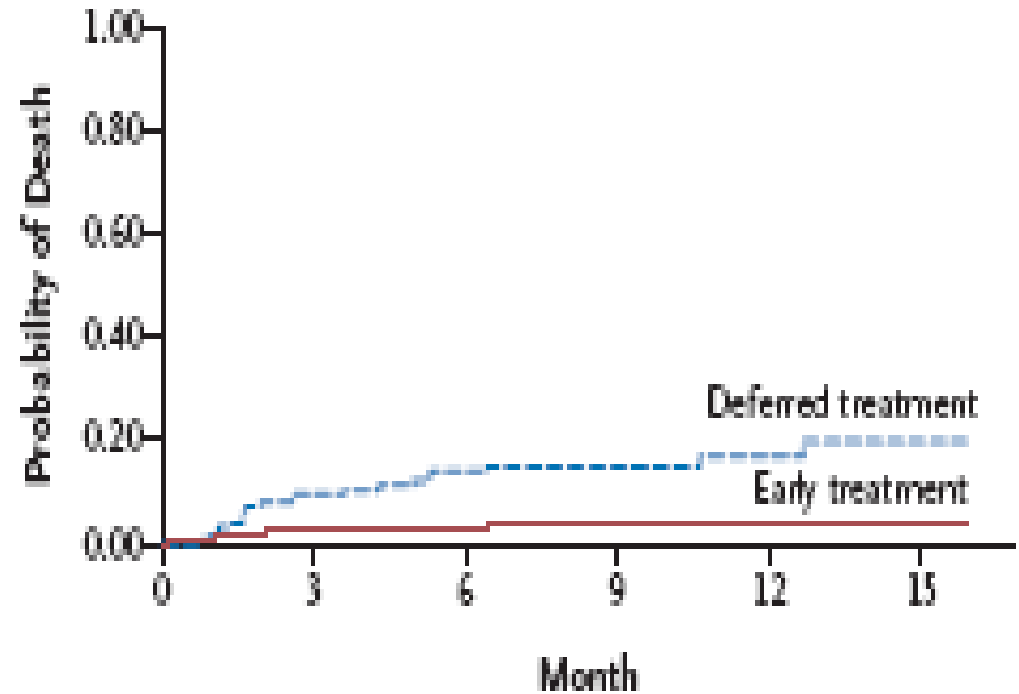
2008

# CHER study shows 76% decrease in mortality

## Infants



A



No. at Risk

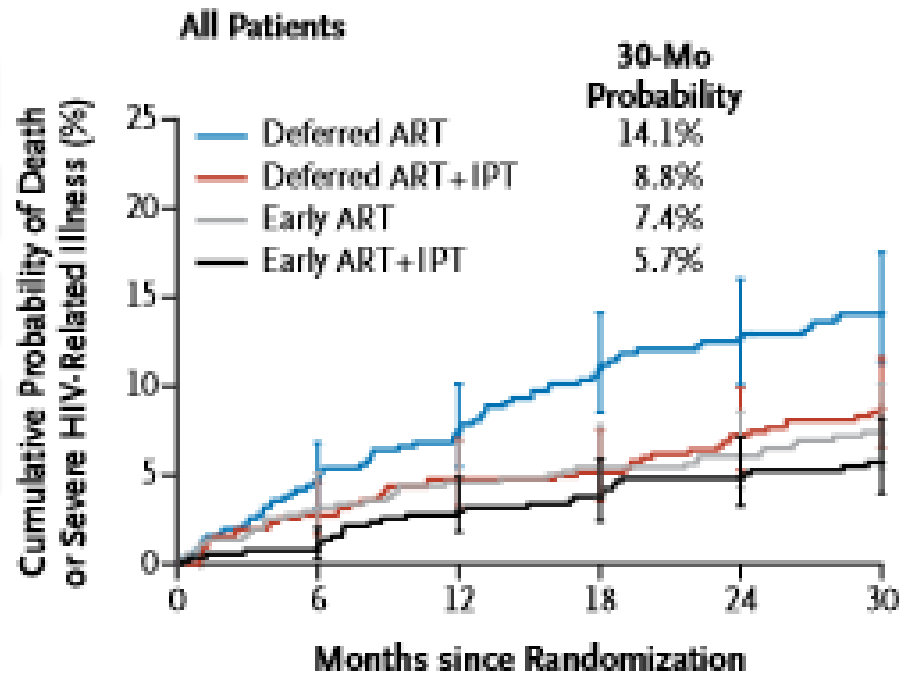
Deferred treatment	125	112	85	56	32	16
Early treatment	252	241	184	137	70	39

2015

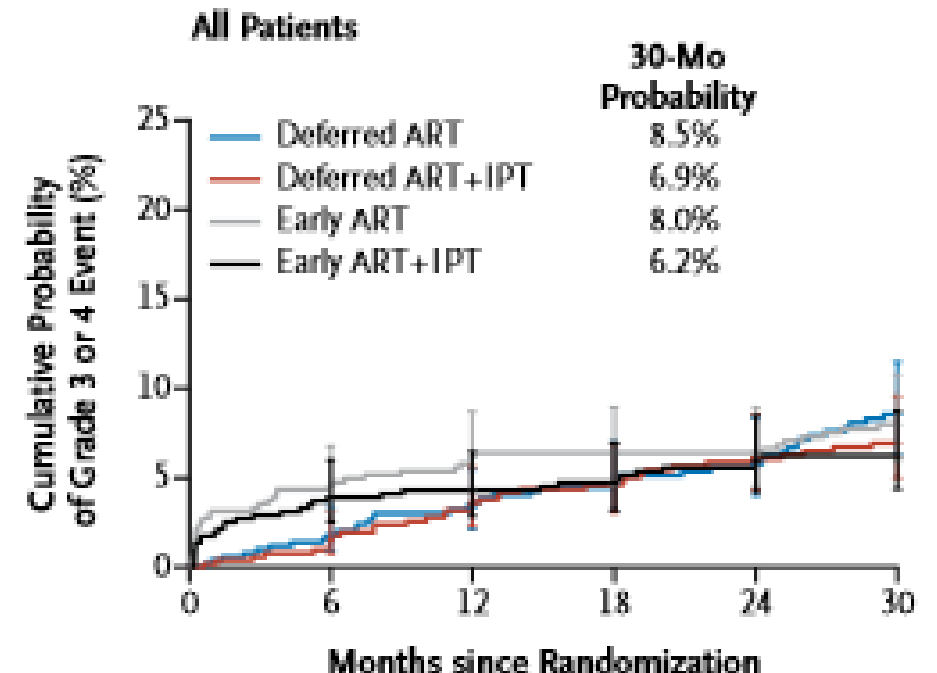
# TEMPRANO trial

2056 patients from Ivory Coast followed for 2 ½ yrs. All with CD4<800  
Randomly assigned into 4 arms

A Primary Outcome



B Main Secondary Outcome



Death

Tuberculosis

Cancer

Invasive bacterial infections

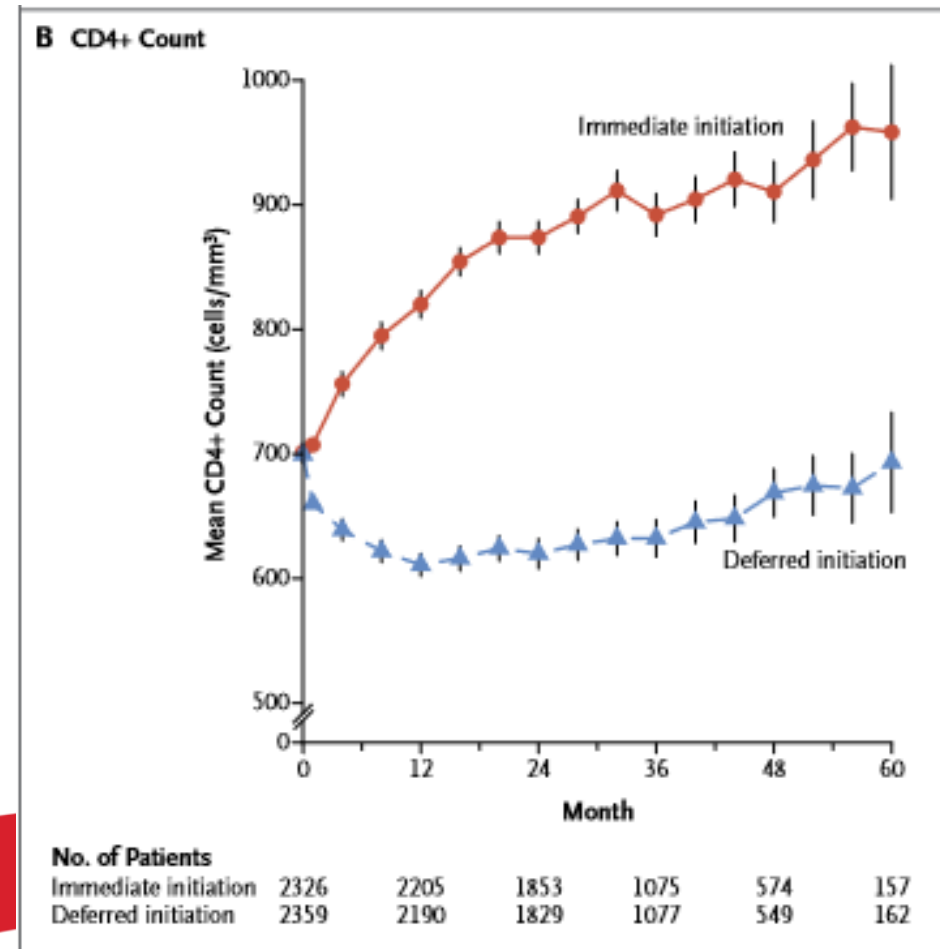
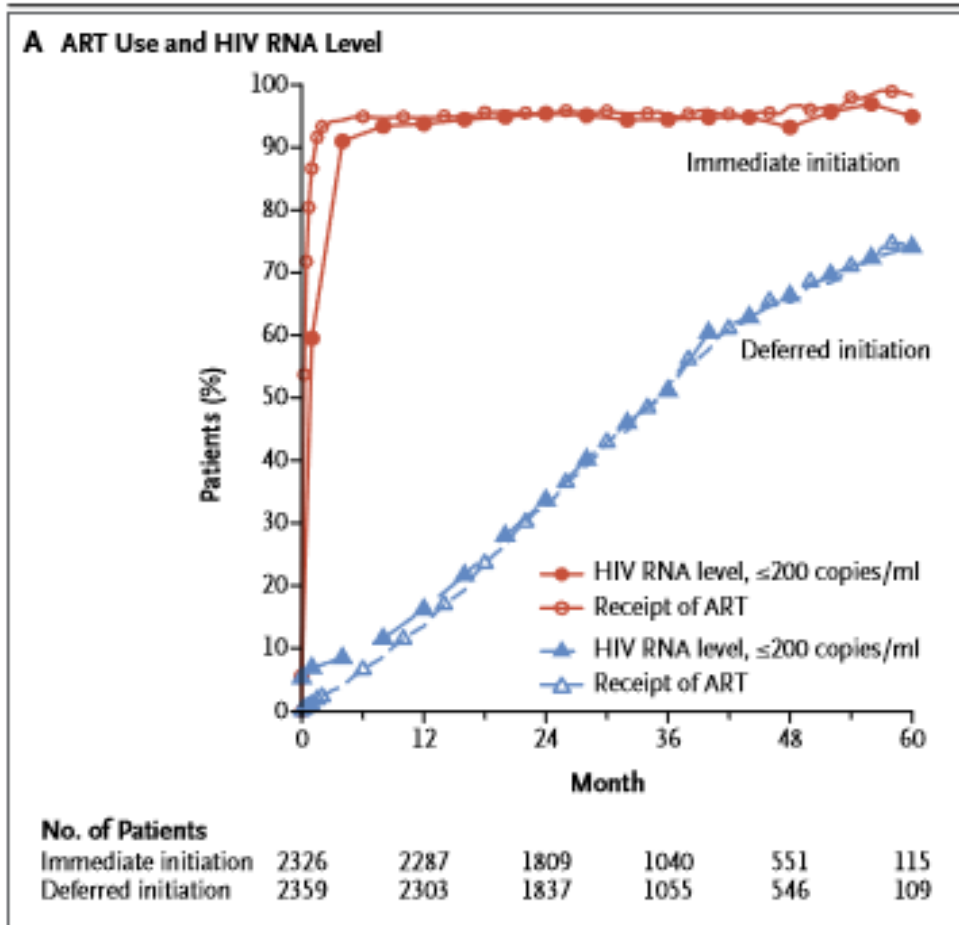
2015

# START trial:

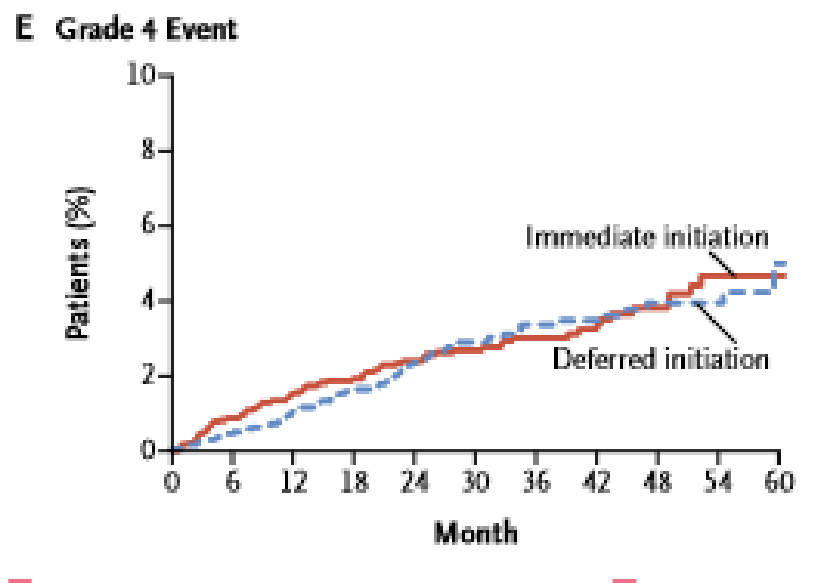
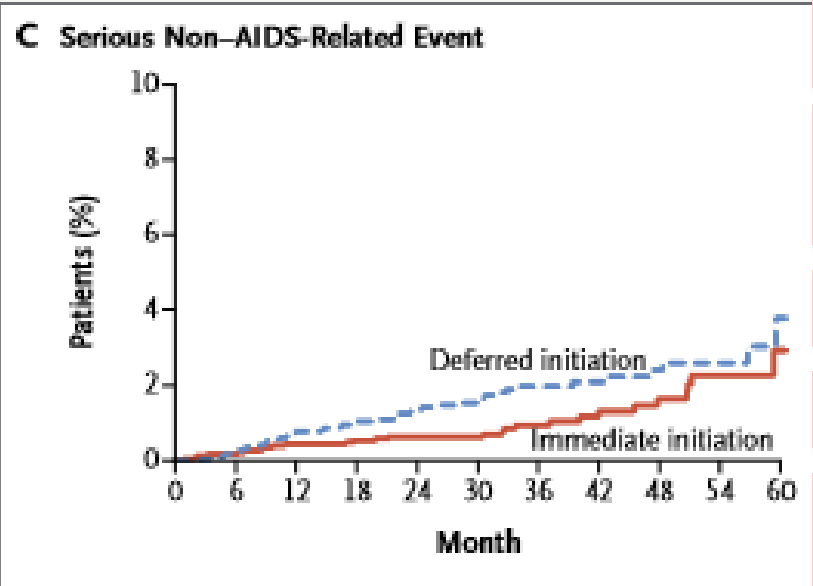
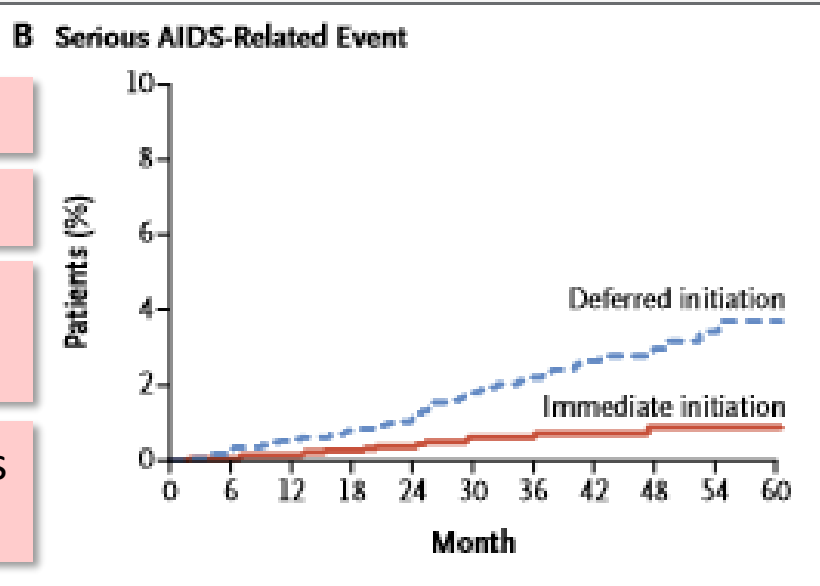
Randomized study –immediate ART or deferred <350  
4685 patients f/u for 3 years

VL suppression

CD4 count



- Kaposi's Sarcoma
- Tuberculosis
- Malignant lymphoma
- Bacterial infectious disorder



- Cardiovascular disease
- Cancer not related to AIDS
- Bone or joint injury
- Depressed mood
- Infection with unspecified pathogen
- Injury not elsewhere classified
- Suicidal or self-injurious behaviour



2016



# Partners study HPTN 052



Suppressed VL means no transmission to sexual partners

$U=U$

Undetectable = Untransmissible

TasP

Treatment as Prevention



Is your clinic or hospital starting everyone on ART regardless of CD4 count?

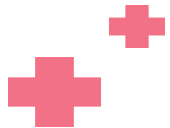
1. Yes
2. No





# Challenges to Implementation

- **Overburdened Health Care System**
- **Only a few clinicians who initiate ART**
- **Time consuming to initiate**
- **Tracing the Pre-ART list**
- **Linkage to care**
  - Community based testing → clinic initiation
  - Clinic HCT → clinic initiation
  - Hospital → clinic initiation





# Challenges to Implementation

- **Overburdened Health Care System**
- **Community delivery models**
  - Differentiated Models of Care
  - Central Chronic Medicine Dispensing and Distribution (CCMDD)
  - Pick up Points
  - Adherence Clubs





# Challenges to Implementation

- Only a few clinicians who initiate ART
- NIMART
- Ongoing training in conjunction with mentoring and logbook support
- Working with onsite or roaming doctors
- Improve health worker management
  - Change attitudes
  - Starter pack: Helpline numbers, Support staff contacts, Useful resources



**ANTIRETROVIRAL DRUG DOSING CHART FOR CHILDREN 2013**

Compiled by the Child and Adolescent Committee of the SA HIV Clinicians Society in collaboration with the Department of Health

Target Dose	Abacavir (ABC)	Lamivudine (3TC)	Efavirenz (EFV)	Lopinavir/ritonavir (LPV/r)	Ritonavir (RTV)	Stavudine (d4T)	Dolutegravir (DTG)	Nevirapine (NVP)	Zidovudine (AZT)	Target Dose
3.3-9	8mg/kg TWICE daily OR 16mg/kg ONCE daily	8mg/kg TWICE daily OR 16mg/kg ONCE daily	Weight based OR 120mg	300/75mg twice daily (P/Vm 1/4:1/4 P/Vm 1/4:1/4)	500mg TWICE daily (P/Vm 1/4:1/4 P/Vm 1/4:1/4)	150mg TWICE daily	180-240mg minimum ONCE daily	160-200mg minimum TWICE daily (P/Vm 1/4:1/4 P/Vm 1/4:1/4)	180-240mg minimum TWICE daily	3.3-9
10-19	8mg/kg TWICE daily OR 16mg/kg ONCE daily	8mg/kg TWICE daily OR 16mg/kg ONCE daily	Weight based OR 120mg	300/75mg twice daily (P/Vm 1/4:1/4 P/Vm 1/4:1/4)	500mg TWICE daily (P/Vm 1/4:1/4 P/Vm 1/4:1/4)	150mg TWICE daily	180-240mg minimum ONCE daily	160-200mg minimum TWICE daily (P/Vm 1/4:1/4 P/Vm 1/4:1/4)	180-240mg minimum TWICE daily	10-19
20-29	8mg/kg TWICE daily OR 16mg/kg ONCE daily	8mg/kg TWICE daily OR 16mg/kg ONCE daily	Weight based OR 120mg	300/75mg twice daily (P/Vm 1/4:1/4 P/Vm 1/4:1/4)	500mg TWICE daily (P/Vm 1/4:1/4 P/Vm 1/4:1/4)	150mg TWICE daily	180-240mg minimum ONCE daily	160-200mg minimum TWICE daily (P/Vm 1/4:1/4 P/Vm 1/4:1/4)	180-240mg minimum TWICE daily	20-29
30-39	8mg/kg TWICE daily OR 16mg/kg ONCE daily	8mg/kg TWICE daily OR 16mg/kg ONCE daily	Weight based OR 120mg	300/75mg twice daily (P/Vm 1/4:1/4 P/Vm 1/4:1/4)	500mg TWICE daily (P/Vm 1/4:1/4 P/Vm 1/4:1/4)	150mg TWICE daily	180-240mg minimum ONCE daily	160-200mg minimum TWICE daily (P/Vm 1/4:1/4 P/Vm 1/4:1/4)	180-240mg minimum TWICE daily	30-39
40-49	8mg/kg TWICE daily OR 16mg/kg ONCE daily	8mg/kg TWICE daily OR 16mg/kg ONCE daily	Weight based OR 120mg	300/75mg twice daily (P/Vm 1/4:1/4 P/Vm 1/4:1/4)	500mg TWICE daily (P/Vm 1/4:1/4 P/Vm 1/4:1/4)	150mg TWICE daily	180-240mg minimum ONCE daily	160-200mg minimum TWICE daily (P/Vm 1/4:1/4 P/Vm 1/4:1/4)	180-240mg minimum TWICE daily	40-49
50-59	8mg/kg TWICE daily OR 16mg/kg ONCE daily	8mg/kg TWICE daily OR 16mg/kg ONCE daily	Weight based OR 120mg	300/75mg twice daily (P/Vm 1/4:1/4 P/Vm 1/4:1/4)	500mg TWICE daily (P/Vm 1/4:1/4 P/Vm 1/4:1/4)	150mg TWICE daily	180-240mg minimum ONCE daily	160-200mg minimum TWICE daily (P/Vm 1/4:1/4 P/Vm 1/4:1/4)	180-240mg minimum TWICE daily	50-59
60-69	8mg/kg TWICE daily OR 16mg/kg ONCE daily	8mg/kg TWICE daily OR 16mg/kg ONCE daily	Weight based OR 120mg	300/75mg twice daily (P/Vm 1/4:1/4 P/Vm 1/4:1/4)	500mg TWICE daily (P/Vm 1/4:1/4 P/Vm 1/4:1/4)	150mg TWICE daily	180-240mg minimum ONCE daily	160-200mg minimum TWICE daily (P/Vm 1/4:1/4 P/Vm 1/4:1/4)	180-240mg minimum TWICE daily	60-69
70-79	8mg/kg TWICE daily OR 16mg/kg ONCE daily	8mg/kg TWICE daily OR 16mg/kg ONCE daily	Weight based OR 120mg	300/75mg twice daily (P/Vm 1/4:1/4 P/Vm 1/4:1/4)	500mg TWICE daily (P/Vm 1/4:1/4 P/Vm 1/4:1/4)	150mg TWICE daily	180-240mg minimum ONCE daily	160-200mg minimum TWICE daily (P/Vm 1/4:1/4 P/Vm 1/4:1/4)	180-240mg minimum TWICE daily	70-79
80-89	8mg/kg TWICE daily OR 16mg/kg ONCE daily	8mg/kg TWICE daily OR 16mg/kg ONCE daily	Weight based OR 120mg	300/75mg twice daily (P/Vm 1/4:1/4 P/Vm 1/4:1/4)	500mg TWICE daily (P/Vm 1/4:1/4 P/Vm 1/4:1/4)	150mg TWICE daily	180-240mg minimum ONCE daily	160-200mg minimum TWICE daily (P/Vm 1/4:1/4 P/Vm 1/4:1/4)	180-240mg minimum TWICE daily	80-89
90-99	8mg/kg TWICE daily OR 16mg/kg ONCE daily	8mg/kg TWICE daily OR 16mg/kg ONCE daily	Weight based OR 120mg	300/75mg twice daily (P/Vm 1/4:1/4 P/Vm 1/4:1/4)	500mg TWICE daily (P/Vm 1/4:1/4 P/Vm 1/4:1/4)	150mg TWICE daily	180-240mg minimum ONCE daily	160-200mg minimum TWICE daily (P/Vm 1/4:1/4 P/Vm 1/4:1/4)	180-240mg minimum TWICE daily	90-99

# CASE 1 CONTINUED...

- Is she on the correct ARVs?**
  - Yes
- Is she on the correct dose? (18kg) Can we simplify?**
  - No – she weighs 18kg
  - ABC 8ml bd or 2.5 x 60mg tablets
  - 3TC 8ml bd or 1/2 x 150mg tablet
  - LPV/r 2.5ml bd or 100/25 Paeds tabs 2 bd or 200/50 Adult tabs 1 bd
  - Use tablets – especially for LPV/r (syrup tastes revolting)
- What counselling does she need?**
  - Partial disclosure
  - Resistance counselling to mom
  - Explain change in medication
- Blood test and results?**
  - Repeat HIVVL in 3 months
  - Annual CD4
  - Annual Cholesterol and Triglycerides
- Other Medications**
  - No

ANTIRETROVIRAL DRUG DOSING CHART FOR CHILDREN 2013

# Liverpool Drug Interaction Website/App

HIV Drugs | Co-medications

Search HIV drugs... | Search co-medications...

Selected HIV Drugs will be displayed here. | Selected Co-medications will be displayed here.

- Abacavir
- Atazanavir
- Cobicistat (with ATV or DRV)
- Acarbose
- Acenocoumarol
- Acetazolamide

Ethambutol  
Isoniazid  
Rifampicin

**Do Not Coadminister**

Atazanavir

Rifampicin

Quality of Evidence: High

**Summary:**  
Contraindicated due to decreased atazanavir concentrations. Coadministration of rifampicin (600 mg once daily) and atazanavir/ritonavir (300/100 mg once daily) to 16 subjects decreased atazanavir C<sub>max</sub>, AUC and C<sub>min</sub> by 53%, 72% and 98% respectively. Coadministration of twice daily atazanavir alone with rifampicin failed to provide adequate atazanavir exposure and a high frequency of liver reactions was seen.



**HIV Clinical Guide**  
Metropolitan Health



**SA HIV Clinicians Society**  
Rory Leisegang

GET

3.0 ★★★★★  
5 Ratings

No41  
Medical

17+  
Age

Not Enough Ratings

No160  
Medical

12+  
Age

## What's New

## Version History

Version 2.13  
Stability improvements

1y ago

## Preview

Carrier 11:38 AM

**HIV Clinical Guide**

Introduction  
Guiding principles  
HIV counselling and testing  
Linkages and retention in care

Carrier 11:38 AM

**ART prophylaxis**

When to start: Eligible ART prophylaxis in 1 infants  
Eligibility criteria for HIV-ex

South African HIV Clinicians Society

These are often complex and difficult to read. Some...  
These are often complex and difficult to read. Some...  
These are often complex and difficult to read. Some...



# Challenges to Implementation

- Tracing the Pre-ART list



- Download Pre-ART List from TIER.net



- Allocate staff member to trace and monitor



- Contact via phone or address



- Work with community workers



# Challenges to Implementation



## Linkage to care

- Community based testing → clinic initiation
- Checking accuracy of data collection and looking for duplicates
- Mapping out organisations
- Ensure record keeping with correct contact information
- Functional referral forms
- Systems for “conversations” between organisations and facilities
- Linkage to care officers, peer navigators, Jabu project





# Challenges to Implementation



## Linkage to care

- Community based testing → clinic initiation
- Clinic HCT → clinic initiation
- Hospital → clinic initiation

**SDI**

Same Day Initiation





What proportion of your facility's patients are starting ART on the same day as being diagnosed?

1. none
2. <75%
3. >75%
4. I don't know





Do you think some staff are still resistant/hesitant about SDI?

1. Yes
2. No





Do you think same day initiation on **TLD** should be implemented in all clinics and hospitals in South Africa?

1. Yes
2. No



# Systematic review and meta-analysis of LTFU before initiation studies in sub-Saharan Africa (Catrina Mugglin)

**29 studies, >148 000 patients**

**72% had a CD4 count done**

**40% were eligible for ART**

**25% started ART**

**ART initiation is typically very tedious**

**Therefore 37.5% attrition before ART initiation**



# Same Day ART Study in Haiti (Serena Koenig)

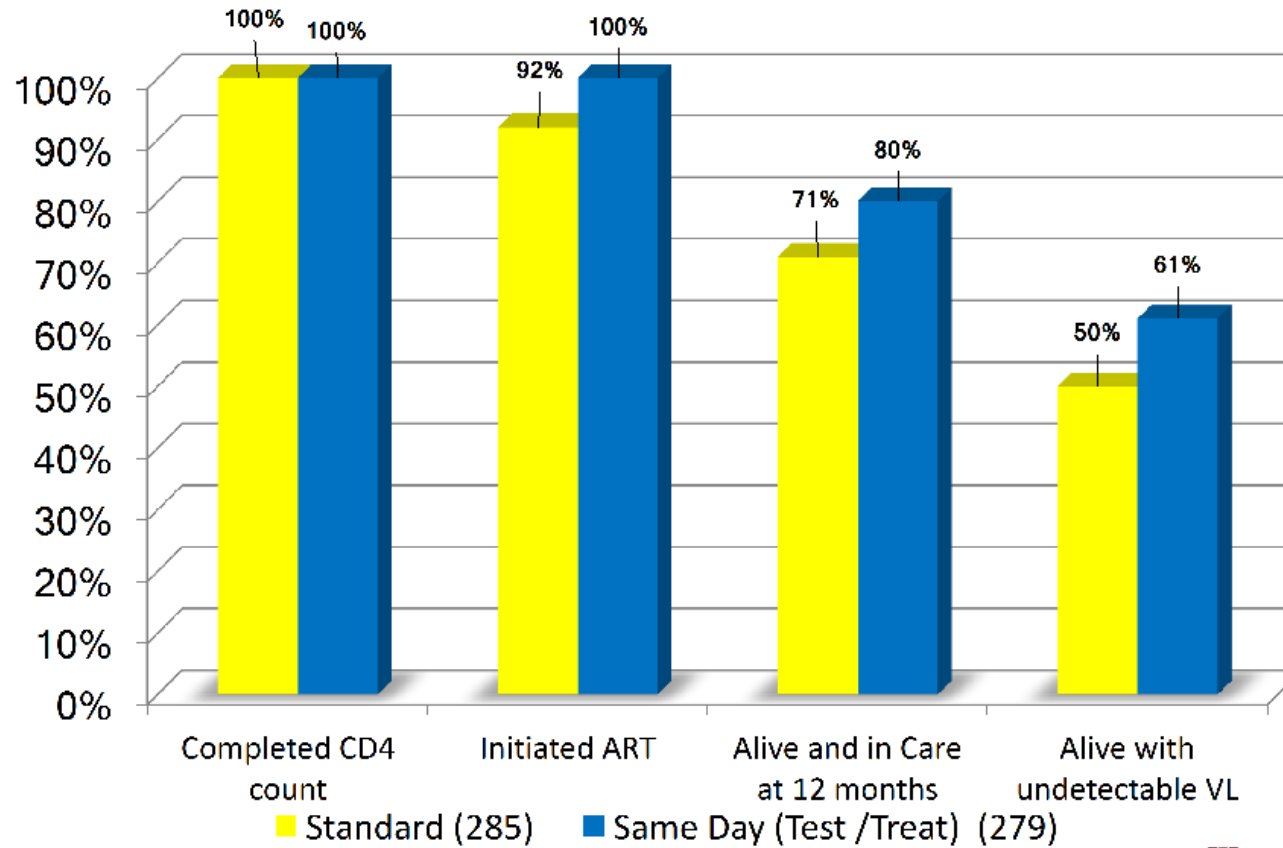
## Schedule of Visits

- Standard group
  - Days 7, 14, and 21: Physician/social worker visits
  - Day 21: ART initiation
  - Week 5: Physician/social worker visits
- Same-day ART group
  - Day 1: Counseling and ART initiation
  - Days 3, 10, and 17: Physician/social worker visits
  - Day 24: Physician visit
- *Only difference was timing of ART initiation*



# Same Day ART

## Standard vs. Same-day ART



#AIDS2016 | @AIDS\_conference



T. P. Giordano

Baylor  
College of  
Medicine

Slide: Koenig S, WEAE0202, AIDS2016, Durban, SA

# RapIT study:

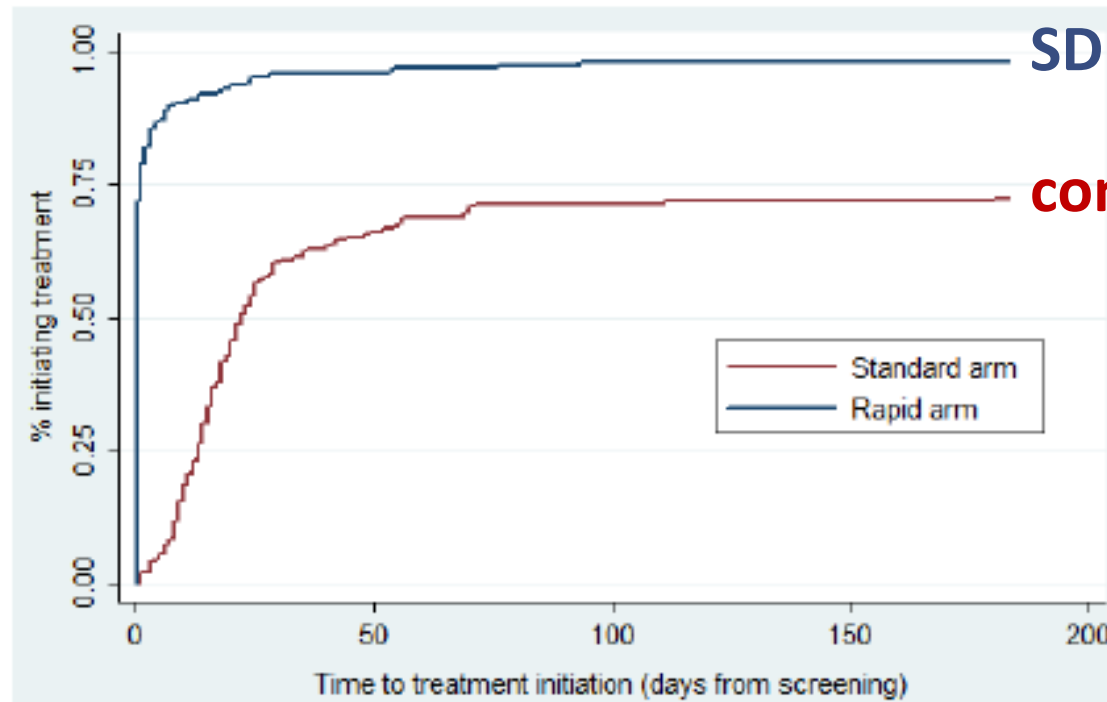
SDI of ART in a clinic and hospital in JHB (Sydney Rosen)

**377 adults**

**SDI vs. control**

(POC CD4, bloods, TB screen +/- sputum, intense counselling) vs. (5-6 visits before initiation)

Figure 3. Time to treatment initiation



25%



	SDI	Control	Difference
Number of adults	190	187	
ART initiation in <90 days	97%	72%	<b>+ 25%</b>
VL suppression at 10 months		(79% of initiated)	<b>+ 13%</b>
Retention in care		38% of initiated)	<b>+ 17%</b>
% LTFU before initiation	14%	18%	
% LTFU after initiation	86%	22%	

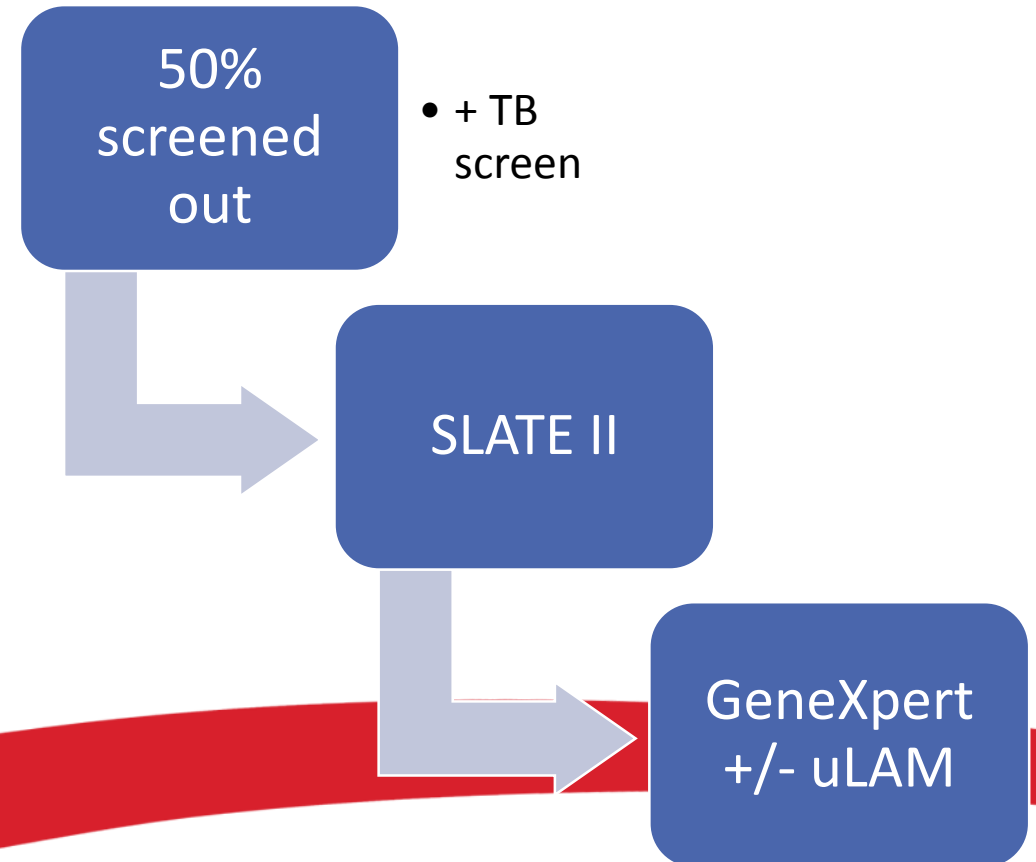
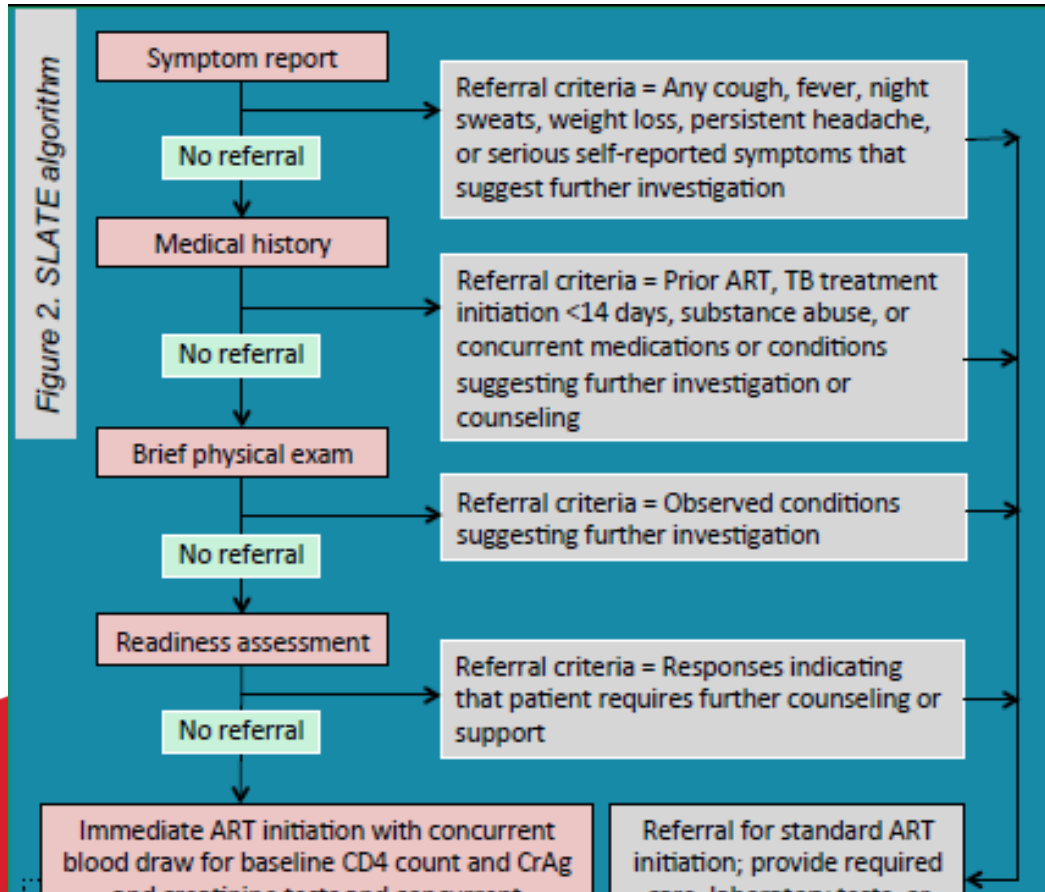
**Cost!**



# SLATE Trial

**600 adults randomized**  
**Peri-Urban clinics in JHB and Kenya**  
**Control: Standard initiation procedures**  
**Intervention:**

	Intervention	Control
Initiated <7 days	68%	40%
Initiated <28 days	82%	72%
Initiated and retained at 6/12	53%	50%



July  
2017

# WHO Guideline

**ART initiation should be offered on the same day to people who are ready to start.**  
*(Strong recommendation: high-quality evidence for adults and adolescents;  
low-quality evidence for children)*

# What to do about lack of blood results?

Hep B

- Tenofovir in 1<sup>st</sup> line

Cr

- Urinalysis, hpt, DM

Hb-AZT

- Examination/ Fingerprick Hb

CD4

- Universal test and treat

TB

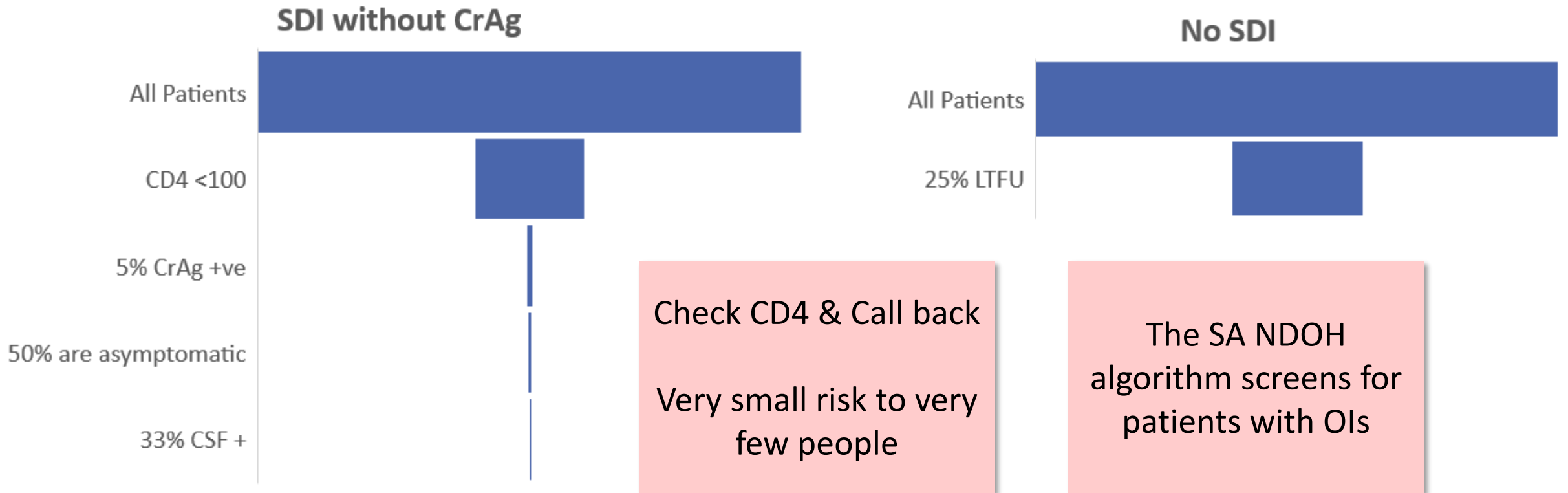
- Symptom screen

CrAg

- Cryptococcal meningitis?



# Dr Rachel Wake's CrAg study findings and d/w ID consultant in Johannesburg



**Therefore -> SDI does greater good for more people**

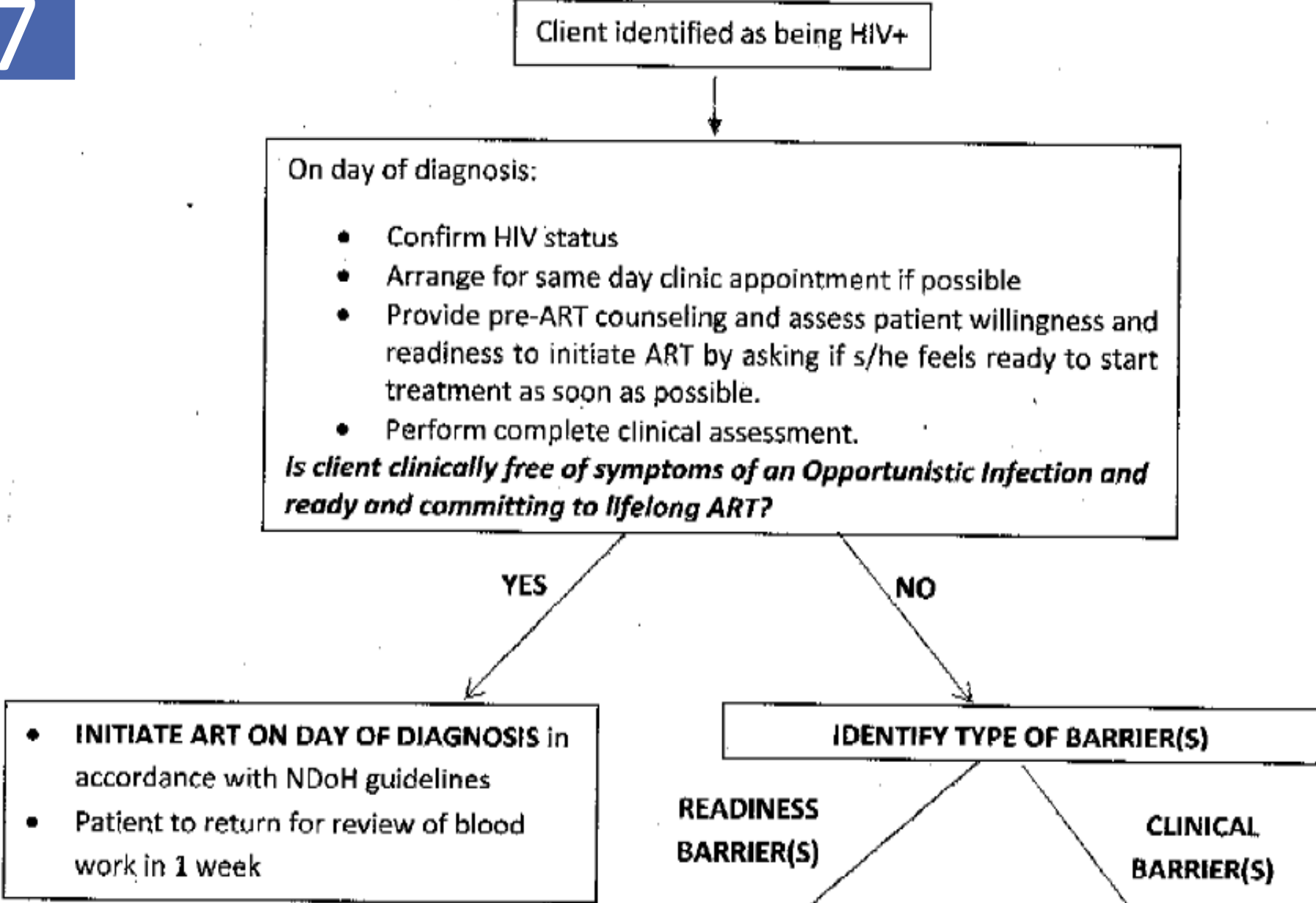
# WHO Guideline

**Lack of blood tests should not stop SDI as long as the patients are asymptomatic**



Sept  
2017

# SA NDOH SDI Guideline



### NEXT STEPS FOR ADDRESSING READINESS BARRIERS :

- Stay supportive and explore reasons by probing
- Assist patient to find ways of addressing barriers
- Refer patient for psychosocial intervention if stigma, disclosure, or family challenges exist.
- Invite patient to express beliefs or concerns that may interfere with initiation of treatment.
- Provide patient with information to help correct misconceptions or myths about treatment.
- *[See Adherence Guidelines for HIV, TB and NCDs Standard Operating Procedures Step 5 page 13 for additional support interventions.]*
- Request patient to return in 1 wk. Patients who remain unwilling to initiate treatment should be kept in the wellness programme and receive ongoing counseling support and scheduled monitoring in accordance with NDoH guidelines
- Regular telephonic contact and/or home visits are recommended if the patient no longer attends clinic visits.
- Initiate ART as soon as the patient is willing and committed to lifelong ART

### NEXT STEPS FOR CLINICAL BARRIERS:

- Diagnose and manage medical conditions (e.g., Cryptococcal meningitis, TB, or other OI) in accordance with NDoH guidelines
- Timing of ART initiation in accordance with NDoH guidelines

**DTG**

vs

**EFV**

- **Rapid VL suppression**
- **Less pre-treatment resistance**
- **High genetic barrier to resistance**
- **WOCP – fertility desires and contraception options**
- **Side effects**
- **Drug interactions**



# 2019 ART Clinical Guidelines

for the Management of HIV in Adults, Pregnancy,  
Adolescents, Children, Infants and Neonates

Published: May 2019

Republic of South Africa National Department of Health

# Medical Indications to defer ART

Medical Indications to Defer ART	
Indication	Action
TB symptoms (cough, night sweats, fever, recent weight loss)	Investigate for TB before initiating ART. If TB is excluded, proceed with ART initiation and TB preventive therapy (after excluding contra-indications to TPT). If TB is diagnosed, initiate TB treatment and defer ART. The timing of ART initiation will be determined by the site of TB infection and the client's CD4 cell count
Diagnosis of drug-sensitive (DS) or drug-resistant (DR) TB at a non-neurological site (e.g. pulmonary TB, abdominal TB, or TB lymphadenitis)	Defer ART initiation as follows: <ul style="list-style-type: none"><li>• If CD4 &lt; 50 cells/<math>\mu</math>L – initiate ART within 2 weeks of starting TB treatment, when the client's symptoms are improving, and TB treatment is tolerated</li><li>• If CD4 <math>\geq</math> 50 cells/<math>\mu</math>L – initiate ART 8 weeks after starting TB treatment</li></ul>
Diagnosis of DS-TB or DR-TB at a neurological site (e.g. TB meningitis or tuberculoma)	Defer ART until 4-8 weeks after start of TB treatment
Signs and symptoms of meningitis	Investigate for meningitis before starting ART

# Medical Indications to defer ART

Cryptococcal antigen (CrAg) positive in the absence of symptoms or signs of meningitis	Defer ART until the first 2 weeks of fluconazole prophylaxis has been completed
Confirmed cryptococcal meningitis	Defer ART until 4-6 weeks of antifungal treatment has been completed
Other acute illnesses e.g. <i>Pneumocystis jirovecii</i> pneumonia (PJP) or bacterial pneumonia	Defer ART for 1-2 weeks after commencing treatment for the infection
Clinical symptoms or signs of liver disease	Confirm liver injury using ALT and total bilirubin levels. ALT elevations > 120 IU/L with symptoms of hepatitis, and/or total serum bilirubin concentrations > 40 µmol/L are significant. Investigate and manage possible causes including hepatitis B, drug-induced liver injury (DILI), or alcohol abuse

Note: Clients who are already on ART should NOT have their treatment interrupted upon diagnosis of the above conditions

# Baseline Evaluation

Component of the Baseline Clinical Evaluation	Purpose	Further Action Required		
		Adolescents (10-19 years) and Adults	Pregnant Women	Children (< 10 years)
<b>Recognise the client with respiratory, neurological, or abdominal danger signs needing urgent care</b>	To identify opportunistic infections and conditions needing urgent care or referral	Identify respiratory, neurological, or abdominal danger signs as outlined in Adult Primary Care (APC) guideline	Identify danger signs as outlined in the Maternity Care guidelines	Identify danger signs as classified in the IMCI Chart booklet
<b>Nutritional Assessment</b>	To identify recent weight loss that may indicate an active opportunistic infection (OI) or other pathology. To identify underweight/obese clients requiring nutritional and lifestyle support	Measure weight and height and determine BMI (kg/m <sup>2</sup> ): < 18.5 = underweight; 18.5 to 25 = normal; > 25 to < 30 = overweight; ≥30 = obese	Measure mid upper arm circumference (MUAC) Women with MUAC < 23 cm require additional nutritional support/referral	Plot weight, height and head circumference (if < 2 years) on growth chart, and measure MUAC to identify moderate and severe malnutrition

# Baseline Evaluation continued...

Component of the Baseline Clinical Evaluation	Purpose	Further Action Required		
		Adolescents (10-19 years) and Adults	Pregnant Women	Children (< 10 years)
<b>Screen for TB</b>	To identify clients with a positive TB screen who require further investigations for TB To identify clients with a negative TB screen who may be eligible for TPT (see page 7)	Identify symptoms of cough, night sweats, fever, recent weight loss as outlined in the TB screening tool	Do a TB symptom screen and <b>TB GeneXpert</b> for all HIV-positive women at first visit in antenatal clinic, due to the lower sensitivity of the TB symptom screen in pregnant women	Identify symptoms of cough, night sweats, fever, recent weight loss as outlined in the TB screening tool
<b>Screen for symptoms of meningitis</b>	To diagnose and treat clients with cryptococcal and other forms of meningitis and reduce associated morbidity and mortality	<b>Identify symptoms of headache, confusion or visual disturbances.</b> With cryptococcal meningitis, clients may only present with a recurrent headache. Other symptoms may include fever, neck stiffness or coma. Refer the client for a <b>lumbar puncture</b> . Defer ART if meningitis is confirmed as outlined in “Medical Reasons to Defer ART” on page 3		

# Baseline Evaluation continued...

Component of the Baseline Clinical Evaluation	Purpose	Further Action Required		
		Adolescents (10-19 years) and Adults	Pregnant Women	Children (< 10 years)
Screen for active depression, other <b>mental health</b> issues or substance abuse	EFV and, to a lesser extent DTG, are associated with neuropsychiatric side-effects. In general, ART can be initiated, and cautiously monitored. Substance use can affect adherence	Screen for symptoms of depression, psychosis, and substance abuse		Screen for symptoms of depression in older children
Screen for major chronic <b>non-communicable diseases (NCDs)</b> (diabetes, hypertension, epilepsy)	To identify and manage clients with major chronic NCDs and/or comorbidities.  To identify and prevent potential drug interactions with ART e.g. metformin and anti-epileptic medications	Do blood pressure (BP), and urine dipstix for proteinuria and glucose. Identify other risk factors (smoking, increased waist circumference, age) and determine cardiovascular (CVS) risk. Manage NCDs and CVS risk factors as outlined in the PHC EML	Do blood pressure (BP), and urine dipstix for proteinuria and glucose	Identify the child with epilepsy and be aware of potential drug interactions of anti-epileptic treatment and ART

# Baseline Evaluation continued...

Component of the Baseline Clinical Evaluation	Purpose	Further Action Required		
		Adolescents (10-19 years) and Adults	Pregnant Women	Children (< 10 years)
Screen for <b>pregnancy</b> and ask if planning to conceive	To identify pregnancy and facilitate early referral for antenatal care (ANC) and measures to prevent mother-to-child transmission (MTCT). To assess fertility intentions and contraceptive needs if not pregnant. To assess eligibility for DTG-containing regimens	Ask if the client is currently using contraception and if her last menstrual period occurred at the expected time. If she answered "no" to either question, do a urine pregnancy test	N/A	N/A
Symptom screen for <b>sexually transmitted infections (STIs)</b>	To identify and treat STIs in sexually active clients	STI screening should include the following three questions: "Do you have any genital discharge?" "Do you have any genital ulcers?" "Has/have your partner(s) been treated for an STI in the last 8 weeks?"		N/A

# Baseline Evaluation

Component of the Baseline Clinical Evaluation	Purpose	Further Action Required		
		Adolescents (10-19 years) and Adults	Pregnant Women	Children (< 10 years)
<b>Neurodevelopmental screen</b>	To identify children with neurodevelopmental delay requiring intervention/referral and follow-up	N/A	N/A	Screen for developmental delays as outlined in the child's Road to Health Booklet (RTHB)
<b>WHO clinical stage</b>	<p><b>After the baseline clinical evaluation has been completed by means of a thorough history and clinical examination, the client's WHO clinical stage can be determined:</b></p> <p><b>At ART initiation, WHO clinical stage helps us to:</b>            Understand the severity of the client's clinical condition and the associated risk of mortality            Determine the urgency and timing of ART initiation            Determine if cotrimoxazole prophylaxis (CPT) is indicated (see "Indications for CPT" on page 7)</p>			

# Baseline Investigations

Laboratory evaluation	Purpose	Adolescents (10-19 years) and Adults	Pregnant Women	Children (< 10 years)
<b>Confirm HIV test result</b>	To confirm HIV status for those without documented HIV status	✓	✓	✓
<b>CD4 cell count/ %</b>	To identify eligibility for CPT	See "Indications for starting and stopping cotrimoxazole" in table on page 7		
	To identify eligibility for cryptococcal antigen (CrAg) screening	A reflex CrAg test will be done automatically by the laboratory on all CD4 counts < 100 cells/μL		N/A
<b>Creatinine and eGFR if TDF used</b>	To assess renal insufficiency	See table titled "Assessing Renal Function" on page 7		N/A



# Baseline Investigations

Laboratory evaluation	Purpose	Adolescents (10-19 years) and Adults	Pregnant Women	Children (< 10 years)
<b>Haemoglobin (Hb)</b>	To identify and manage anaemia; to determine eligibility for zidovudine (AZT) where necessary	If Hb is low, do a full blood count (FBC). Characterise according to mean corpuscular volume (MCV) as either microcytic, normocytic, or macrocytic and manage accordingly <sup>1</sup>	Treat with ferrous sulphate tds if Hb < 10 g/dL. Refer if < 8 g/dL and symptoms, if anaemia diagnosed at 36 weeks gestation or later, or if no response to treatment	Children < 5 years: Treat with iron supplements and deworm the child <sup>1</sup> Children > 5 years: Do FBC. Characterise according to MCV and manage accordingly <sup>1</sup>
<b>GeneXpert</b>	To diagnose TB	Only for those clients with a <b>positive TB symptom screen</b>	<b>Regardless of TB symptoms</b> , routinely do a TB GeneXpert for all HIV-positive women at first visit in antenatal clinic, due to the lower sensitivity of the TB symptom screen in pregnant women	Only for those with a <b>positive TB symptom screen</b>

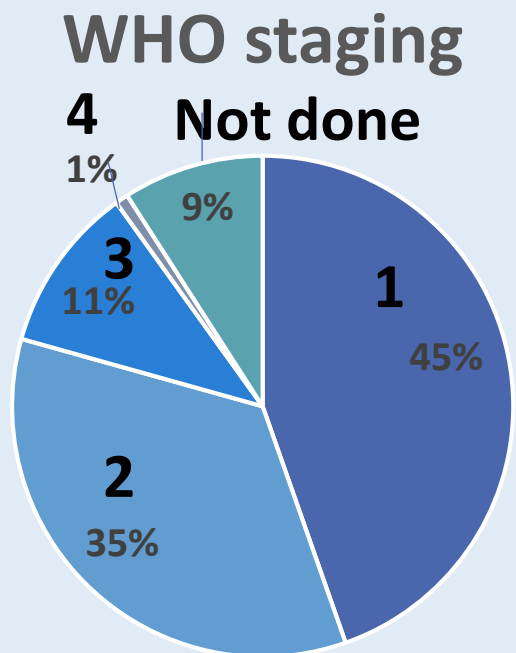


# Baseline Investigations

Laboratory evaluation	Purpose	Adolescents (10-19 years) and Adults	Pregnant Women	Children (< 10 years)
<b>Cryptococcal antigen test (CrAg) if CD4 &lt; 100 cells/<math>\mu</math>L</b>	To identify asymptomatic clients who need pre-emptive fluconazole treatment	A reflex CrAg test will be done automatically by the laboratory on all CD4 counts < 100 cells/ $\mu$ L If CrAg-negative, no fluconazole is required If CrAg-positive, the client will require treatment of the infection If asymptomatic, provide oral fluconazole If symptomatic, refer for a lumbar puncture	All pregnant women with a positive CrAg should be referred for a lumbar puncture, regardless of symptoms. The results of the lumbar puncture and further management should be discussed with an expert, or one of the helplines provided on page 16	N/A
<b>Cervical cancer screening</b>	To identify women with cervical lesions and manage appropriately	All HIV-positive women should be screened for cervical cancer at diagnosis and subsequently every year if the screening test is negative. If positive, she should be referred for colposcopy and further interventions	Hormonal changes during pregnancy may give false positive or negative results. Delay screening until 6 weeks postpartum	N/A
<b>HBsAg</b>	To identify those co-infected with hepatitis B (HBV)	If positive, exercise caution in stopping TDF-containing regimens, to prevent hepatitis flares		N/A

# Review of recent initiations with CD4<200

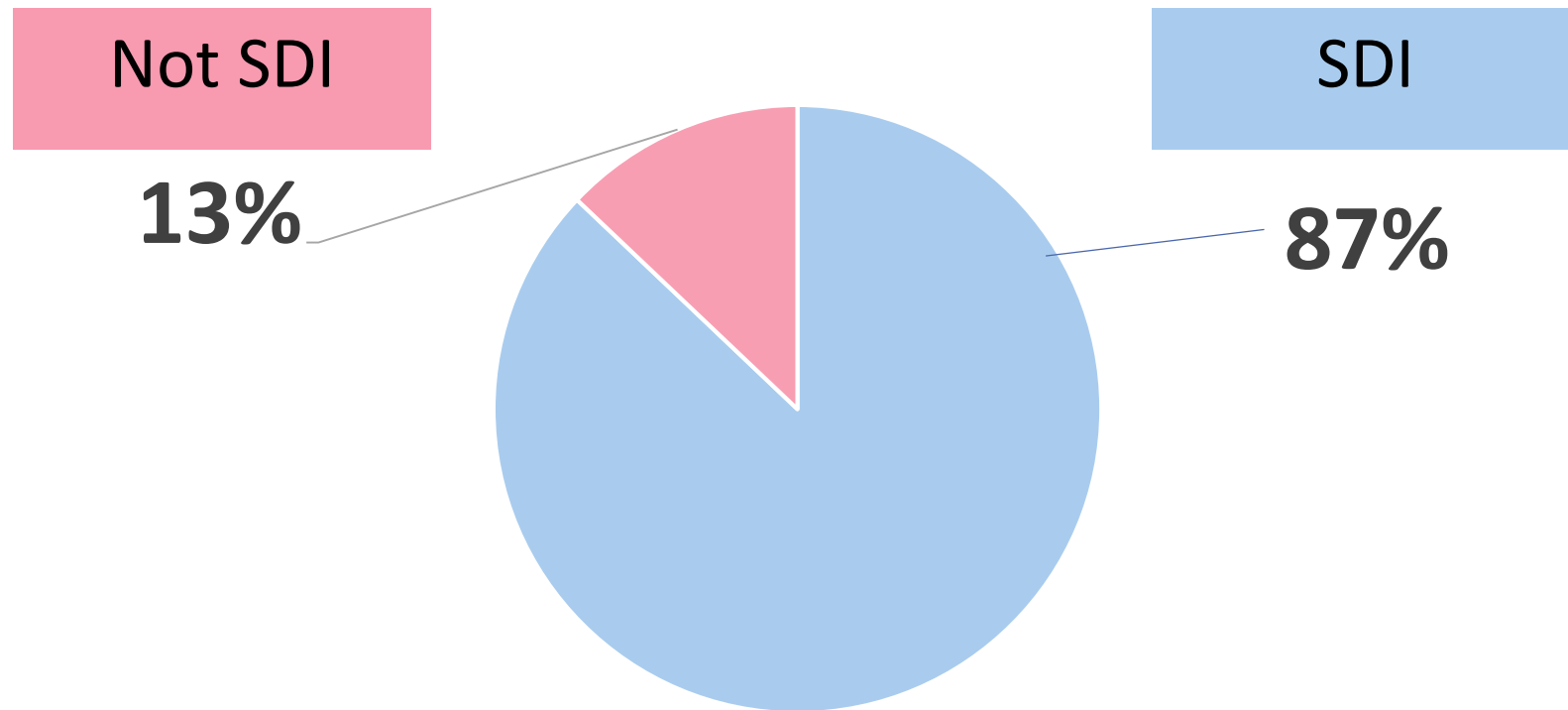
240 files from 13 clinics



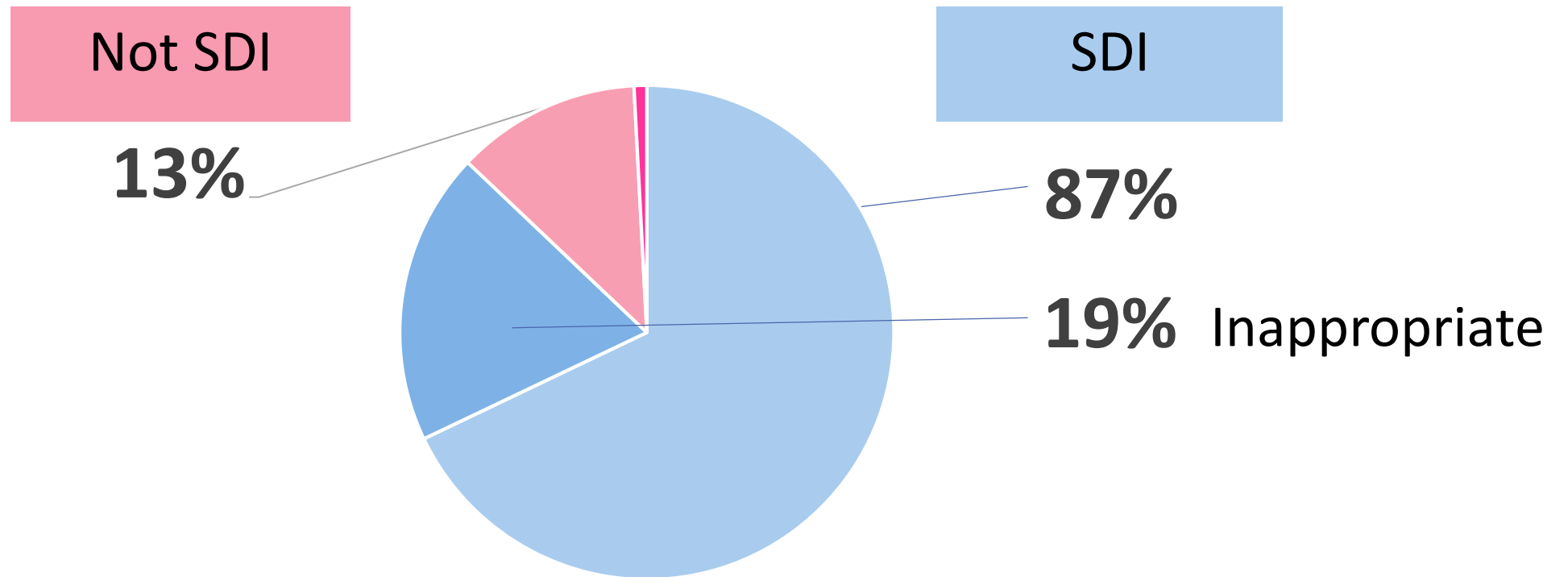
	Min	mean	Max
Age	9	<b>37</b>	80

	Min	median	Max
CD4	1	<b>74</b>	200

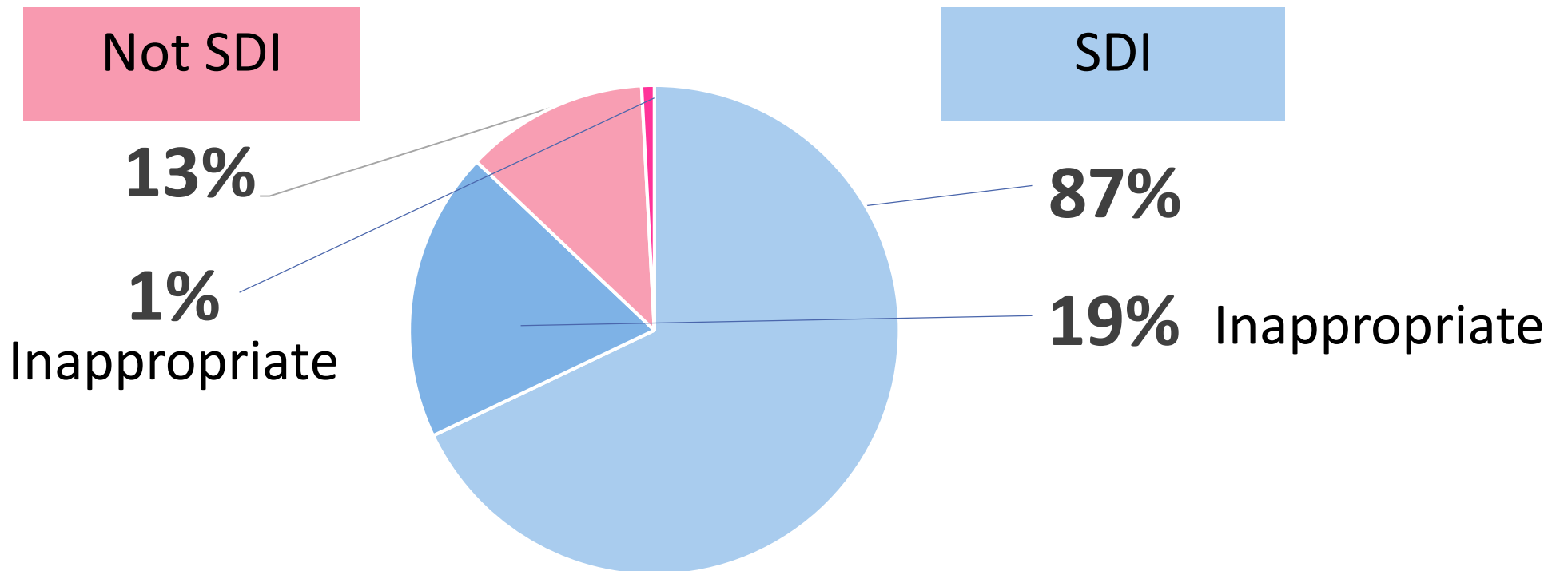
# Review of recent initiations with CD4<200



# Review of recent initiations with CD4<200



# Review of recent initiations with CD4<200



# Inappropriate SDI's

(n=26/46) **57%** TB screen positive

Hb 5.2

cough

diarrhoea

headache

3 deaths

2 CrAg +

CD4: 6, 8 and 25

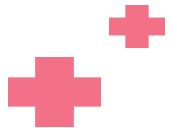
2 had positive TB screen and other WHO stage 3

Blood results not followed up



# Challenges in clinics

- **Resistance from nurses and doctors**
- **No blood results**
- **Fear of IRIS**
- **Increased defaulting? Lead to resistance?**
- **Counselling?**
- **Don't have staff available everyday to initiate**
- **Roaming doctors**
- **Workload - overburdened**
- **Certain clinics run on certain days and nurses do not want to be interrupted**





# Challenges in clinics

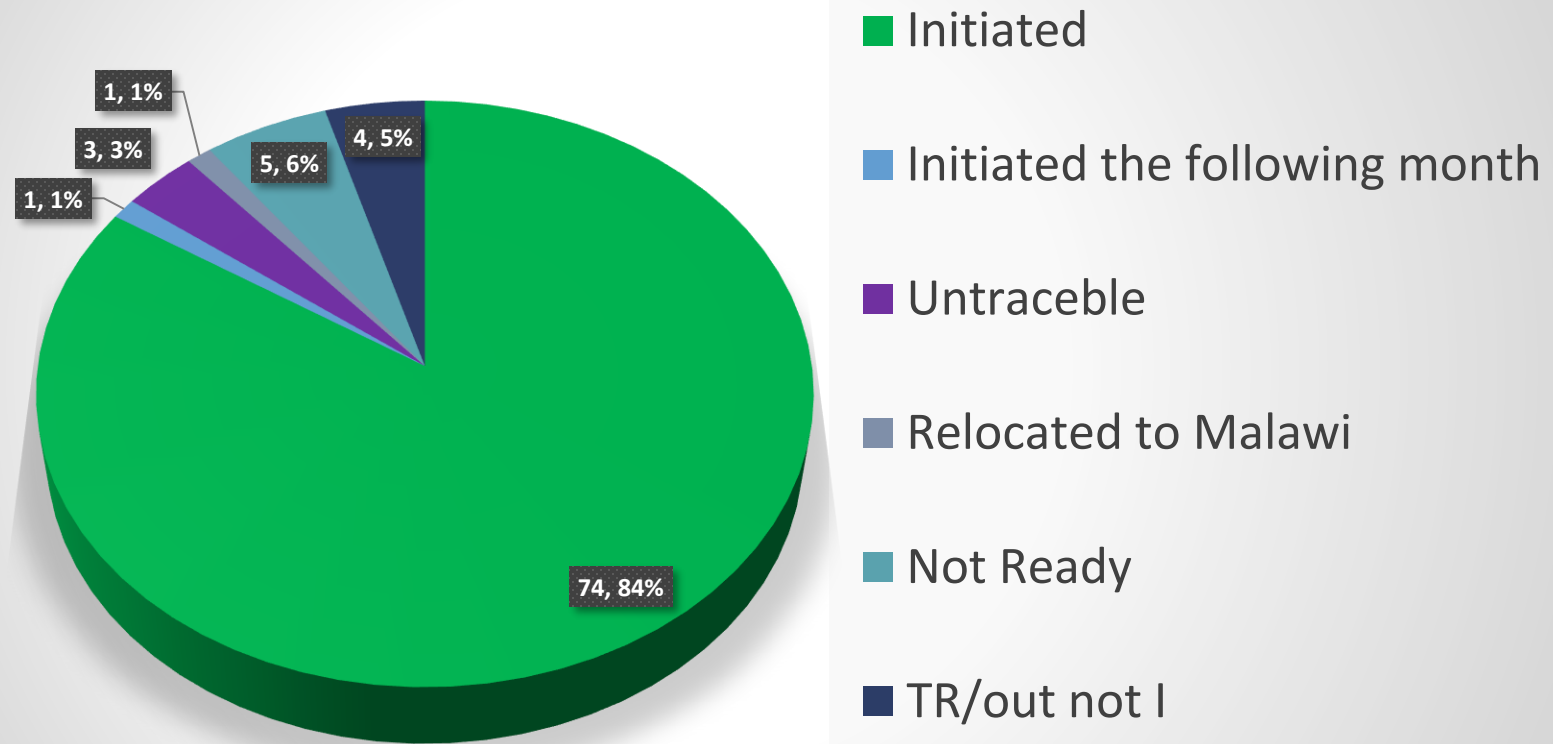
## Don't have staff available everyday to initiate

- Drs come on certain days
  - Different clinics on different days
  - Initiations are time consuming
- 
- **Extended hours – taking bloods**
  - **Train, mentor nurses**
  - **Clear and practical algorithm**
  - **Allocate and alternate: must be fair**
  - **Monitor and acknowledge: targets**





# Accountability Monitoring and Reporting





# Challenges in clinics

## Competing messages

- Need a plan, and algorithm and memorandum to be agreed on by all stakeholders
- If one clinician is negative then everyone is too scared to do SDI



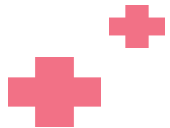


# Challenges in clinics

## Linkage to Initiation



- Counsellors physically bring the patient to the clinician who is initiating
- Clinician counsel, assess and if they pass the algorithm - offer SDI, never force.
- Take baseline bloods
- Adherence counselling
- Information on side effects, drug interactions, fertility and contraception
- Return <7days for counselling and blood results
- Ideally clinician should check blood results on labtrak the next day and call back if need be.





# Challenges in Hospitals

- **Change is even more difficult in a complex system**
- **Testing:**
  - Which departments? – every entry point.
  - ELISA vs rapid test
    - Cost
    - Registers
    - Confirmatory tests
    - Not followed up
  - Need a structured system
  - Every patient should have a known status in file,
  - On ward round alert ward sister of those needing tests so that when the counsellor comes to the ward she can say which beds

Cost for 1 ELISA test:  
R52.02





# Challenges in Hospitals



## Linkage to initiation

- Initiated in the ward or in ARV Clinic?
- Who's accountable?
- Separate files?
- d/c via ART clinic?
- **Initiated at hospital or clinic?**
  - Criteria
  - Time before transfer out?

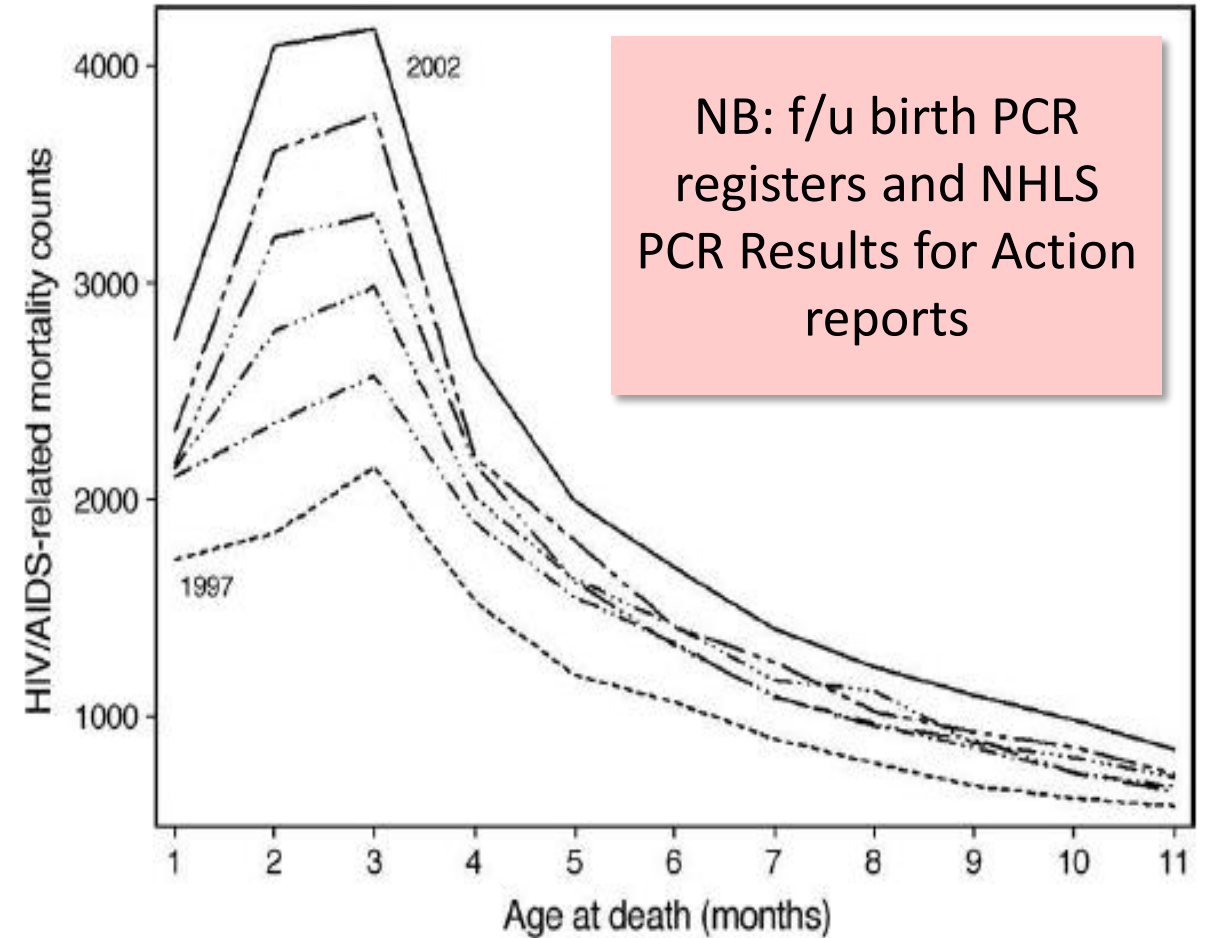


ANC: SDI



# Birth PCRs

Mortality peaks at 2-3 months





# What do the patients think?

**Qualitative study: in-depth interviews with 80 HIV + adults from 10 clinics in Mozambique (Amilcar Magaco)**

– 60 initiated, 20 not initiated

Barriers to initiation	Facilitators to initiation
Don't believe the test results	Being healthy and wanting to remain healthy
Don't understand why they should start treatment right away	Wanting to maintain responsibilities
Concerns about ART side effects	Wanting to care for their families
Fear of inadvertent disclosure and discrimination	Avoiding unwanted disclosure
Limited privacy at health facilities	
Long waiting times	





# Address patient's concerns

- You can live a completely normal life if you take your ART everyday



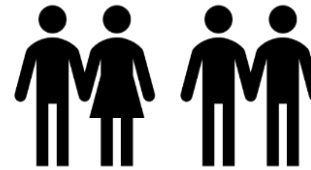
No AIDS



No  
opportunistic  
infections



No  
transmission  
to baby



No  
transmission  
to partner



You will look  
healthy and  
normal



You will live  
a normal  
lifespan

- Medicines are much better now. Fewer side effects, many options.
- Try to improve privacy in the clinic
- Adherence – don't have to take your tablets at exactly the same time every night, but you have to take them every night otherwise - resistance





# Should we offer SDI on TLD?

1. Yes
2. No



It's about how it's done



Thank you



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**Francois Venter**

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