Integrating HIV and TB services : operational research issues

TB/HIV workshop TAC/TAG June 2006

MÉDECINS SANS FRONTIÈRES

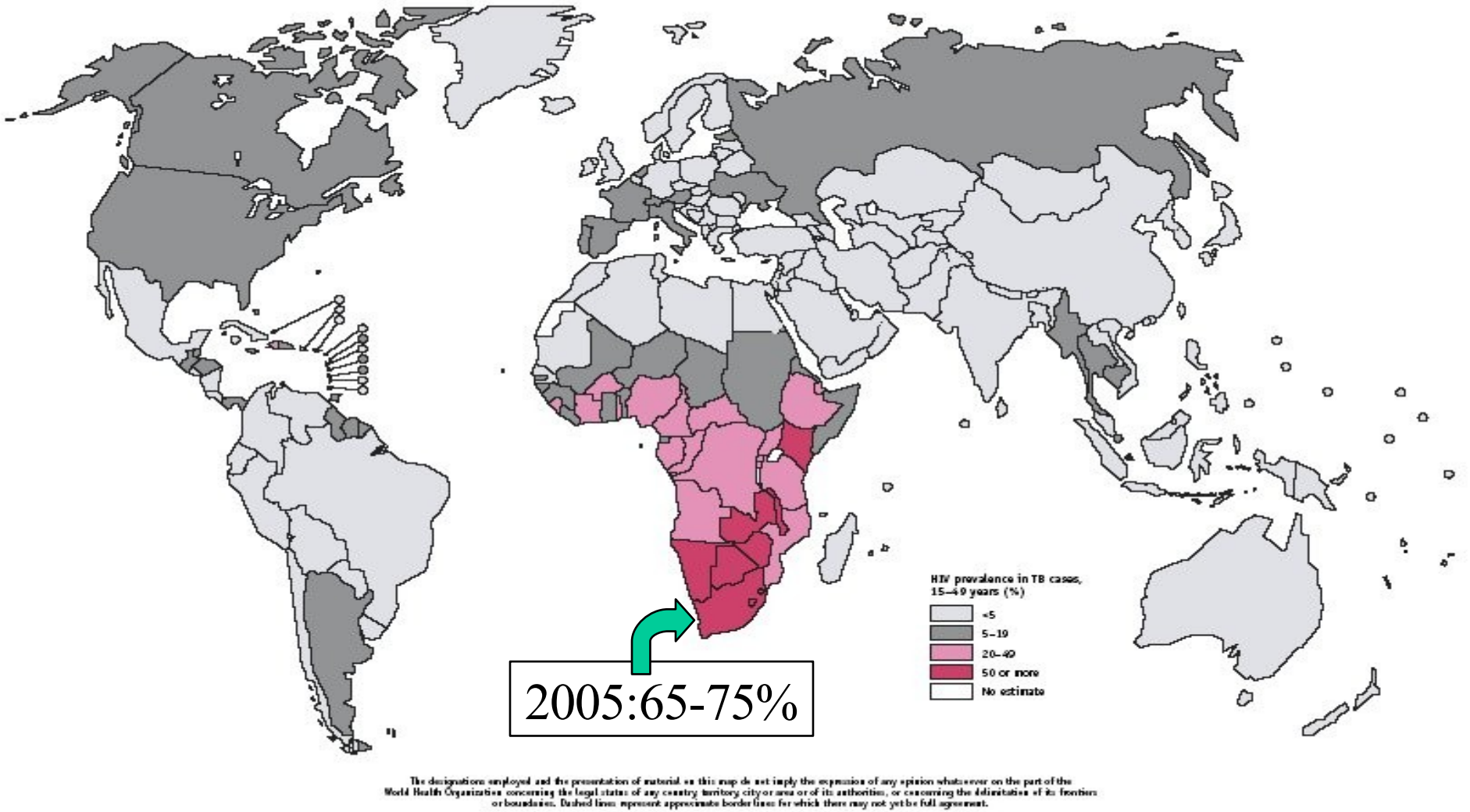
MEDECINS SANS FRONTIERES

SOUTH AFRICA

UNIVERSITY OF CAPE TOWN

School of Public Health and Family Medicine

2. Estimated HIV prevalence in TB cases, 2002



WHO global TB control report 2004

TB :major cause of death in HIV+ adults in Africa

- Autopsy studies:
  - 32% Cote d'Ivoire
  - 38% Botswana
- Unrecognised

AIDS 1993;7:1569
Int J Tuberc Lung Dis 2002;6:55

How to improve diagnosis of HIV in TB patients ?

VCT or routine HIV testing in TB patients ?

Situation in Khayelitsha :

- 47 % (2003) to 91 % (end 2005)of TB patients counselled
- 86 % accept HIV test (Q4 05)
- Co-infection rate : 73 % (Khayelitsha 2006)
- Should an HIV test be part of the routine for Tb patients ?
  - No ?
    - Too many bad news together
    - Confidentiality
    - " not ready"
  - YES ?
    - 65 to 75 % among TB patients are HIV (+) in Southern Africa
    - TB accelerates the course of HIV disease (VL + & CD4 -) ->early HIV diagnosis = early access to ARV treatment
    - Routine testing for TB patients = part of human right If availability of CD4/clinical screening and access to HAART ?

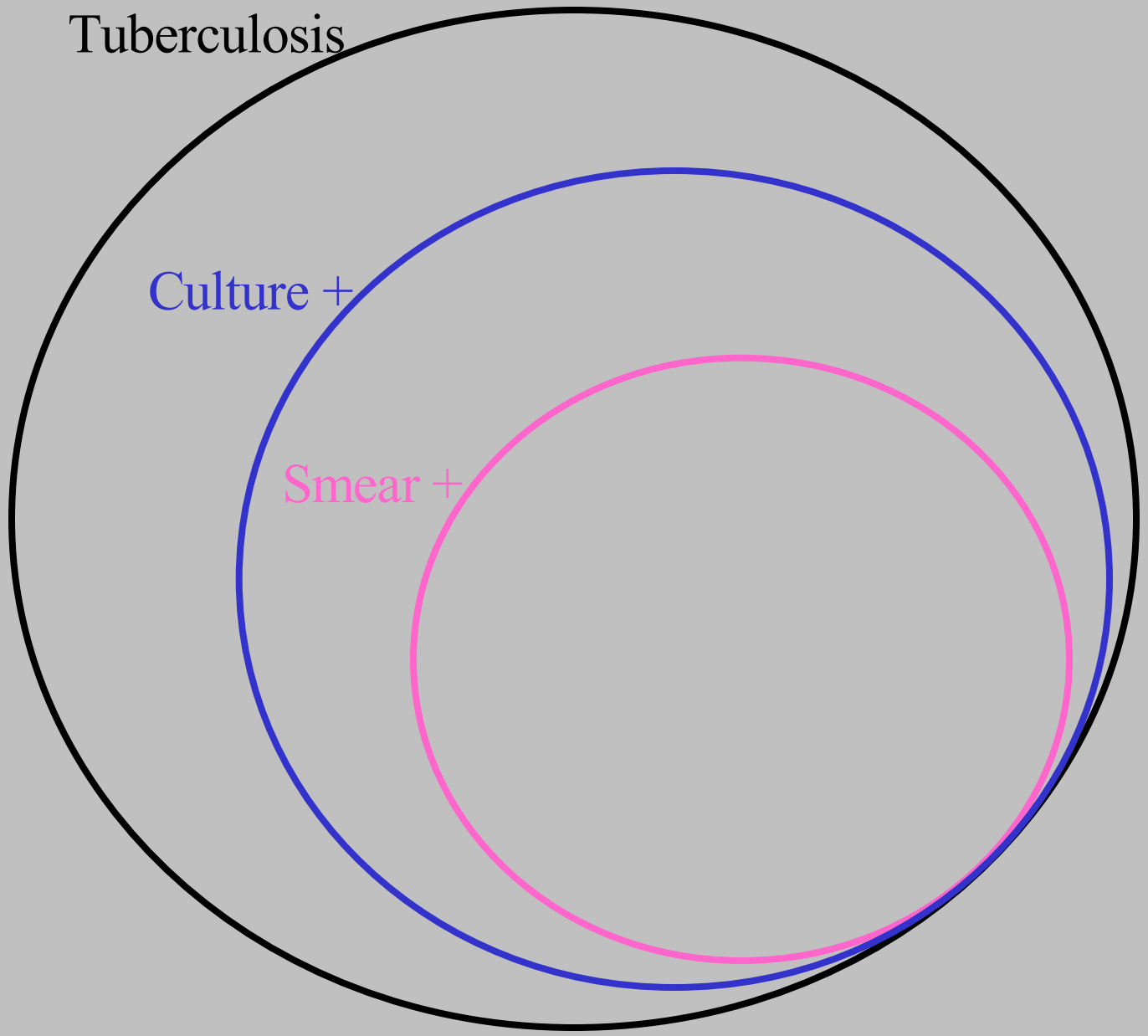
How to improve diagnosis of HIV in TB patients

-> do we need to walk out of voluntary counseling and testing (VCT) and advocate for routine testing in TB patients ?

"Are we not contributing to HIV stigma by adopting specific testing procedures like VCT" –Judge Edwin Cameron 2006

How to improve diagnosis of TB in HIV patients ?

Develop algorithms for clinical assessment of TB disease
Need for new appropriate rapid diagnostic tests



Source : Prof.Gary Maartens, Head Pharmacology, UCT.

Value of a sputum (-) result

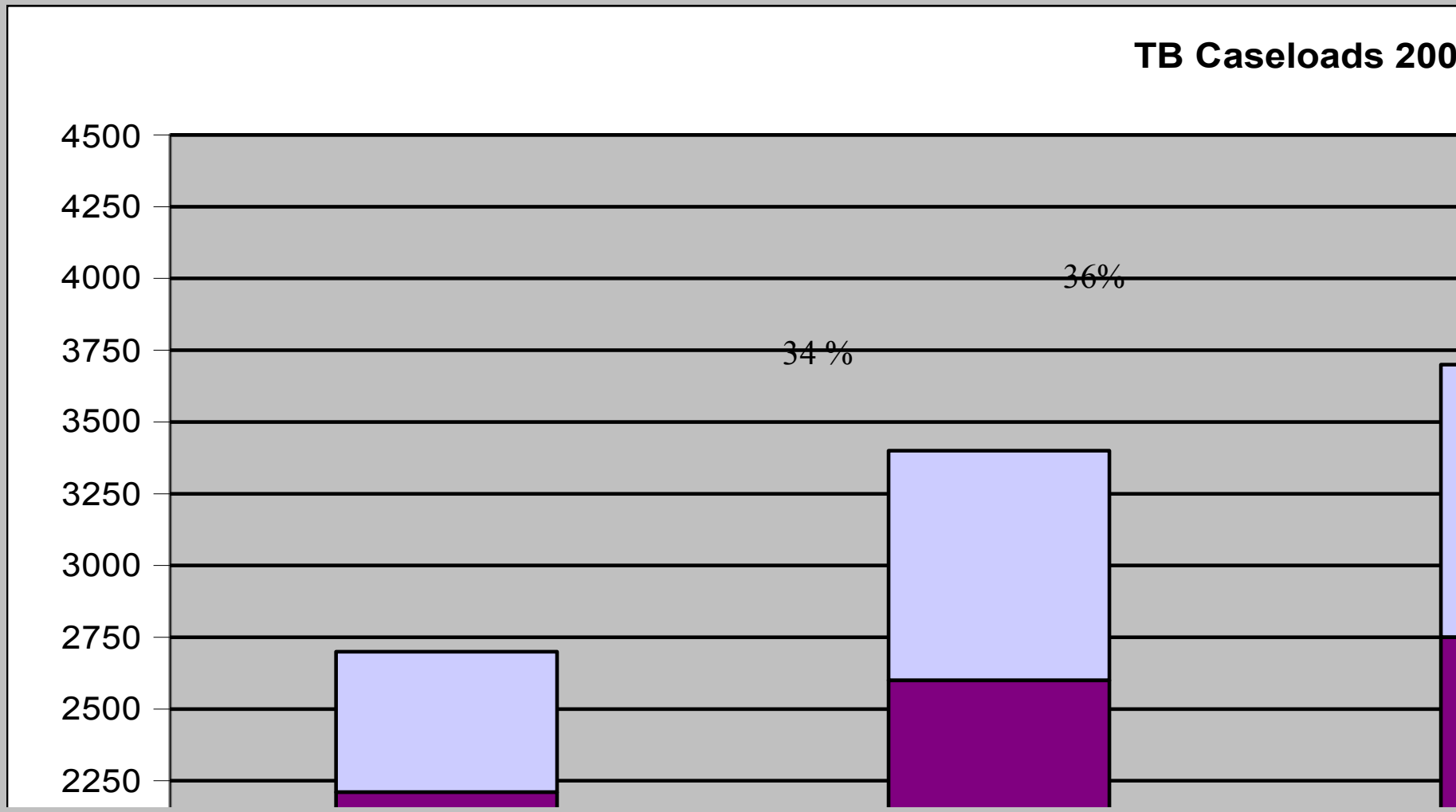
Table 6. TB diagnosis of HIV patients (folder review)

	Smear (-ve)	Smear (+ve)	Total
Culture (+ve)	53	16	69
Culture (–ve)	38	2	40
	91	18	109

Smear sensitivity of 16% and a culture sensitivity of 63%.

Evolution of TB caseload in Khayelitha

(all TB patients regardless of HIV status)



- Tb incidence rate (2005) :1750/100.000

Active TB research in HIV patients

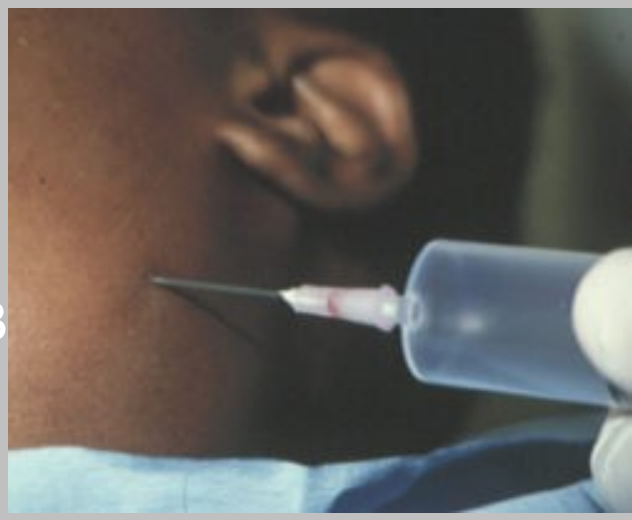
- Systematic screening for indicative symptoms:
  - LOW (weight at every consultation),cough ,night sweats
- 2 sputum smears remain cornerstone
- If both negative, course of antibiotics (amoxicillin) and send 3rd sputum for CULTURE (nurse can request)
- Sensitivity tests in all re-treatment & failure cases
- CXR as part of routine screening

-> access to chest X-Ray

-> children : Mantoux test +gastric aspirate

-> Fn aspirate for suspected lymph nodes

-> access to US for suspicion of disseminated TB



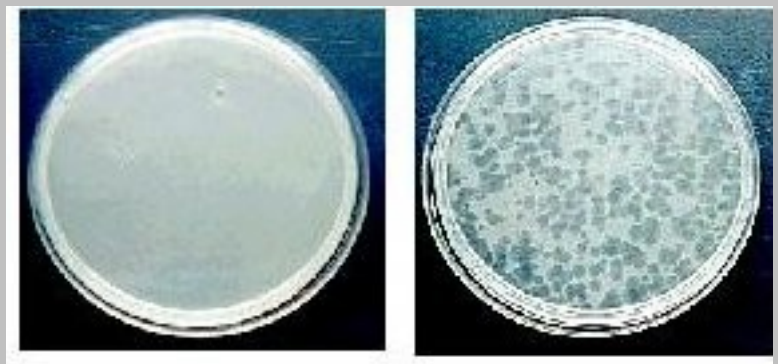
A need for new nurse friendly TB diagnostic tests

- Improved sputum (induced)
- Liquid medium culture
- Phage assays (Fastplaque®)
- Immune response :γ-IFN production ESAT-6 & CFP-10)
- Nucleic acid amplification test

-> public private partnership for R & D in TB test :

FIND

www.find**diagnostic**s.org



Visible results read by eye as plaques in a bacterial lawn(Left: negative result, Right: positive result)

How to improve treatment of HIV in TB patients ?

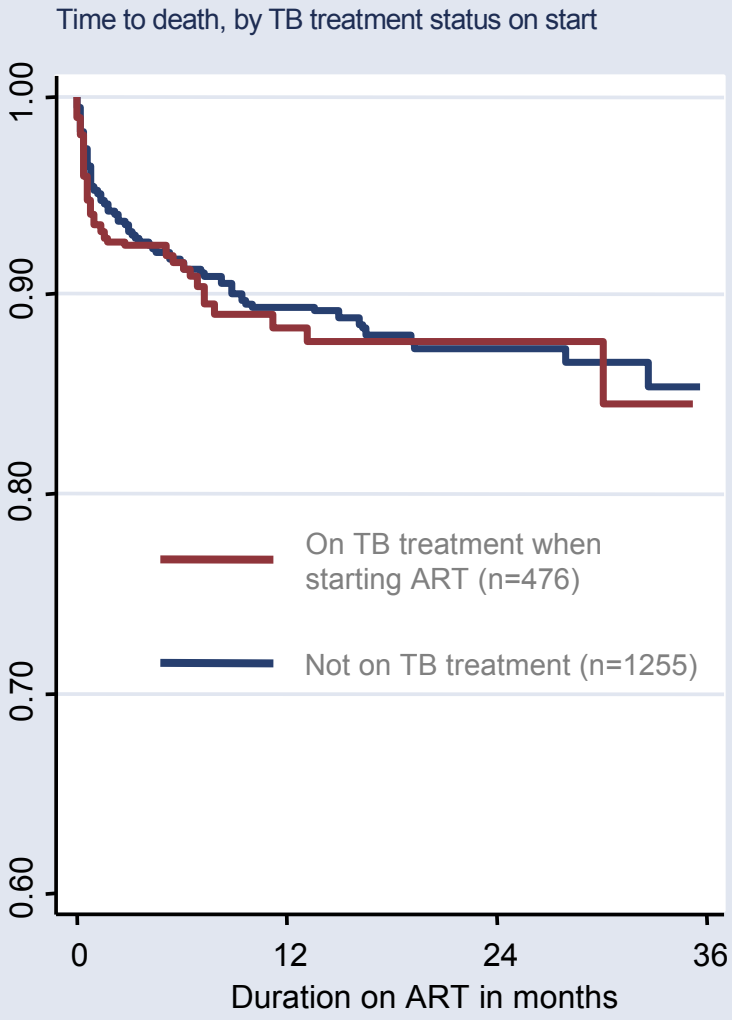
Assess optimal time to start antiretroviral therapy

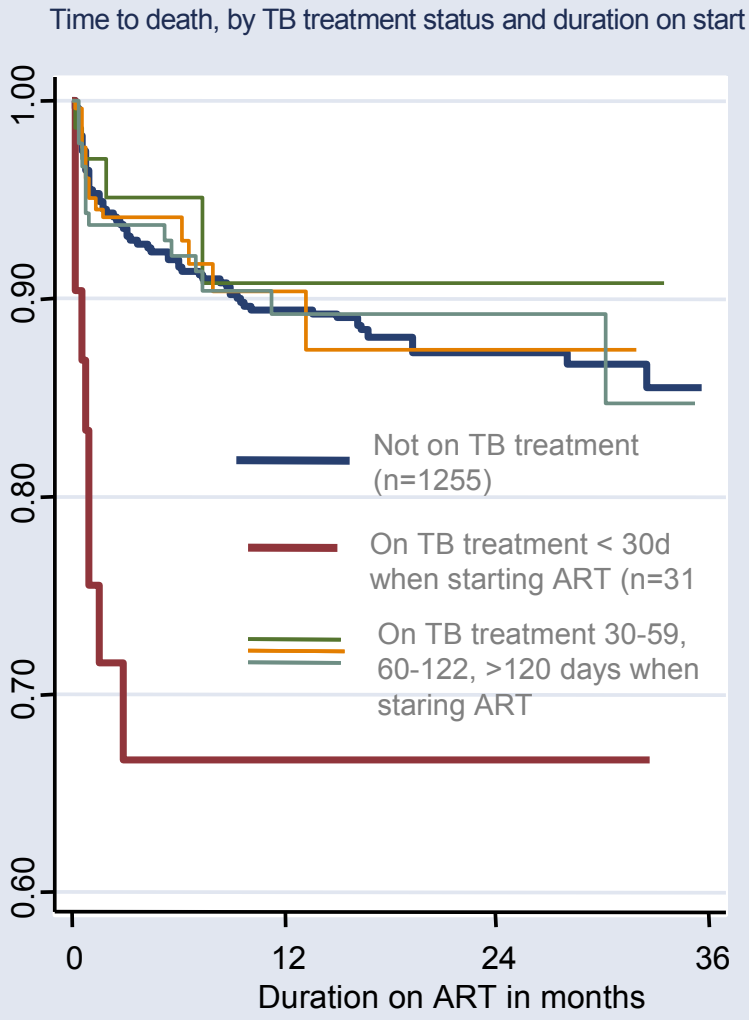
Identify optimal antiretroviral regimens to use

Identify proper dose of ARVs in the presence of rifampicin

New TB drugs

Assess optimal time to start antiretroviral therapy





20 % over-mortality when starting ARV during 1st month after initiating TB treatment

Source : A Boulle, K.Hilderbrand

Identify optimal antiretroviral regimens to use

- Hepatitis
  - Rifampicine, INH, Pyrazinamide
- Rash
  - Rifampicine, INH, Pyrazinamide
- Peripheral neuropathy
  - INH
- Nausea
  - Pyrazinamide

- Nevirapine , Efavirenz
- Nevirapine , Efavirenz
- D4t, DDI
- AZT, DDI, PI

Identify proper dose of ARVs in the presence of rifampicin

- Induced metabolism
  - Rifampicin
- Nevirapine (Efavirenz)

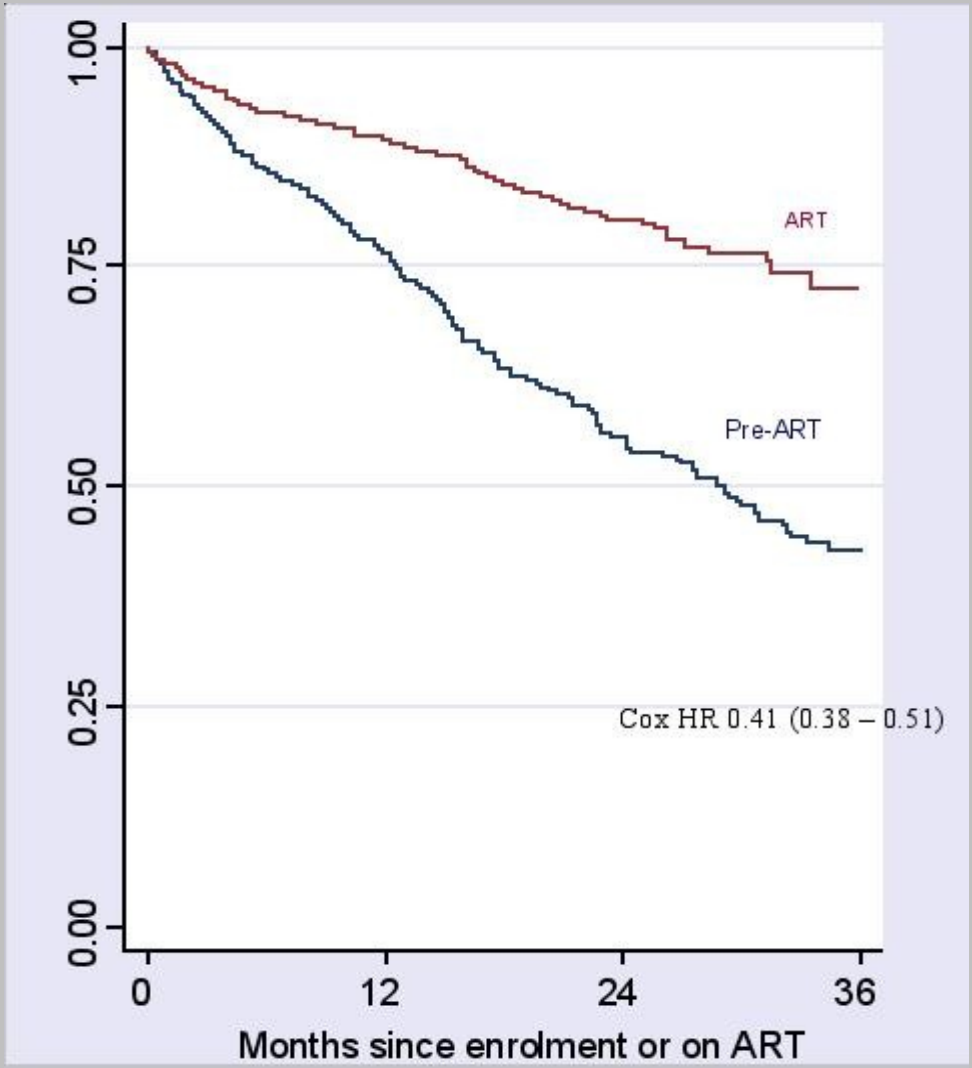
A need for new TB drugs

- Treatment shorter than 6 months
- New resistance profile (emergence of MDR resistance)
- ARV friendly
  - no induction of the P450 cytochrome
  - No common side effects

-> a public –private partnership : International TB alliance www.**tballiance**.org

How to prevent TB in HIV patients ?

TB incidence in patients on ARV vs non ARV in Khayelitsha



25% of patients on ARV will develop a TB within 3 years versus 60 % not on ARV ->HAART reduces TB incidence by 68 %-80 %

But …

Still 12 % incidence rate among patient on ARV-> not good enough

(WHO emergency rate at 400/100.000 or 0.4 %)

Boulle A. 9th International workshop in HIV Observational Databases – Budapest, April 2005

How to harmonize mechanisms to support adherence?

Define the role of DOT in antiretroviral therapy

Distinguish best setting(s) to initiate and continue antiretroviral therapy in co-infected patients

Determine appropriate person who should provide treatment

Determine role of non-physician health care workers

Determine role of community and family

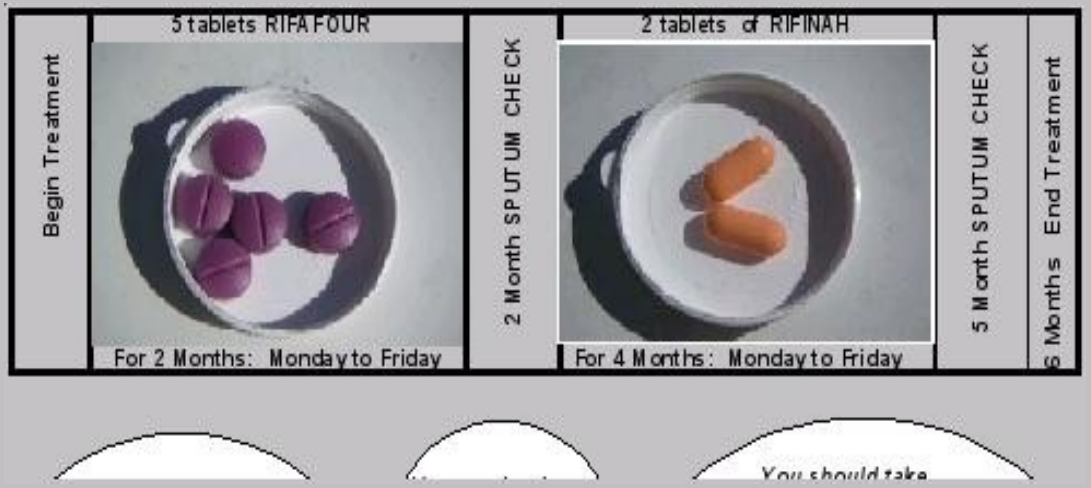
Adherence strategy TB vs HIV:
DOTS versus patient centered approach

- TB relies on directly observed therapy
  - Daily, 5 days a week
  - 6 months
  - Daily DOTS (facility based or community based)

- HIV :patient centered with counselor support
  - Pre-initiation treatment literacy, pill boxes, support group
  - ?role of disclosure ,patient-buddy
  - Role of community based treatment supporters
  - Better results (<10 % lost to follow-up at 36 months versus 76 % completion rate at 6 months)

- But :
  - Some unacceptable level of defaulters -> flagging system
  - Early resistance building in some for uncompleted dosage

Elucidate mechanisms to support adherence



Operational Issues in the Integration of TB and HIV Care

How to improve TB and HIV services to patients

Determine ways to potentialize both services

- Integrate staff training
- Integrate service delivery
- Harmonize monitoring tools

-> difficulties to accommodate differing TB and HIV traditions and practices

TB & HIV healthcare workers: Two different cultures

TB

- Community care
- Public health approach
- Few regimens
- Treatment seldom changed

HIV

- Individualised care
- Patient-centred
- Focus on rights
- Many regimens
- Rapid treatment changes

To pool TB and HIV staff and integrate training

- Integrated nursing staff in both TB and HIV care

- Tb and HIV staff should be able to rotate between services

->Improved staff morale with improved treatment outcomes

-> New clinical career path for TB staff

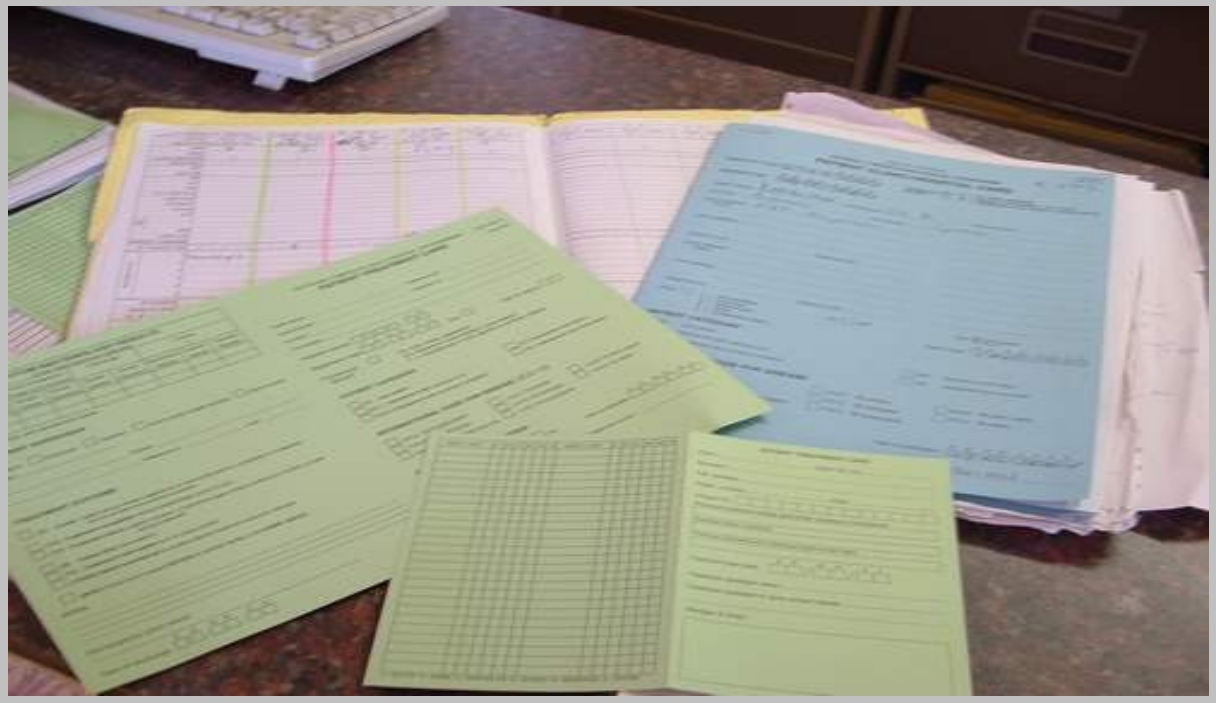
-> Renewed doctor's interest in TB

To integrate both monitoring system

- Rigidity of TB monitoring system

->TB cohort reporting system slowly adopted by HIV outcomes reports ->separate but similar registers

->Further integration of patient held records



To integrate services into a one stop service: what about the risk of nosoconial infection ?

- Is this risk increased compared to existing risk in a high incidence community ?
- Is this risk increased compared to inherent risk of HIV patients sitting together with undiagnosed TB/HIV patients
- How to design an appropriate architecture to reduce risk with obvious TB suspects ?

Discussion :role of community advocates and PWA's

- Know the issues : treatment literacy
- Request one stop service and integrated training
- Request systematic screening for both diseases
  - routine HIV test
  - clinical algorithm for TB
- Implementation of systematic TB & HIV prevention strategies
- Stimulate future Research and Development
  - New TB diagnostic tests
  - New TB and HIV drugs (FDC with EFV)
- Adherence : using each other network and strategies