Management of TB/HIV co-infection: Challenges and Perspectives

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Impact of TB/HIV co-infection

Revised WHO estimates of the global burden of TB/HIV in 2007

- Better country data on TB/HIV burden (TB/HIV estimates doubled between 2006 and 2007)
- 1.4 million (15%) TB cases occurred in people living with HIV
- 0.5 million TB deaths in people living with HIV (23% of all HIV deaths)
- People living with HIV are 6 times more likely to die during TB treatment
- TB is the "Achilles heel" of HIV care and treatment (major cause of death and can undermine the effectiveness of ART outcomes).

12 collaborative TB/HIV activities

A. To manage collaboration

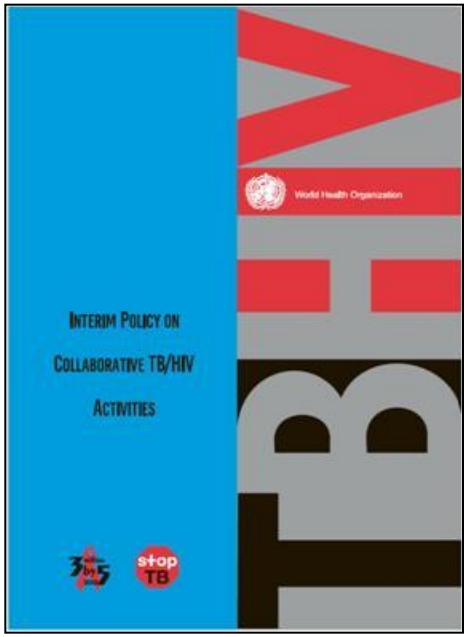
- TB/HIV coordinating body
- HIV surveillance in TB cases
- Joint TB/HIV planning
- Monitoring and evaluation

B. For the HIV programme (Three I's)

- Intensified TB case finding (ICF)
- TB preventive therapy (IPT)
- TB infection control (IC)

C. For the TB programme

- HIV testing and counselling
- HIV prevention
- HIV/AIDS care and support
- Co-trimoxazol Prophylaxis (CTXp)
- Antiretroviral therapy (ART)



2004

Using a combination of measures to reduce the burden of TB among HIV infected individuals…

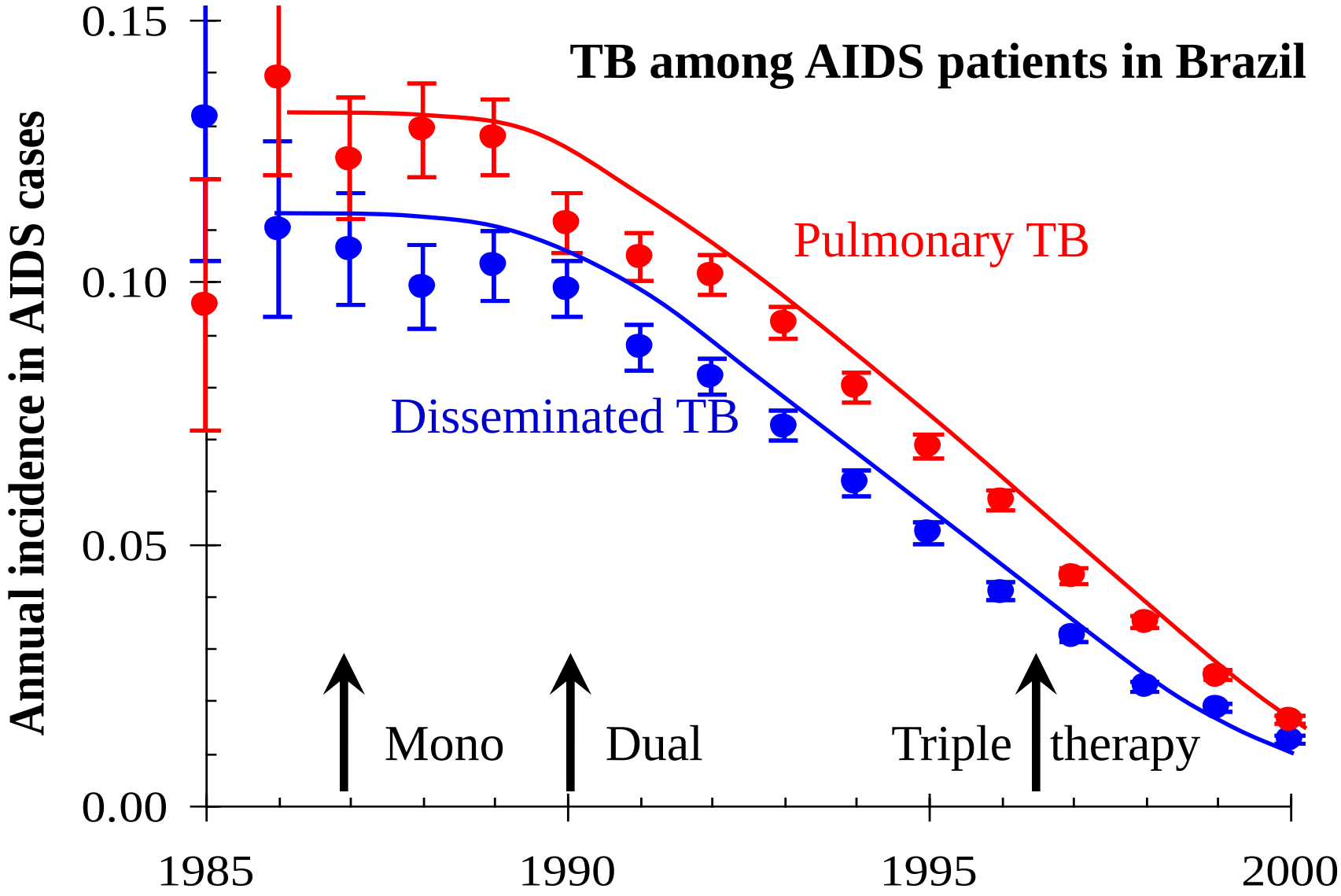
- ART
- CTXp

To decrease the burden of HIV in TB patients

- ICF
- IPT
- IC

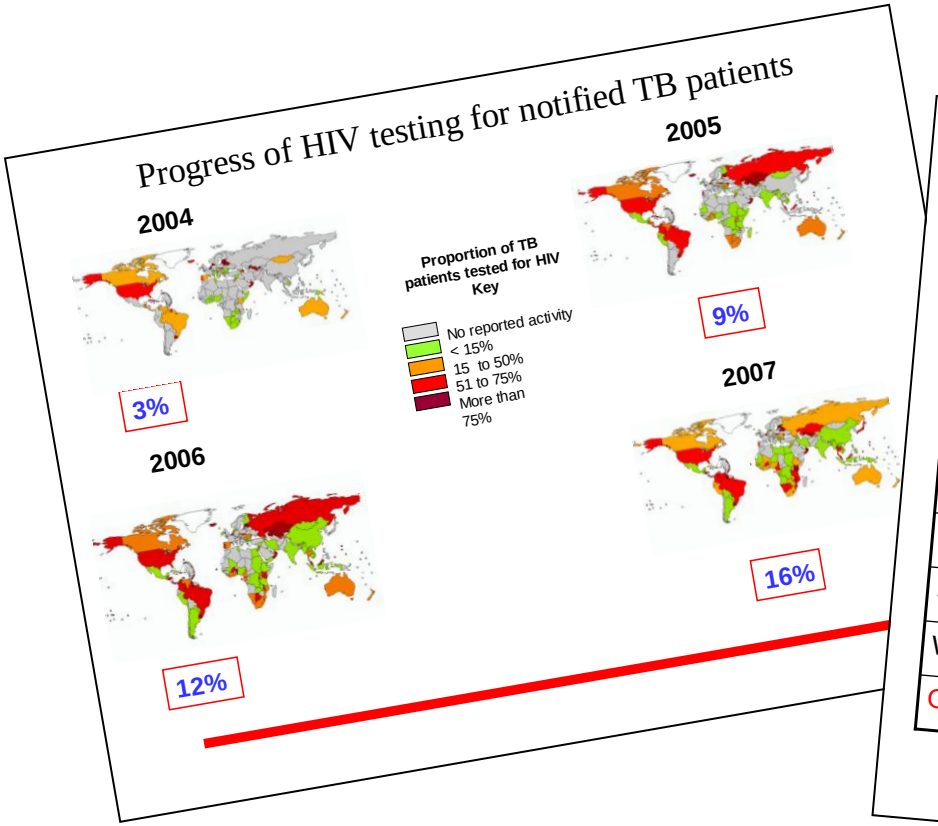
To decrease the burden of TB in HIV patients

Impact of ART on TB Incidence



www.aids.gov.br/boletim/bol_htm/boletim.htm

HIV testing and access to ART and CTXp



HIV testing and treatment, 2007

Region	TB patients tested for HIV	% of tested TB patients HIV +	% of identified TB patients on CPT	% of identified TB patients on ART
AFR	492,000 (37%)	51%	66%	29%
AMR	114,000 (49%)	13%	36%	77%
EMR	4,200 (1.1%)	12%	35%	65%
EUR	169,000 (35%)	2.5%	52%	16%
SEAR	122,000 (5.5%)	15%	37%	17%
WPR	95,000 (6.6%)	7%	45%	28%
Global	996,000 (16%)	30%	63%	30%

Access to ART is still very low (CTXp a little better) and with regional variation…

2006 WHO ART Guidelines:
Recommendations for TB/HIV

- In TB/HIV co-infection, **ART should be initiated earlier** (CD4< 350 cells/mm3), if possible **during the induction phase of TB treatment** (i.e. between 2 weeks and 2 months) in order to reduce mortality, particularly in patients with low CD4 cell counts.

- For patients presented with CD4 < 200 cells/mm3, treatment should be **initiated as soon as it is tolerated**.

- **2NRTI + EFV** is recommended as the preferred 1st line approach in these patients.

- If EFV is not available, causes severe toxicity, or is contraindicated, **triple nukes or NVP-based regimens** are the recommended alternatives.

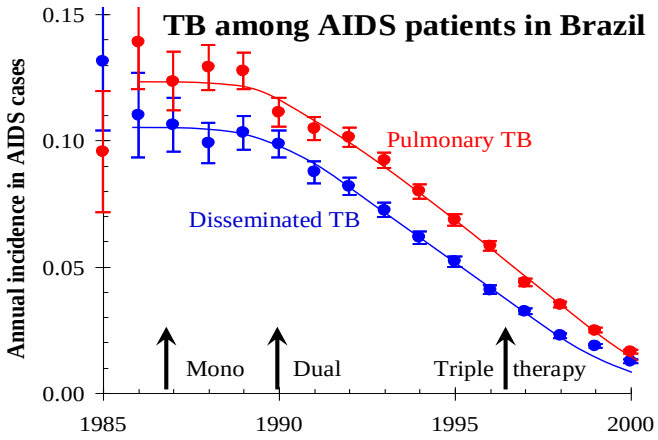
- There are **limited PI options for 2nd line ART** in patients being concomitantly treated for TB with rifampicin. Use of additional amounts of boosted ritonavir with some PIs (SQV/r or LPV/r) or replacement of rifampicin with rifabutin are the major options.

Rifabutin on WHO Essential Medicines List

- Rifabutin as part of TB treatment (replacing rifampicin), in HIV-infected patients treated with ritonavir-boosted Protease-Inhibitor containing antiretroviral therapy.
- Rifabutin
  - equally safe and effective as rifampicin
  - little effect on PI serum concentrations
  - cost-effective when used in combination with the standard dose of boosted-PIs.
- Listed on WHO EML for use with HIV+ patients on second line ART

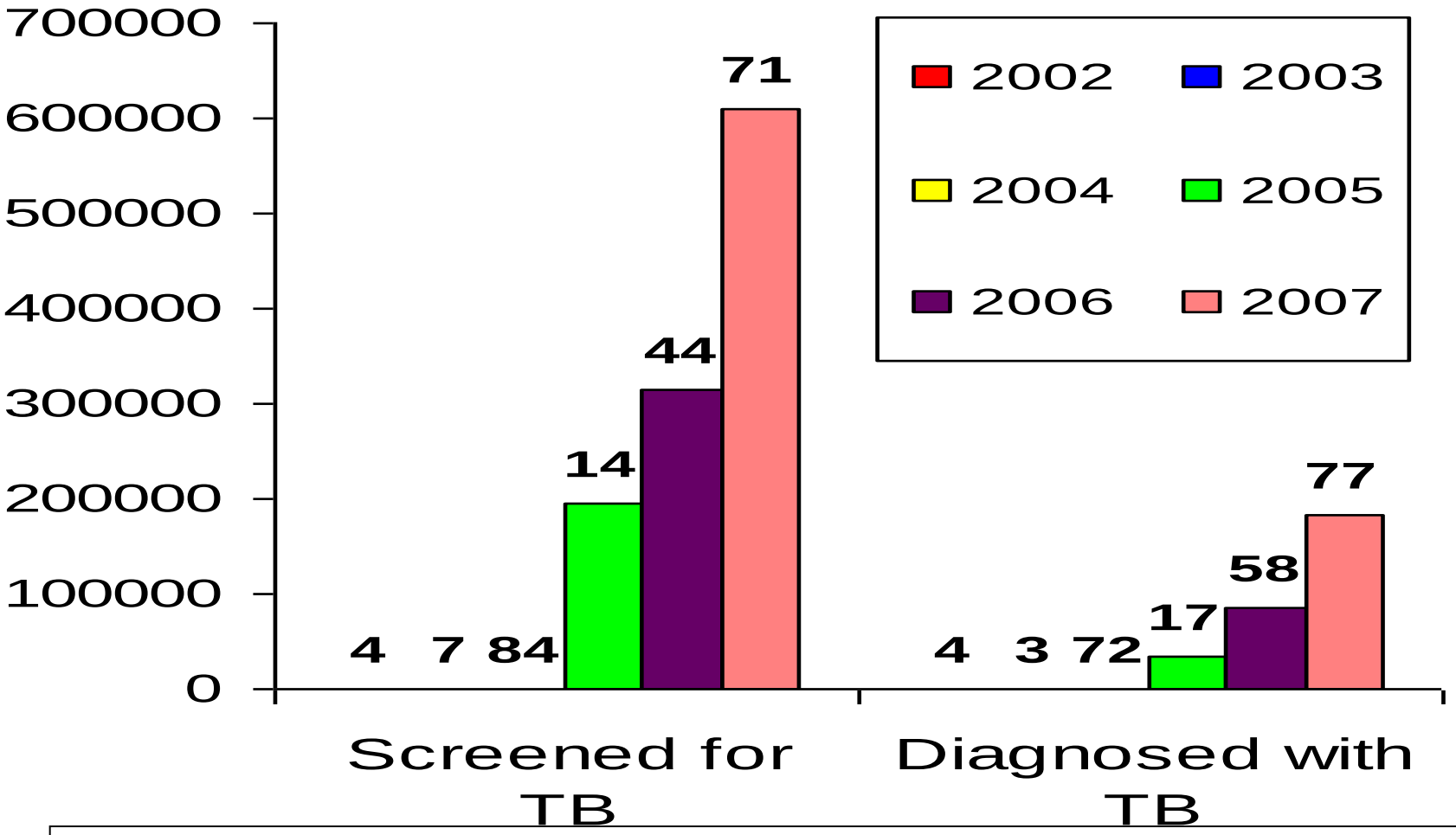
Earlier ART in context of TB/HIV:
Why is it still challenging in real practice?

- Major cause of **early mortality** in patients using ART in RLS (TB as a priority population for earlier ART)
- ART significant reduce the occurrence of TB disease, but in RLS the need to **treat both diseases at same time** is very common …
- TB still an important condition, even in patients using ART and higher CD4 cell count
- **Major challenges** of concomitant ART and TB therapy
  - GI tolerability
  - High pill burden
  - Overlapping toxicities (eg: d4T and INH)
  - IRIS management
  - pK interactions, particularly with rifampicin (NVP, PIs)



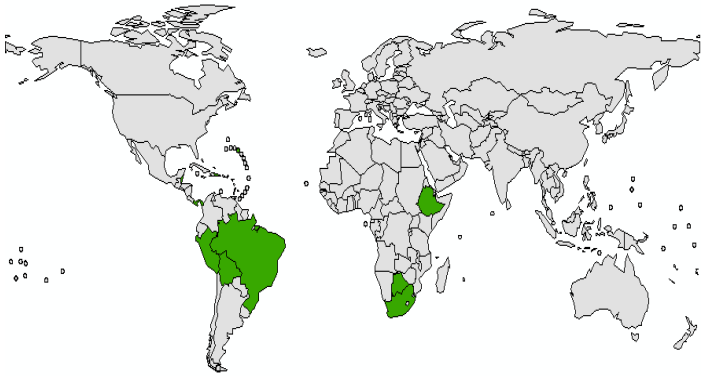
ART impacts but alone is not enough: Addition of specific TB prevention strategies is part of the solution…

ICF: TB screening and diagnosis (2002-2007)

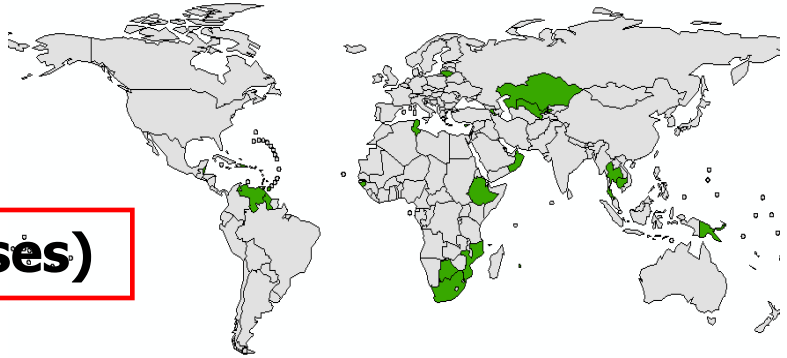


Expanding but better clinical algorithms and lab tools for more accurate and rapid diagnosis are needed …

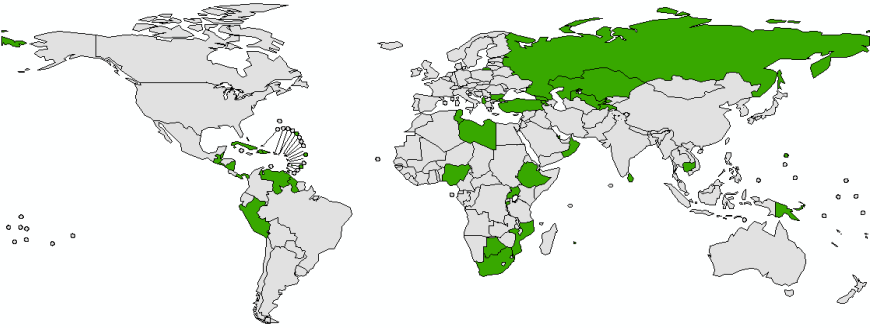
Implementation of IPT (2005-2007)



2005 (10 countries, 26000 cases)



2006 (25 countries, 27000 cases)

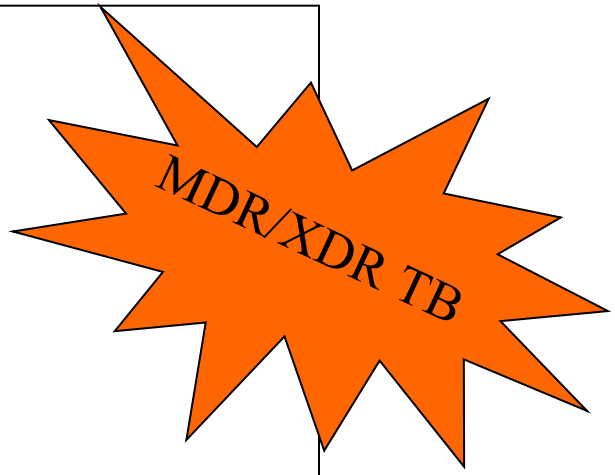


2007 (45 countries, 29000 cases)

Progressing but still poor implemented… why?

WHO policy on TB infection control in health care facilities

- Organisational activities
  - Coordination and human resources
  - Surveillance and assessment
  - Civil society engagement and advocacy
  - Monitoring and evaluation
  - Operational research
- Administrative controls
  - Triage, cough etiquette, minimise hospital stay
- Environmental controls
  - Ventilation (natural and mechanical)
  - UV radiation
  - Health facility design and renovation
- Personal protective interventions
  - Respirators
  - Prevention and care package for HIV positive health workers

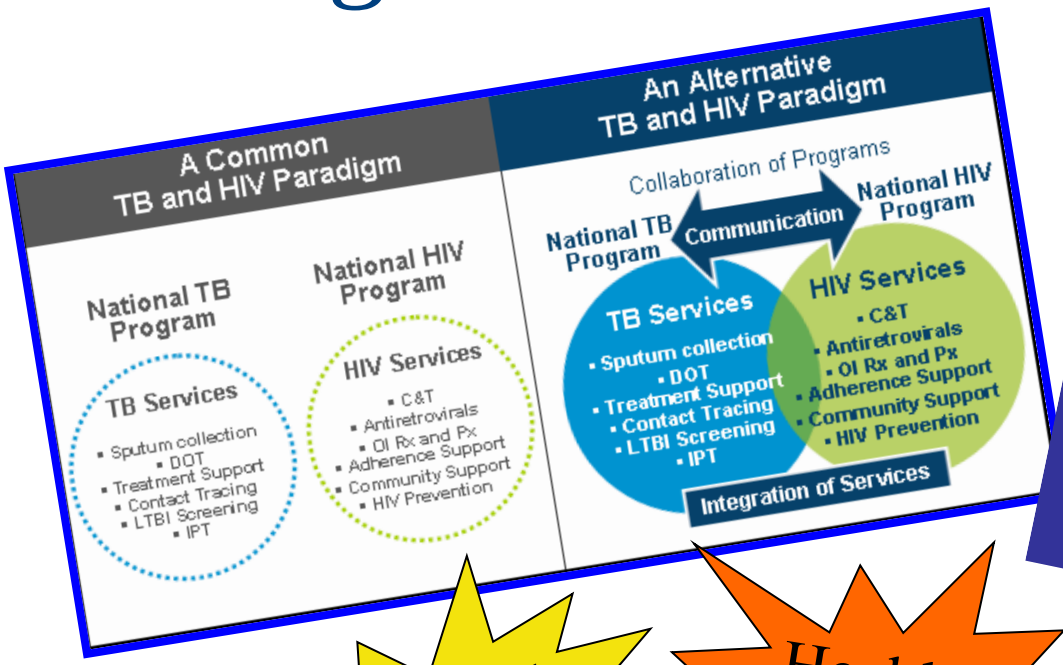


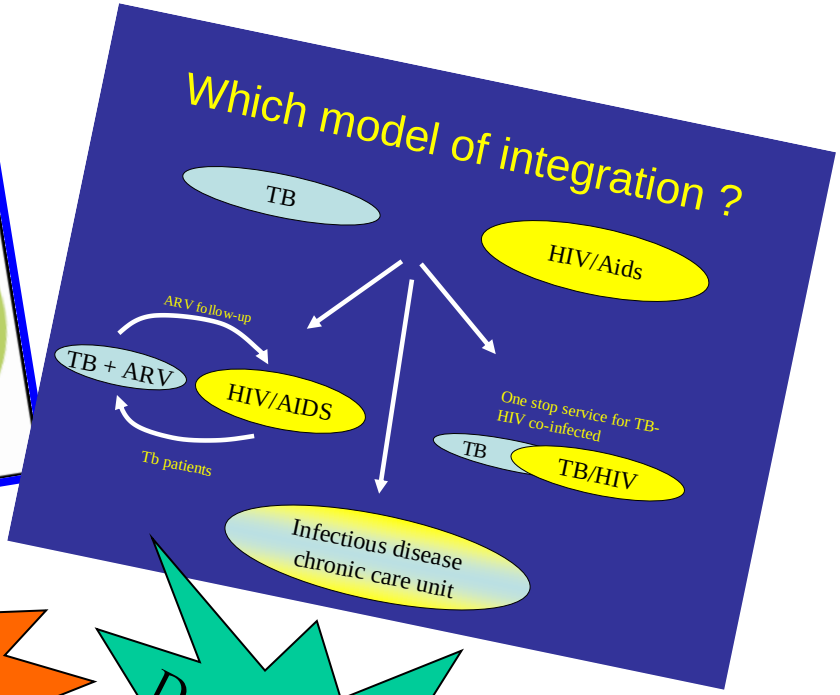
Established but still largely neglected…

Slow progress in implementing collaborative TB/HIV activities: How to improve this situation?

- Promote expansion and earlier ART initiation (early diagnosis)
- Promote expansion and earlier TB detection (early treatment)
- IPT works but need to be "reconceptualized" in the ICF/IC context
- Impact of CXTp on mortality and treatment retention
- INH/CTX co-formuated pill?
- Rifabutin for TB/HIV patient using PIs
- Better drug formulations (FDC) for both diseases (low pill burden, less drug interactions)

Integration of TB-HIV Services





Community involvement

Health Systems

Decentralization

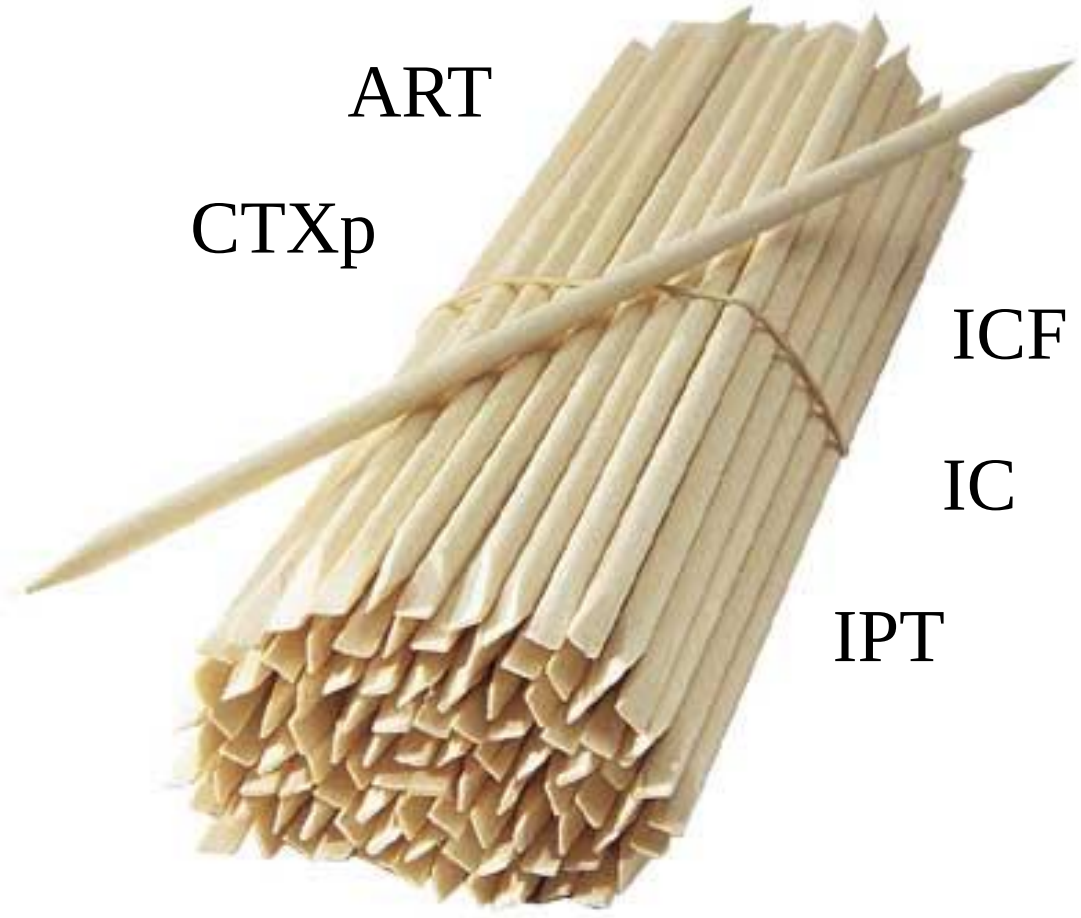
Establishing the mechanisms for collaboration

1. TB/HIV coordinating bodies
2. HIV surveillance among TB patient
3. TB/HIV joint planning
4. **TB/HIV monitoring and evaluation**

Conclusions

- Global progress in implementation of TB/HIV activities is encouraging, but still limited and late.
- The implementation of the "*Three Is"* need improvements: ICF is progressing, but IPT is limited and infection control neglected.
- ART reduce the occurrence of TB disease but is not enough. Combination with other HIV (CTXp) & TB (3Is) control measures are needed.
- Rifabutin should be used with second line ART for TB/HIV patients.

Working together….



Thank you