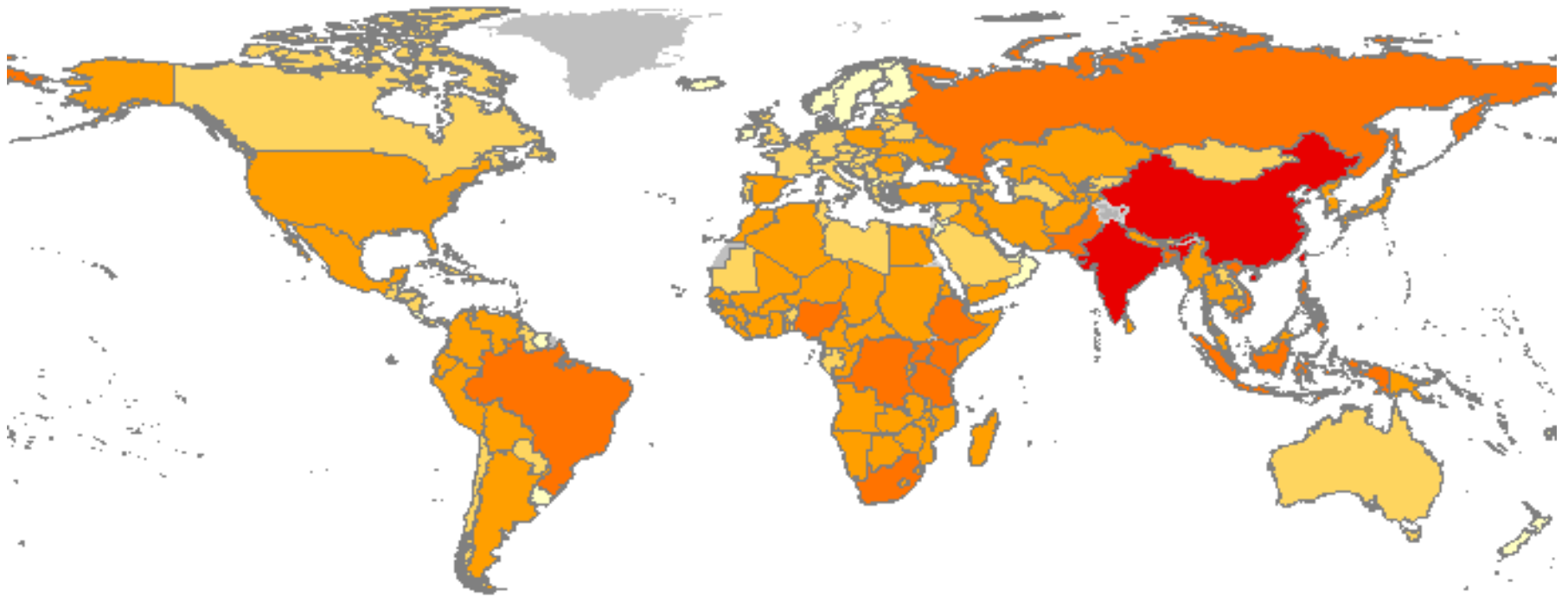


Experience from A High TB, Low HIV Prevalent Country (India)



Soumya Swaminathan, MD

**Tuberculosis Research Centre, Chennai,
India**

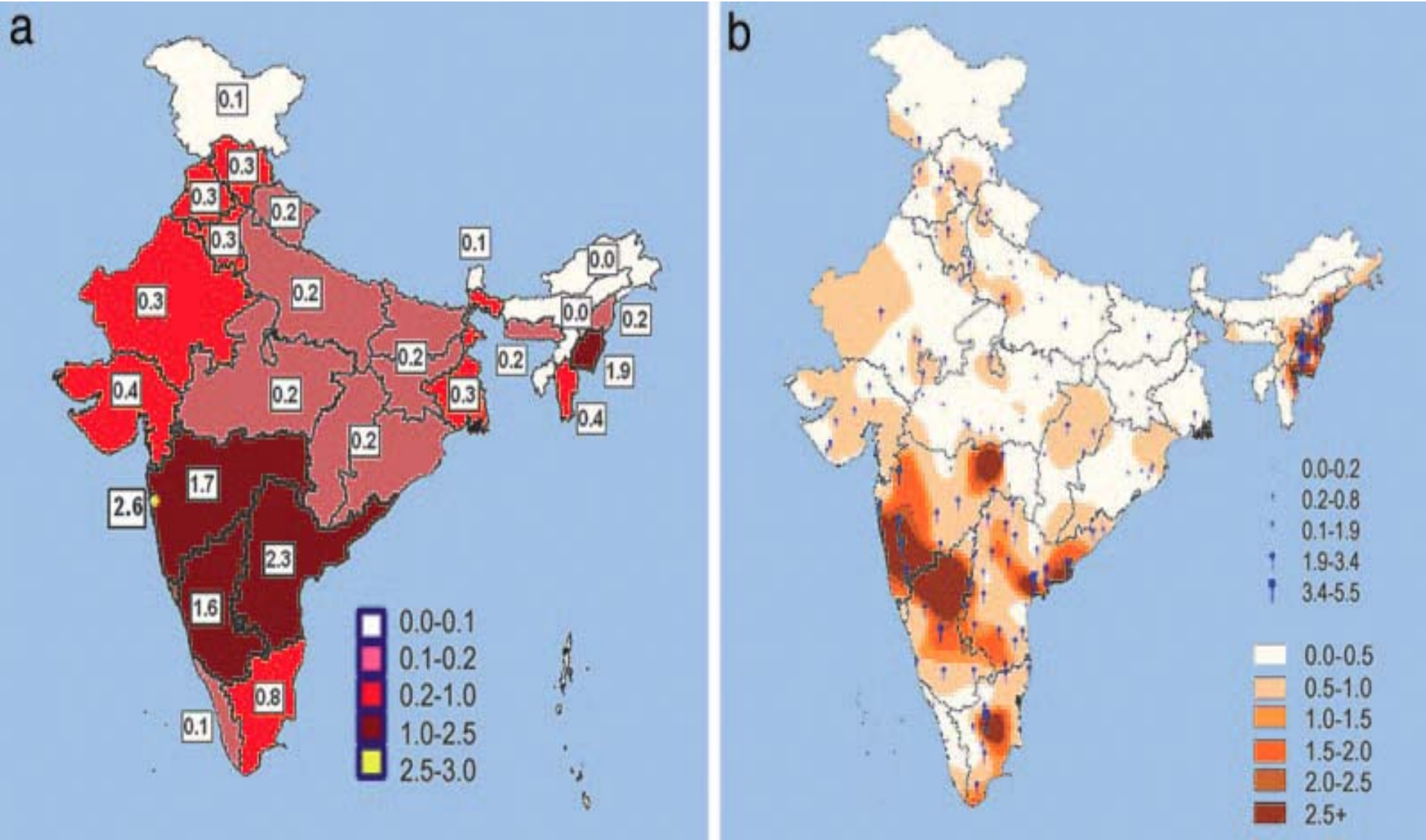
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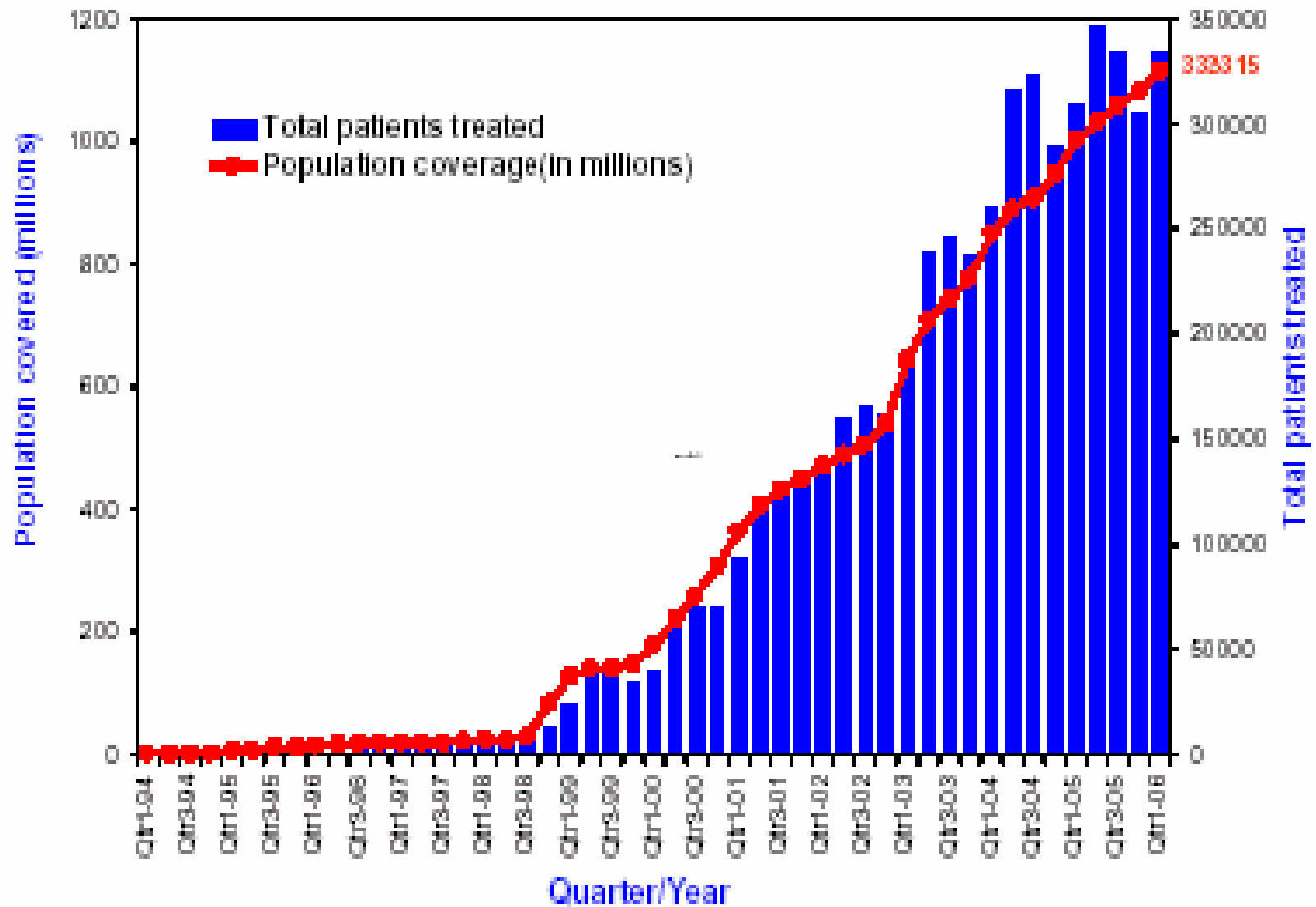
HIV Epidemiology in India

- Estimated number of HIV Infections: 5.2 million (Dec 2005)
- Adult HIV prevalence 0.9%
- 40% in women, 57% in rural areas
- Sexual route accounts for 86% infections, perinatal transmission 3.6%
- 95 districts identified as high-prevalence (>1% in antenatal women)

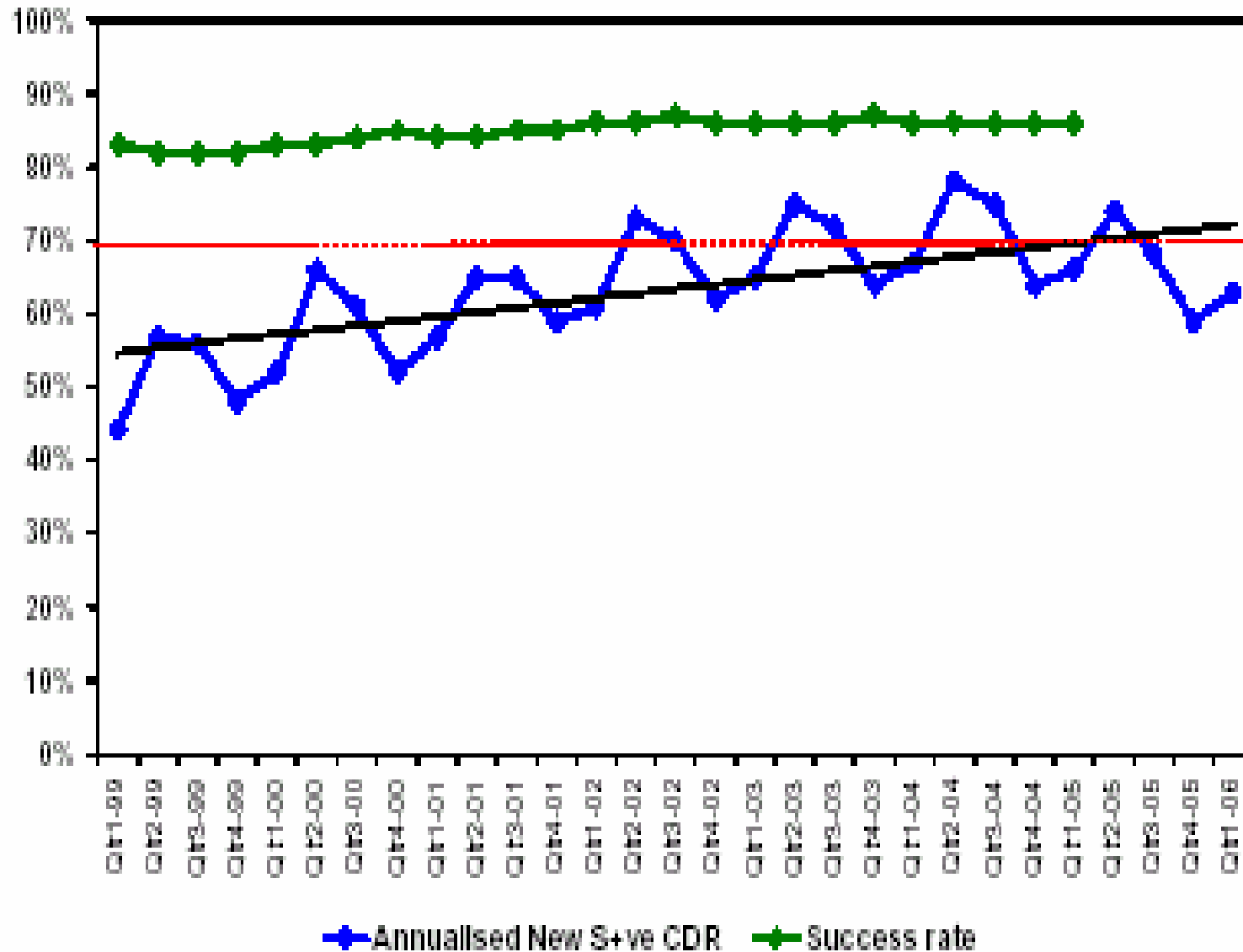
HIV Prevalence Among Antenatal Women



Population in India covered under DOTS and total tuberculosis patients put on treatment each quarter



Annualized new smear-positive case detection rate and treatment success rate in DOTS areas, 1999-2006 *



Impact of HIV, DOTS and Both on TB Prevalence, Incidence and Mortality in India



Williams et al PNAS 2005; 102; 9619-24

Government Response

- TB/HIV action plan launched in 2001 in 6 high-prevalence states, expanded in 2004 to 8 more (640 million population)
- Includes training of all levels of staff, service delivery linkages, monitoring, IEC
- TB/HIV Coordination committee at national, state and district level
- Periodic HIV surveillance among TB patients: 4 sites in 2005, ↑ to 20 sites in 2006
- NGO's involved in RNTCP to be trained for HIV diagnosis, care and support
- NGO's undertaking targeted intervention among vulnerable populations to be used for TB counseling and testing

Periodic HIV Surveillance Among TB Patients, 2005, in 4 HIV high prevalence sites

State (District)	No. Tested	HIV Positivity (%)	95% C.I	% HIV positive in ANC	Ratio of HIV prevalence in TB&ANC
Karnataka Davanagere	400	9.5	6.6 - 12.4	1.75	5.43
Andhra Pradesh Guntur	400	16	12.4 -19.6	3	5.33
Maharashtra (Nasik)	400	4.3	2.3 - 6.2	1.25	3.40
Tamil Nadu Tiruvanamalai	400	6.3	3.9 - 8.6	1.25	5.00

HIV prevalence among new TB patients (n=3500) ranged from 1.5 - 10% in 4 districts of TamilNadu, TRC study, 2005-2006

Willingness of TB Patients to Attend VCTC (TRC Study)

- 76.5% of 3100 patients interviewed were willing to attend VCTC for HIV testing

Reasons for Not Attending:

No risk behaviour: 29%

Already done: 12%

Too old: 24%

Not interested: 8%

- Most of those who attend, did so on the same day
- Physical proximity, availability and attitude of counsellor important factors

Yield of TB from VCTC Referrals

6 high-prevalence states, 1st Qtr 2006

	HIV+	HIV-
No. referred	4542	4405
% found to have TB	27%	24%
Smear Pos	46%	67%
Smear Neg	38%	28%
Extrapulmonary	16%	5%

TB and HIV: 2 Cultures

TB

- Public health approach
- Standard diagnosis and treatment algorithms
- TB Services geared for chronic care
- Simplified regimens
- New diagnostic dilemma ? HIV
- TB services de-centralized

HIV

- Individual patient and human rights approach
- Rapid treatment paradigm changes
- Services patient oriented
- Life-long treatment
- Limited experience with public health approach
- Anti-retroviral treatment hospital-centric

Challenges

- TB program is decentralized with services available at primary health centre level
- VCTC at district level currently, plans to expand to PHC level in high-prevalence districts to encourage HIV testing in general population
- 54 ART centres, mainly in high prevalence states
- Challenges: distance, travel, coordination between centres, managing AE, adherence
- Existing staff (nurses, health workers) be trained as counsellors?
- Can VCTC's be used for sputum collection?
- Laboratory technician doing sputum smear microscopy be trained to perform rapid tests?

Impact of TB on Nutritional Status of HIV+ Persons

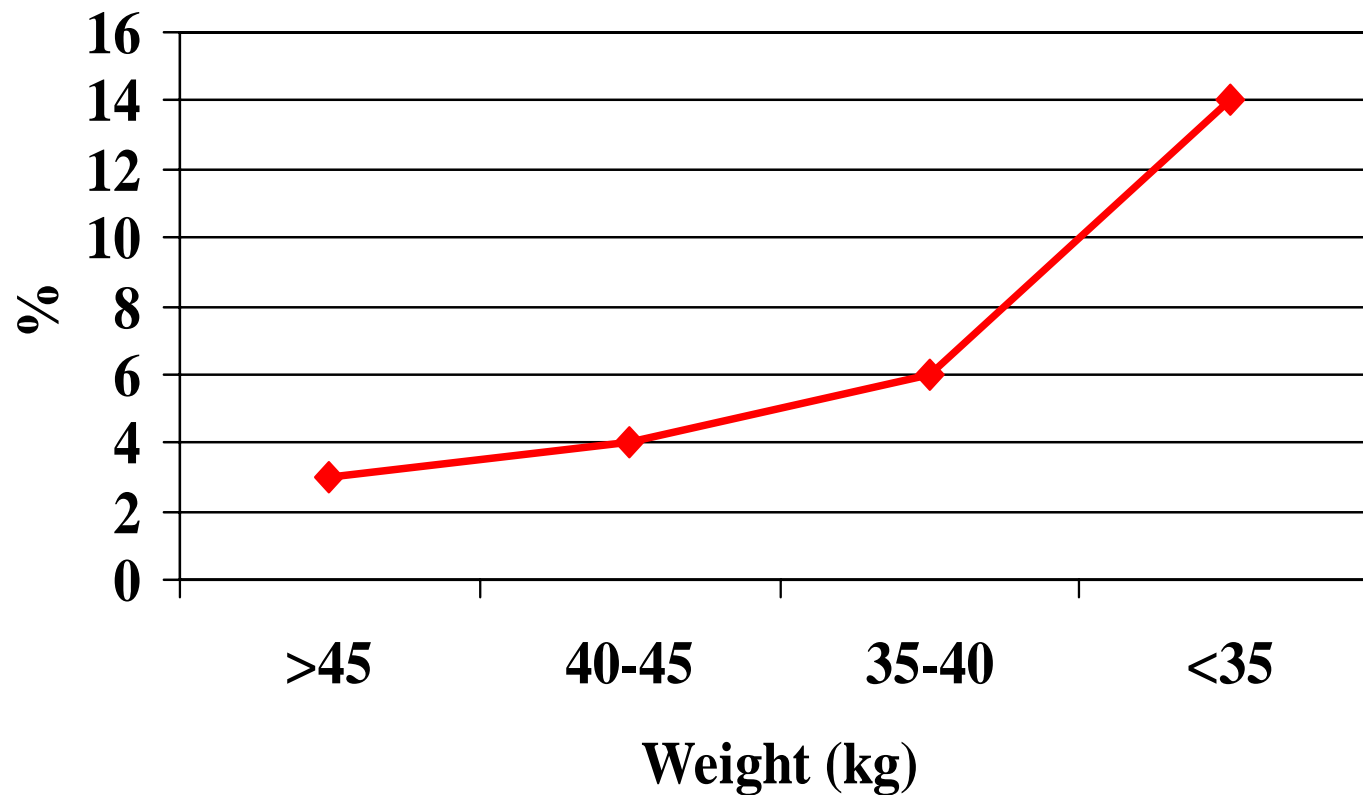
	Females (mean \pm SD)			Males (mean \pm SD)		
	HIV - Control	Asymp HIV+	HIV+ TB+	HIV- Control	Asymp HIV+	HIV+ TB+
Weight _{kg}	52\pm11	49\pm10	43\pm7*	62\pm12	56\pm11	50\pm8*
BMI	23\pm4	21\pm3	19\pm3*	22\pm4	20\pm4	19\pm2*
MAC (cms)	26\pm3	24\pm4	22\pm3*	28\pm4	25\pm4	23\pm3*
W:H	0.80	0.84	0.83	0.87	0.89	.89

* P < 0.001 (between groups)

Mortality in TB Patients Increases with Decreasing Body Weight

Santha Devi et al IJTLD 2002

Mortality in relation to body weight



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