The Union

THE 46TH UNION WORLD CONFERENCE ON LUNG HEALTH

CAPE TOWN, SOUTH AFRICA
2–6 DECEMBER 2015

A NEW AGENDA

LUNG HEALTH BEYOND 2015

Introduction of the Rapporteur Organizing Team

Section/Sub-section	Programme Secretary
Adult Child and Lung Health	Andrew Steenhoff
HIV	Keren Middelkoop
Tobacco Control	Omara Dogar
Tuberculosis	Kevin Schwartzman
Bacteriology and immunology	Stella van Beers
Civil society	Evaline Kibuchi
Nurses and Allied Professionals	Carrie Tudor
Zoonotic TB	Adrian Muwonge

Overview of Abstracts

Session type	Number submitted and peer reviewed	Number accepted for presentation at the conference
Oral abstract presentations	2,127	207 in 26 sessions
Short oral presentations		52 in 5 sessions
E-poster presentations		127 in 15 sessions
Poster presentations		628 in 73 sessions

Meetings, plenaries, workshops, post-graduate courses, and symposia were not included.

Thank you to session chairs who provided feedback

Daouda Adam	Chibuike Amaechi	Fouad Aslam	Paul Jensen
Mirjam Bakker	Anurag Bhargava	Rajita Bhavaraju	Jody Boffa
Alice Christensen	Charlotte Colvin	James Cowan	Helen Cox
Riitta Dlodlo	Susan Dorman	Leslie Enane	Charles Feldman
Jacqueline Firth	JW Fitting	Agnes Gebhard	Jonathan Golub
Alexander Golubkov	Anthony Harries	Samson Haumba	Nadia Aït Khaled
Moses Kitheka	Ekaterina Kurbatova	Blessina Kumar	Irwin Law
Llang Maama	Robert Makombe	Lesibana Malinga	Ben Marais
Sara Massaut	Kedibone Mdolo	Graeme Meintjes	Keren Middelkoop
Valerie Mizrahi	Surbhi Modi	Chakaya Muhwa	Nii Nortey-Hanson Nortey
Jove Oliver	Tolullah Oni	Marlene Poolman	Simon Schaaf
Thomas Shinnick	Neil Schluger	Charlotte Schutz	Kevin Schwartzman
Si Thu Aung	Rinn Song	Jean Tesche	Carrie Tudor
Mikhail Volik	Rob Warren	Myra Wisotzky	Mukadi Ya Diul
Getahun Haileyesus	Martie van der Walt	Phoebe Nzombe	Virginia De Azevedo
Annelies van Rie	Vishnu Mahamba	Tope Adepoyibi	Helen Ayles
Adrian Muwonge	Helen McIlleron	Shu-Hua Wang	Muyabala Munachitombwe
Ed Nardell	Zolani Barnes		

A to Z in 25 minutes

- Adult and Child Lung Health
- Bacteriology and Immunology
- Civil Society
- HIV
- Nurses and Allied Professionals
- Tobacco Control
- Tuberculosis
- Zoonotic Tuberculosis

ADULT AND CHILD LUNG HEALTH

Andrew Steenhoff

Adult Lung Health

- Lung sequelae post successful TB treatment
  - India post MDR-TB, Zimbabwe post drug sensitive & MDR-TB
    - » 93% patients ongoing symptoms, 100% radiological abnormalities, 89% abnormal lung function
    - » Importance: recognize, **not** unsuccessful treatment, BUT needs to be managed to improve quality of life
- Innovation … satellites & lung health, Malawi
  - Traditionally manual mapping methods for prevalence surveys: heavy on resources & time
  - Used Google Earth Pro & mobile technology

to map, sample, collect & manage resp. data

OA-454-05 Singla
OA-456-05 Metcalfe
OA-501-06 Chisunkha

Adult Lung Health

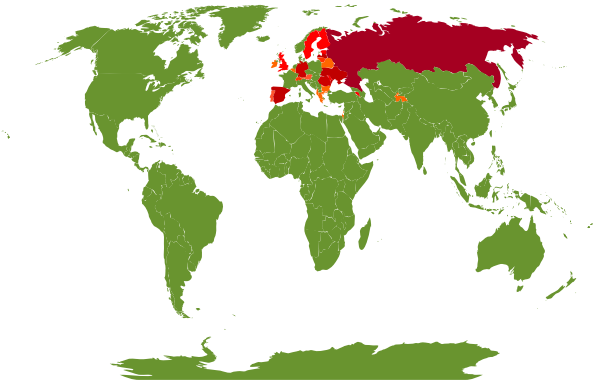
- COPD in Bangladesh
  - Cohort study of 652 adult smokers: previous normal lung function 2 years ago, underwent spirometry
  - COPD developed in 46 adult smokers
    - » a 2-year cumulative incidence of 7.1%
    - » an average annual incidence of 3.55%
  - COPD incidence is high in adult smokers in Bangladesh
  - Importance:
    - » As in many LMIC, COPD is a major public health problem in Bangladesh

PC-870-04 Siddiquee

Childhood TB

- Expediting the diagnosis in New Delhi, India
  - 261 children with TB (confirmed & probable)
  - Immediate access to Xpert detected
    - » 62 cases that were smear negative (sensitiv 81% vs 18%)
    - » rifampicin R in 4 cases which were culture negative
- HIV-TB co-infection in Kinshasa, DRC
  - 1009 children treated for TB
    - 809 (80%) tested for HIV
    - 441 (55%) were HIV-infected
    - underscores need for HIV test in all child TB cases

PC-862-04 Singh
PC-859-04 Lelo



Childhood MDR TB

- Web survey of clinical approach to child MDR <u>contacts</u> in Europe
  - Proportion new TB cases that are MDR: 15% in Europe
  - 25 countries, 72 clinicians
    - » Wide spectrum of clinical practice around screening, preventive therapy & follow-up
    - » **Need for better evidence and consensus guidelines**

OA-482-06 Turkova

Childhood MDR TB

- PK
  - Ofloxacin in Cape Town
    - 85 children 0-5 years, ofloxacin dose 20mg/kg
    - exposures were low, simulated optimal dosing
    - no effect of crushing, HIV, malnutrition
    - good outcomes, safe & well tolerated (**no** arthropathy)
  - Delamanid in paeds MDR patients, Phillipines
    - 7 patients, **12-17 years**, 6 months of delaminid
    - well tolerated, plasma concentrations in ranges of adult trial
    - trials ongoing in younger children

OA-479-06 Garcia-Prats
EP-115-04 Hafkin

Childhood INH monoresistance

- INH R is most common form of resistant TB globally
- Karachi, Pakistan
  - Lab study 2003-2012: 767 culture+ samples, children 0-14 yrs
  - 329/767 (**43%**) showed INH monoresistance
  - Significant upward linear trend from 2003 to 2012 (p=0.02)
- Cape Town
  - 72 children (<13) with INH R, Rifampin S TB, 2006-2012
  - Outcomes were good but 10/37 had +cx ≥2m

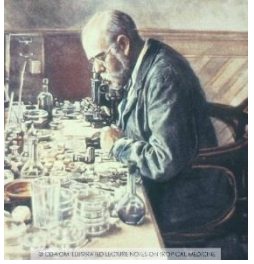
PC-1070-05 Shakoor S
PC-1073-05 Garcia-Prats

BACTERIOLOGY AND IMMUNOLOGY

Stella van Beers

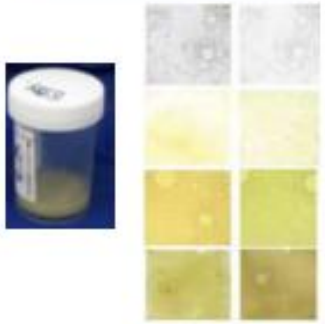
Members interested in the laboratory aspects of tuberculosis

Improving efficacy of sample examinations to detect TB?



Possible predictors of MTB negative sputum?

Sputum Quality
- Appearance
- Volume



Clinical symptoms
- Cough
- Sputum production
- Haemoptysis

Clinical and Sputum Characteristics as Predictors of *Mycobacterium Tuberculosis* Positive Sputum in Community-Wide Active Case Finding for Tuberculosis

OA-300-04

Ho J et al

Urinary Lamp Lateral flow test especially for HIV patients, with low CD4 count,
Meet the expert session, Grant Theron

Shedding light on discordance of GenXpert results

…pert MTB/RIF molecular probe binding characteristics associated with discordant confirmatory rifampicin resistance testing

Berhanu RH[1], Da Silva MP[2], Schnippel K[1,4], Kularatne R[2], Scott L[3], Stevens W[2,3], Firnhaber C[1,4], Lippincott CK[1]

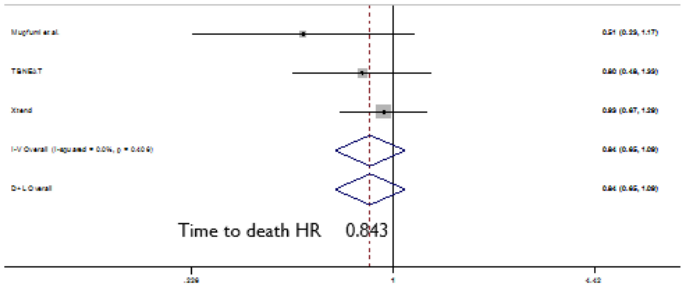
1) Right to Care, South Africa; 2) National Health Laboratory Services, Department of Clinical Microbiology and Infectious Diseases, University of the Witwatersrand, South Africa; 3) Department of Molecular Medicine and Haematology, School of Pathology, University of the Witwatersrand, South Africa; 4) Clinical HIV Research Unit Department of Internal Medicine, Faculty of Health Science, University of Witwatersrand, South Africa

Systematic review and meta-analysis of Xpert's clinical impact

OA-409-05 11:30-11:40

The effect of automated nucleic acid amplification assays on mortality in routine care settings: meta-analysis of individual participant data

A Khaki, G Di Tanna, K Fielding, G Theron, M Nicol, K Dheda, G Churchyard, J Metcalfe (USA, UK, South Africa)



Impact of GenXpert?
Context matters
Grant Theron

Discordance:

GenXpert positive result and conformative test negative indicating rifampicin susceptible TB (LPA, phenotypic DST or repeat Xpert)

Berhanu RH[1]

OA-303-04

- Hybridization pattern of probes (A-E) examined:
  Resistance can occur through no – or delayed hybridization

- Discordant result mainly could be explained delayed (ΔCt): 4-4.9

Detecting latent tuberculosis?

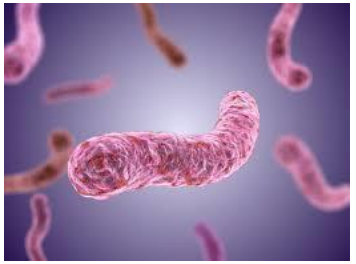
Risk of Quantiferon (QFT) leading to over-diagnosis of conversion when used for annual serial testing among HCWs in a low-incidence setting

A Zwerling **OA-400-05**

Early biomarkers using elevated peripheral blood monocyte rate combined with a strong [tuberculin] skin test response associated with progression of latent tuberculosis infection to clinically active disease.

N Rakotosamimanana **OA-395-05**

Understanding heterogeneity In Mtb populations



Conflicting results doing Whole Genome sequencing (WGS): genomic stability or instability during evolution of drug resistance?

WGS reveals genetic heterogeneity and suggests the role of selective bottleneck in defining the population structure of Mycobacterium tuberculosis.

PC-979-05

de Vos et al.

Provides insight in 1) methodological perspective: how to accurately detect heterogenous variants.

2) Biological perspective : showing intra-patient evolution of isoniazid resistance

Identifying threat of drug resistance of old drugs -pyrazinamide resistance

- 50% prevalence of pncA mutations in MDR isolates from South Africa: suggests major problems with standardized MDR regimen
- Enforces the need for standard routine PZA DST

OA-360-04

M. Whitfield et al

- PCR-based testing for PZA resistance problematic
- **Mixed infections** may show susceptibility.

OA-362-04

Elizabeth M. Streicher

Identifying threat of drug resistance of new drugs

EP-163-05

Good correlation in identifying drug resistance among second line agents and new drugs such as delamnid and bedaqualine.

J Limberis

EP-166-05

WGS approach may be clinically useful to rapidly detect drug-related mutations prior to treatment.

A Cabibbe

Finding new drugs for treatment

Colony phenotyping –quantifying TB colony dynamics

Potential utility for monitoring early treatment responses during TB therapy
Adds value to surrogate markers of efficacy in phase II TB treatment trials, which would be an important step towards shorter regimens.

PC-791-04

D Barr et al

New horizons for quinolone-class agents

Exciting new work on developing next-generation quinolones with improved lethality and other favorable characteristics.

PC-784-04

K Drlica, et all

Improving drug therapy

Host targeted therapy for tuberculosis via aerosol administration of small interfering RNA which have an important role in defending cells against infectious organism

Restoring host antimicrobial capacity to kill drug tolerant bacilli. Thereby enhancing the possibility to shorten TB treatment.

OA-472-06

R Upadhyay

Other posters mentioned

PC-975-05 Genetic polymorphisms of glutathione S-transferase P1 and the incidence of anti-tuberculosis drug-induced hepatitis in a Chinese cohort
J He, quan Wu, yu Wang, can Wu, yi Ji

PC-1015-05 GeneXpert® shortens time to treatment initiation for Latvian MDR-TB cases
H Stagg, P White, V Riekstina, A Cirule, J Brown, G Dravniece, E Adam, C Jackson

Improving access to services: organize triage

Employing a ‘cough monitor’ in a crowded clinic is an effective way to prioritize patients for testing and improve the detection of infectious TB patients. Increas of 30% to 37%of sputum positive cases

PC-1036-05

S Mugudalabetta

Finding solutions at the door step

CIVIL SOCIETY
Evaline Kibuchi

Resilience Pays

Photo Kevin

My champion. This pair of shoe reminds me of the journey I've gone through to be where I am today. These shoes helped me a lot during the times I was undergoing treatment and needed to take long treks from and to the health centre for treatment and psychological support. I know they look uncomfortable but what I see today is resilience and triumph

ID 963 TB Photo voic
engage your commu
Ruggs

tb PHOTOVOICE

Patients Engagement in Case Finding

- Engagement of persons who have undergone the TB experience is effective in Case finding as demonstrated in South-Kivu Province, Democratic Republic of Congo
- **OA-497 06 :** *Active case finding activities performed by former TB patients: experience from South-Kivu Province, Democratic Republic of Congo, Olivier Bahati*

Community engagement in improving Treatment success rate

- Involvement of communities in effective in improving treatment outcomes:
- *OA-498-06: Improving Treatment success rate by use of community mobilizers in Juba, South Sudan who were able to retrace 87% of patients who had dropped out treatment in a period one year(Jan-Dec 2012) Stephen Macharia*

Human rights and social protection for TB Patients

- TB treatment need an environment with assured humans rights and social protection;
- ***PC-838*** *Civil Society forums gears up to protect human rights of TB Patients and help ensure social security of TB patients. S Nayak*

And all these will only be possible with increased advocacy for more investment in TB from the national Governments!

HIV
Keren Middelkoop

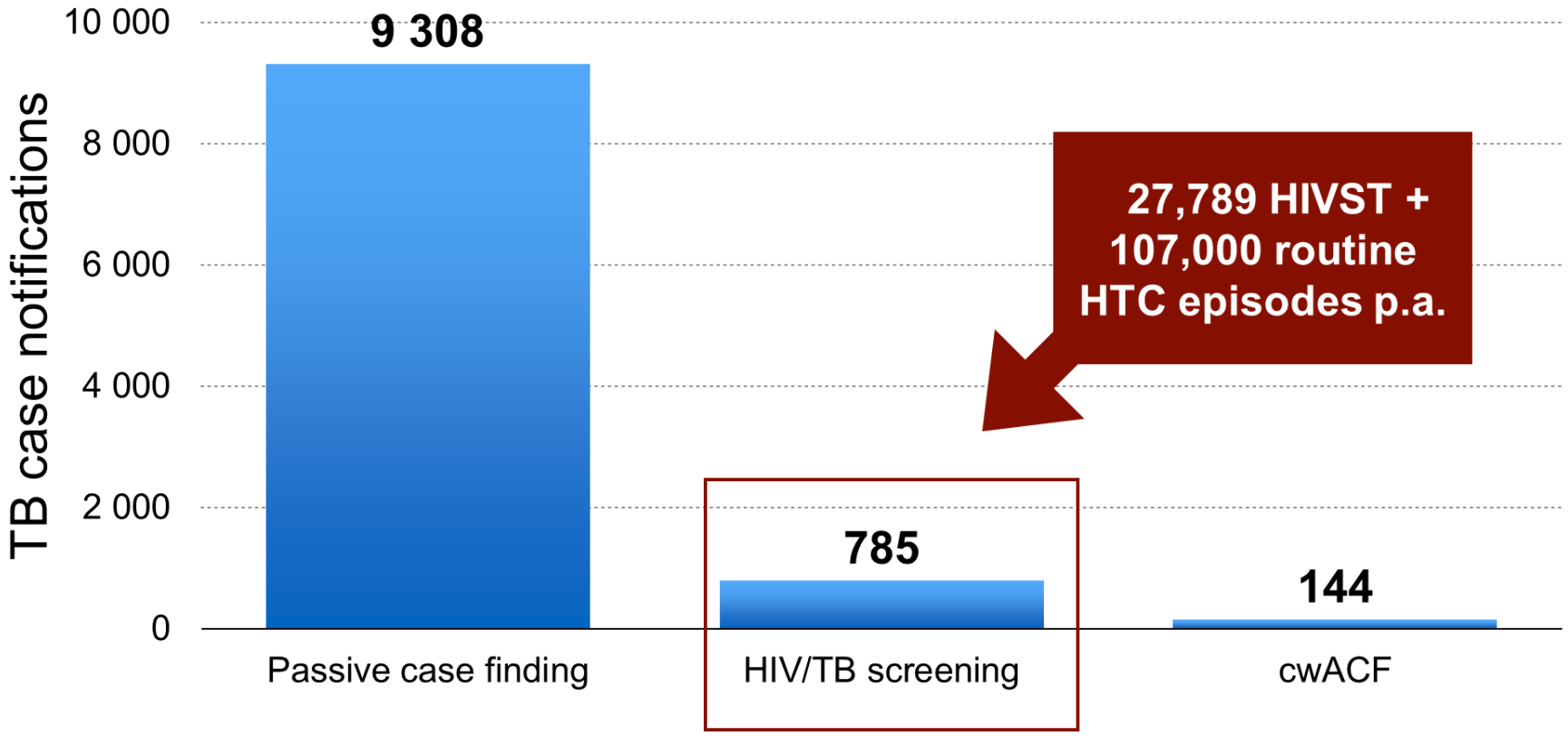
OA-371-04: HIV and Lung Health

Patient characteristics and contribution to overall caseload from three different TB case finding strategies in Blantyre, Malawi

Peter MacPherson, Emily Webb, Augustine Choko, Marriott Nliwasa, Aaron Mdolo, James Mpunga, Lingstone Chiume, Liz Corbett

Contribution to caseload

January 2011 - August 2014



Choko PLOS Med 2015

Characteristics of TB cases as captured by routine Ministry of Health TB Officers

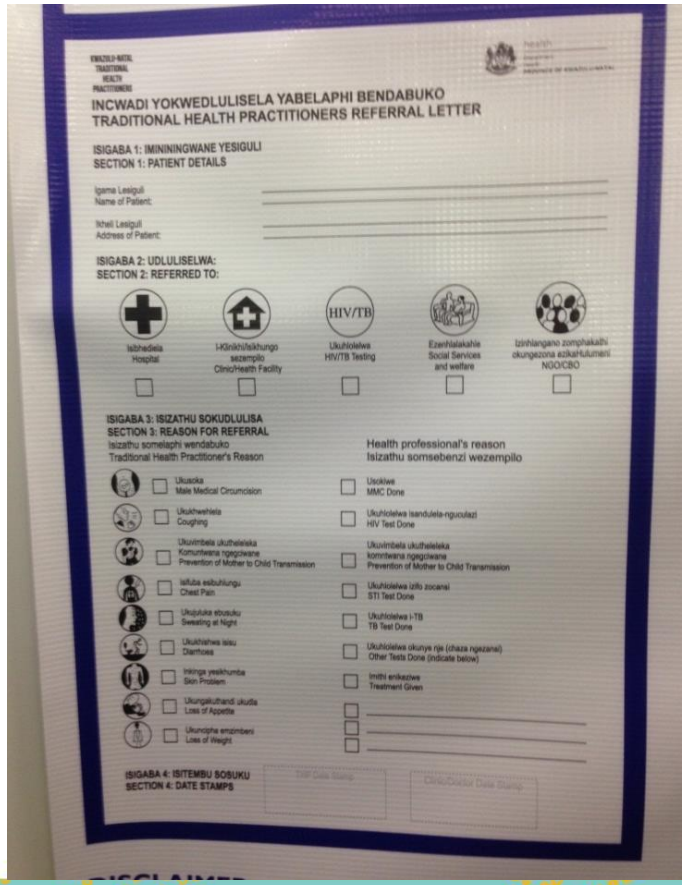
	Passive case finding	HIV/TB screening	cw-ACF	P-value
Median age	34 years	35 years	32 years	**0.046**
Men	60%	59%	58%	0.718
Cough >3w	37%	38%	69%	**<0.001**
Smear +ve	57%	35%	84%	**<0.001**
HIV-positive	73%	86%	59%	**<0.001**
On ART	68%	65%	67%	0.490

PC-909-04

Including traditional health practitioners in community-based public private partnership to provide HIV and TB services in KwaZulu-Natal

GN Mbokazi et al

- 800 THP trained to identify symptoms of HIV/TB
- 22,879 clients screened
  - 1,271 symptom positive
    - 818 referred to clinics


INCWADI YOKWEDLULISELA YABELAPHI BENDABUKO
TRADITIONAL HEALTH PRACTITIONERS REFERRAL LETTER

ISIGABA 1: IMININGWANE YESIGULI
SECTION 1: PATIENT DETAILS

Igama Lesigulí
Name of Patient:

Ikheli Lesigulí
Address of Patient:

ISIGABA 2: UDLULISELWA:
SECTION 2: REFERRED TO:

Isibhedlela Hospital | I-Kliniki/Isikhungo sezempilo Clinic/Health Facility | Ukuhlolelwa HIV/TB Testing | Ezenhlalakahle Social Services and welfare | Izinhlangano zomphakathi okungezona ezikahulumeni NGO/CBO

ISIGABA 3: ISIZATHU SOKUDLULISA
SECTION 3: REASON FOR REFERRAL

Isizathu sometaphi wendabuko
Traditional Health Practitioner's Reason

Ukusoka Male Medical Circumcision
Ukukhwehlela Coughing
Ukuvimbela ukutheleleka Kokumfeketa ngegciwane Prevention of Mother to Child Transmission
Ukuvimbela ukutheleleka kokumfeketa ngegciwane Prevention of Mother to Child Transmission
Isifuba esibuhlungu Chest Pain
Ukuhlolelwa izifo zocansi STI Test Done
Ukuhlolelwa i-TB TB Test Done
Ukuhlehlwa isisu Diarrhoea
Ukuhlolelwa okunye nje (chaza ngezansi) Other Tests Done (indicate below)
Imithi enikeziwe Treatment Given
Ukungakuthandi ukudla Loss of Appetite
Ukuncipha emzimbeni Loss of Weight

Health professional's reason
Isizathu somsebenzi wezempilo

Usoke MMC Done

ISIGABA 4: ISITEMBU SOSUKU
SECTION 4: DATE STAMPS

SOA-631-06: HIV and TB: Snapshots

Using C-reactive protein to improve efficiency of TB screening among patients new to HIV/AIDS care

Christina Yoon, F Semitala, J Katende, P Byanyima, A Andama, I Ayakaka, M Kamya, A Cattamanchi

602 consecutive adults (48% F, age 33 years, CD4 count 149 cells/uL) new to HIV/AIDS care (Kampala, Uganda) from July 2013 – Oct 2015

WHO symptom screen, CRP testing, Xpert x1, liquid culture x2

Test characteristics of TB screening tests

WHO SYMPTOM SCREEN

	TB (N=113)	No TB (N=489)
Symptom +	108	430
Symptom –	5	59

Sensitivity 96% (90-99)

Specificity 12% (9-15)

POINT-OF-CARE CRP

	TB (N=113)	No TB (N=489)
CRP ≥ 10 mg/L	100	175
CRP < 10 mg/L	13	314

Sensitivity 89% (81-94)

Specificity 64% (60-69)

> 5-fold increase

PC-915-05

High rate of late incident tuberculosis among HIV infected patients on long term antiretroviral therapy in Western India

Dravid AN; Kulkarni MV; Mahajan U; Saraf CK

- Incident rate: 2.35 cases/100 pyrs (95% CI: 1.94-2.79)

Incidence rate of TB cases among HIV positive patients (All patients)

Time dependent risk factors	Rate of late incident TB (per 100 Person Years)	95% CI (per 100 Person Years)	p value
Virologic success on ART (VS)	1.18	0.89 –1.55	P<0.0001
Virologic failure on ART(VF)	**9.93**	**7.79 –12.64**	
ART plus IPT	**0.12**	**0.03 –0.49**	P<0.0001
ART alone	3.39	2.83 –4.08	
ART duration <=12 months	12.20	8.42 –17.67	P=0.265
ART duration 13 - 36 months	3.65	2.65 –5.04	
ART duration > 36 months	1.38	1.05 –1.81	

OA-369-04: HIV and Lung Health

Routine Implementation of Six Months Isoniazid Preventive Therapy in HIV Infected Patients in Seven Pilot Sites in Zimbabwe

K C Takarinda, R C Choto, A D Harries, T Mutasa-Apollo, C Chakanyuka-Musanhu, B Nkomo, E Zhou, P Shiri, C Mbito

Outcomes of HIV infected clients enrolled and commenced on IPT

Variable (N=578)		n (%)
IPT Outcomes	**Completed IPT**	**466 (80.6)**
	Did not complete IPT	**112 (19.4)**
Reasons for not completing IPT	Loss to follow-up	69 (61.6)
	Stopped Treatment (reason not documented)	30 (26.8)
	Drug stock-outs	5 (4.5)
	Developed toxicity/adverse reaction*	6 (5.3)
	Transferred Out	2 (<1)
	Refused to Continue Treatment	3 (<1)

Current ART status	Not on ART	Reference	Reference
	On ART	**0.07 (0.03-0.16)**	**0.09 (0.03; 0.28)**

HIV/TB Late Breaker

Cell phone ringtones intervention to improve adherence to antiretroviral therapy in Yaounde, Cameroon: a randomized controlled trial

EW Pefura-Yone [1,2], Z Nzina-Toupendi [3], AD Balkissou [1,2], AP Kengne [4], E Afane-Ze [1,2]

Université de Yaoundé 1

Results/ Adjustment with baseline data

Factors	Odds ratio	95% CI	p value
Ringtones group	**1.89**	**1.19-2.98**	**0.007**
Age	**0.96**	**0.93-0.99**	**0.013**
Sex	0.70	0.38-1.30	0.263
Education level	0.82	0.58-1.18	0.291
Living alone	**1.74**	**1.06-2.85**	**0.028**
Employed	1.12	0.57-2.21	0.745
Not using condoms	**1.26**	**1.02-1,55**	**0.032**
Alcohol consumption	0.73	0.53-1,01	0.059
Smoking	0.71	0.48-1,06	0.093
CDC Sage C	1.48	0.88-2,49	0.139
Durée en mois du TARV	0.99	0.97-1,01	0.602

OA-370-04: HIV and Lung Health

The effect of antiretroviral therapy on chronic lung disease in HIV- infected children

G. McHugh[1], J. Rylance[2], E. Majonga[1,3] , J. Metcalf[4], T. Bandason[1], H. Mujuru[5], K. Kranzer[3], RA. Ferrand[1,3]

- Substantial burden of respiratory morbidity in HIV+ children compared to HIV-ve (**SOA-632-06: HIV and TB: Snapshots**)

Clinical Features

	ART NAÏVE n=385	ART EXPERIENCED n=202	P-value
Previous TB	20(5%)	76(38%)	<0.01
Smokers in household	94(24%)	42(21%)	0.32
Chronic cough	206(54%)	30(15%)	<0.01
Breathlessness	68 (18%)	12(6%)	<0.01
MRC dyspnoea Score>1[1]	46(16%)	28(14%)	0.58

[1]Data collected n=291

Respiratory function

	ART NAÏVE	ART EXPERIENCED	PVALUE
Resp Rate>30/min	14 (4%)	5 (2%)	0.28
SpO_2< 88%/ desaturation post exercise (%)	69 (18%)	24 (12%)	0.06
FEV1 z-score, mean (sd)	-0.73 (1.40)[1]	-0.75 (1.20)[2]	0.99
FVC z-score, mean (sd)	-0.63 (1.35)	-0.81 (1.28)	0.22
Bronchodilator response*	7 (26%)[3]	11 (35%)[4]	0.43

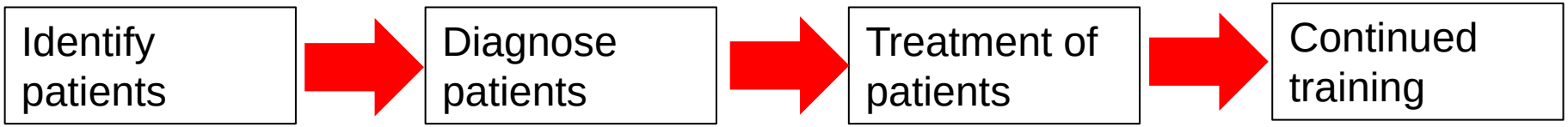
[1] n=277; [2] n=177; [3]n=27; [4]n=31

** Reversibility testing performed in those with abnormal lung function*

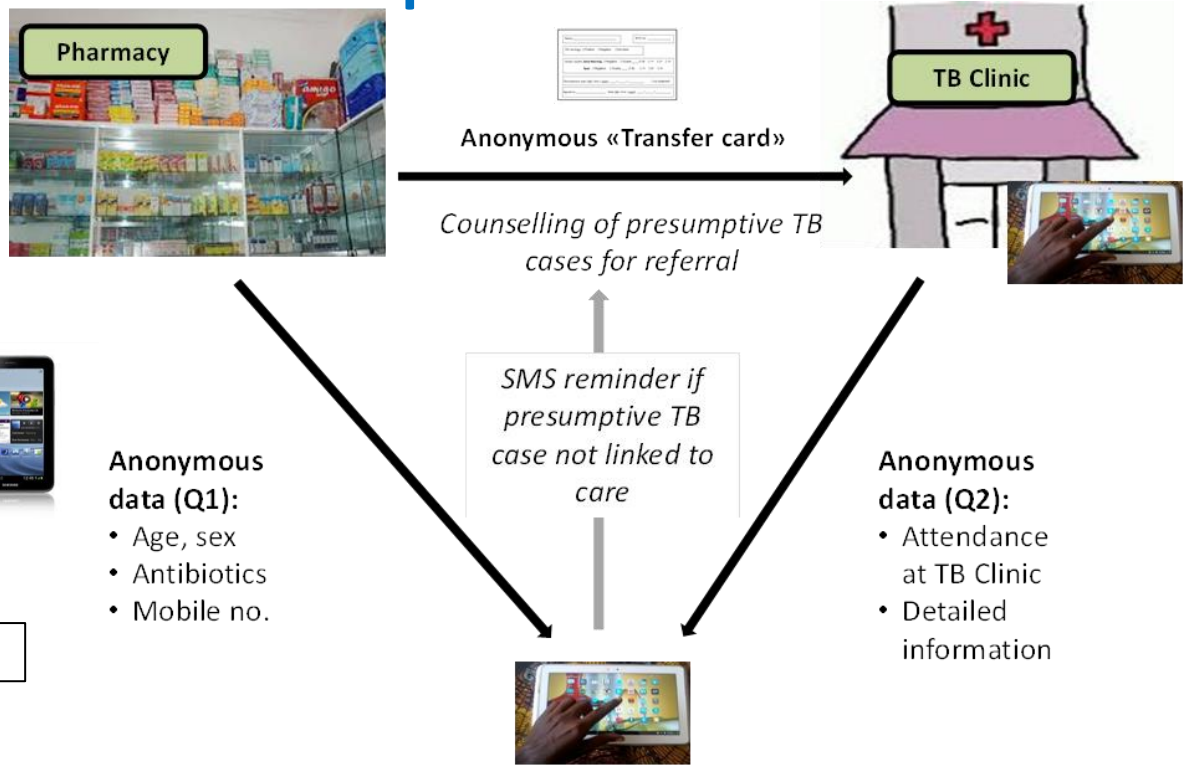
NURSES AND ALLIED PROFESSIONALS

Carrie Tudor

Patient pathway



Schematic of patient referral from the pharmacies



Routinely diagnosed TB patients

toonvector.com

<u>Mhimbira</u> et al. OA 417-05, Session 15

Tuberculosis case finding at pharmacies using trained pharmacists and an electronically monitored referral system in Tanzania

RESULTS – Referrals

Six Referring Pharmacies

- 627 presumptive TB patients
- Male, 378 (61%)
- Age, median (IQR); 41 years (IQR: 32-48)

Referred to Buguruni Health Centre

Facility arrival

- Arrived 600 (94.5%)
- Referral time
  - 0 days, 537 (90%)
  - ≤ 3 days, 29 (4%)
  - ≥ 3 days, 34 (6%)
  - Range (≥ 3), 4-146 days

TB diagnosis (done investigations)

- 495 (82.5%) did investigations
- Diagnostic tools any of the following:
  - AFB microscopy, 45 (9.0%)
  - Chest x-ray, 64 (12.9%)
  - Gene-Xpert MTB/RIF, 12 (2.4%)
  - Clinical diagnosis, 99

TB patients diagnosed

- TB patients 88/505 (17.4%)

IQR: Interquartile range; AFB, Acid Fast Bacili, MTB, *Mycobacterium tuberculosis;* RIF, Rifampicin

(OA-314-04, Session 02) Turner et al.

TB screening of hard-to-reach populations at household level with volunteer field workers in Umzinyathi, Kwa-Zulu Natal

Conclusions to date

The simplicity and non threatening nature of the intervention is instrumental in getting traditionally hard to reach people, particularly men, to answer the questions and access care.

Care givers are able to;

- Convince community members to go to PHC when signs and symptoms of TB are present.
- Get people to disclose previous TB and HIV status and get access to TB cards for recording treatment start dates and outcomes.
- Consistently fill in the screening tool and understand the signs and symptoms regardless of ability to read and write.

Conclusion

- No significant difference in MDR TB treatment success rates between ambulatory care setting and traditional hospital-based treatment settings.
- Ambulatory treatment indeed has a place in countries like Namibia
- Additional benefits
  - Lower costs
  - Maintaining stable families, especially among special populations
  - Fostering trust in the health care system

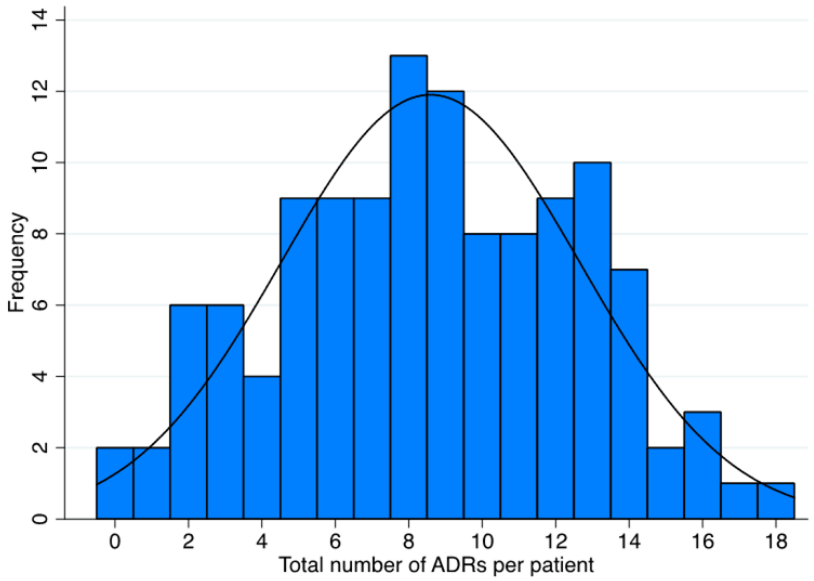
OA-323-04, Session 03 Kelly et al.

Adverse drug reactions and resultant health-related quality of life during multidrug-resistant tuberculosis (MDR-TB) treatment in South Africa

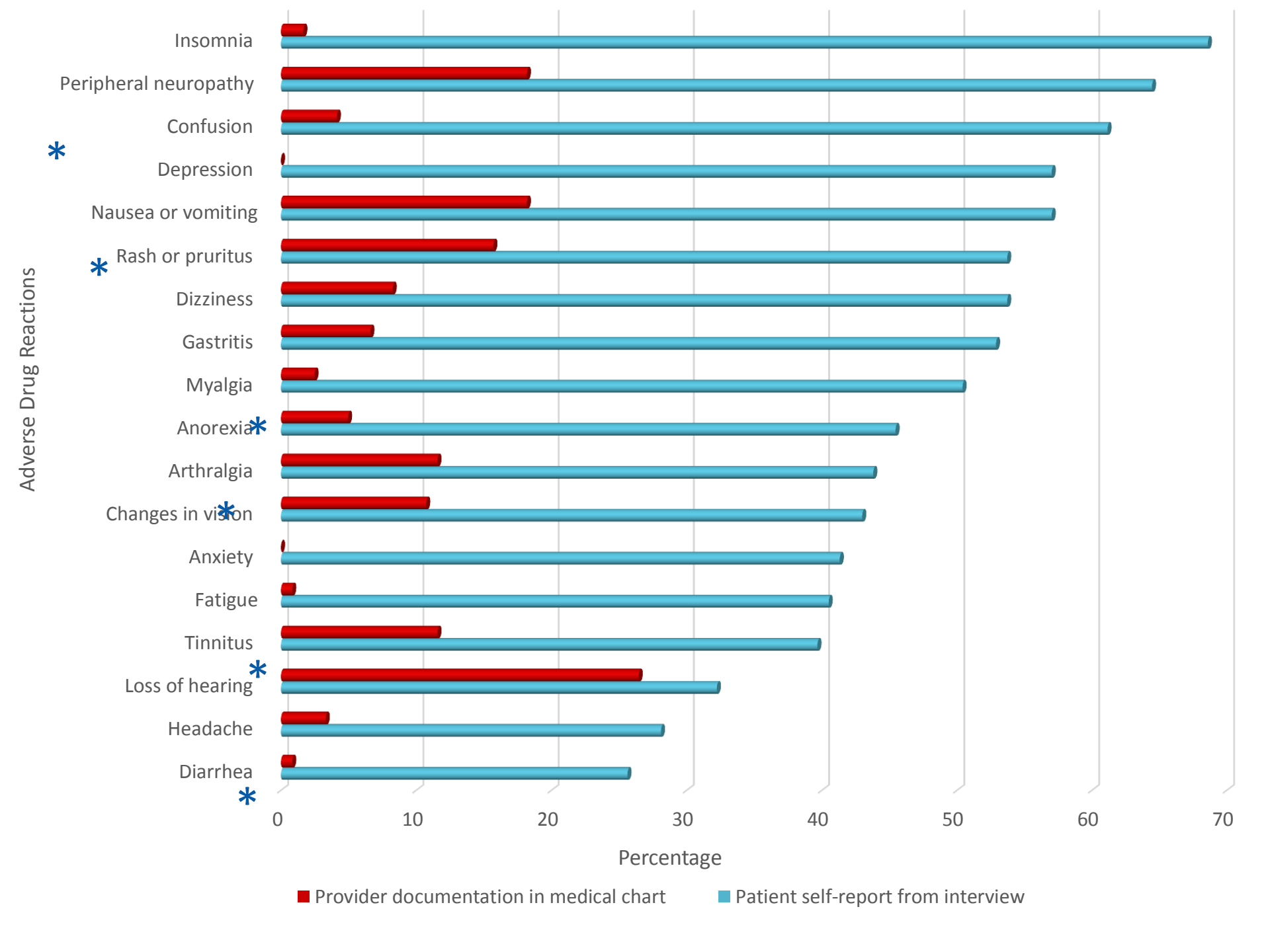
- 121 MDR-TB patients
  - Mean age: 33 (±9) years
  - 62 (51%) female
  - Mean time on MDR-TB treatment: 120 (±59) days
  - High degree of food insecurity: 62 (51%) “not enough food to eat everyday”
  - 90 (74%) HIV co-infection
  - 99 (82%) on standardized MDR-TB regimen:

OA-323-04, Session 03 Kelly et al.

Adverse drug reactions and resultant health-related quality of life during multidrug-resistant tuberculosis (MDR-TB) treatment in South Africa



- 119 (98%) experienced at least one ADR
- Mean number of ADRs per patient: 8.6 (±4.1)
- Many patients required a change to their MDR-TB regimen because of ADRs: 39 (43%)
- No significant difference in ADRs by HIV status or ART regimen


Insomnia
Peripheral neuropathy
Confusion
*
Depression
Nausea or vomiting
Rash or pruritus
*
Dizziness
Gastritis
Myalgia
Anorexia
*
Arthralgia
Changes in vision
*
Anxiety
Fatigue
Tinnitus
Loss of hearing
*
Headache
Diarrhea
*
Adverse Drug Reactions
0
10
20
30
40
50
60
70
Percentage
Provider documentation in medical chart
Patient self-report from interview

Training of Nurses and Allied Professionals

Onsite Coaching: An effective way to improve laboratory performance in external quality assurance, Ghana SOA-643-06 Dzata et al.

Effectiveness of a training on quality assurance of chest radiography in Laos SOA-646-06 Ohkado et al.

Distance-learning pilot course for front-line staff of the Peruvian National Tuberculosis Program guidelines SOA-647-06 Lulli et al.

Evaluation of different models of training to improve health care worker knowledge of childhood TB at a primary health care center level in South Africa SOA-650-06 Du Plessis et al.

Interactions between nurses and doctors in caring for TB patients SOA-649-06 Fedotkina et al.

TOBACCO CONTROL

Omara Dogar

PC-888-04- O Dogar, C Jackson, R Bibi, H Thomsan, I Kellar and K Siddiqi

Behavioural support Intervention for Smokeless tobacco Cessation in south Asians (BISCA)

-Development, Feasibility & Fidelity

Methods & Findings

- Behaviour Change Intervention (BCI) development
- Study settings and participants
- Fidelity to deliver BCI
- Feasibility and acceptability of delivering BCI

Strengths & Limitations

- Provides the methodological basis to measure fidelity to BCI
- Cultural adaptation of the behaviour change theories
- Provision of cessation services and use of Nicotine Replacement

Conclusion

A culturally appropriate behavioural intervention that could help smokeless tobacco users of South Asian-origin in quitting its use, and is ready to be tested in an effectiveness trial.

OA-448-05- H Ross, N Vellios, KC Smith, J Cohen

A closer look at 'illicit' white cigarettes

- What are Cheap/Illicit Whites?
- Case Study: Jin Ling
- Why trade in Cheap Whites?

Data sources

- 3 academic articles (Lo et al. 2009, Joossens and Raw 2012, Gilmore et al. 2014), Review of grey literature, other news and government documents

Results

- 82 Cheap White brands identified
- By 53 manufactures
- 1/3rd production facilities in Free Zones of Russia, Cyprus and UAE
- TPackSS database

Conclusion

Illicit whites are cheaper, but not everywhere and sometimes the local taxed products are cheaper than the untaxed smuggled products.

The 46th Union World Conference on LUNG HEALTH!

A long way to go.....

TUBERCULOSIS
Kevin Schwartzman

Active Case Finding (1)

- Four districts in Cambodia
- Mobile teams used symptom screen, CXR, Xpert
- Targeted primarily persons > 55 in rural communities

Chry Monyrath et al, OA-310-04

Results

- 76 health facilities visited.
- 9,260 individuals screened by CXR.
- 1,756 (19.0%) individuals tested using the Xpert MTB/RIF assay.
- 324 (18.5%) MTB-positive patients detected.
- New Bac+ notifications increased +119.3% for all ages and +266.2% for those ≥55 years during the ACF quarters compared to trend expected notifications.

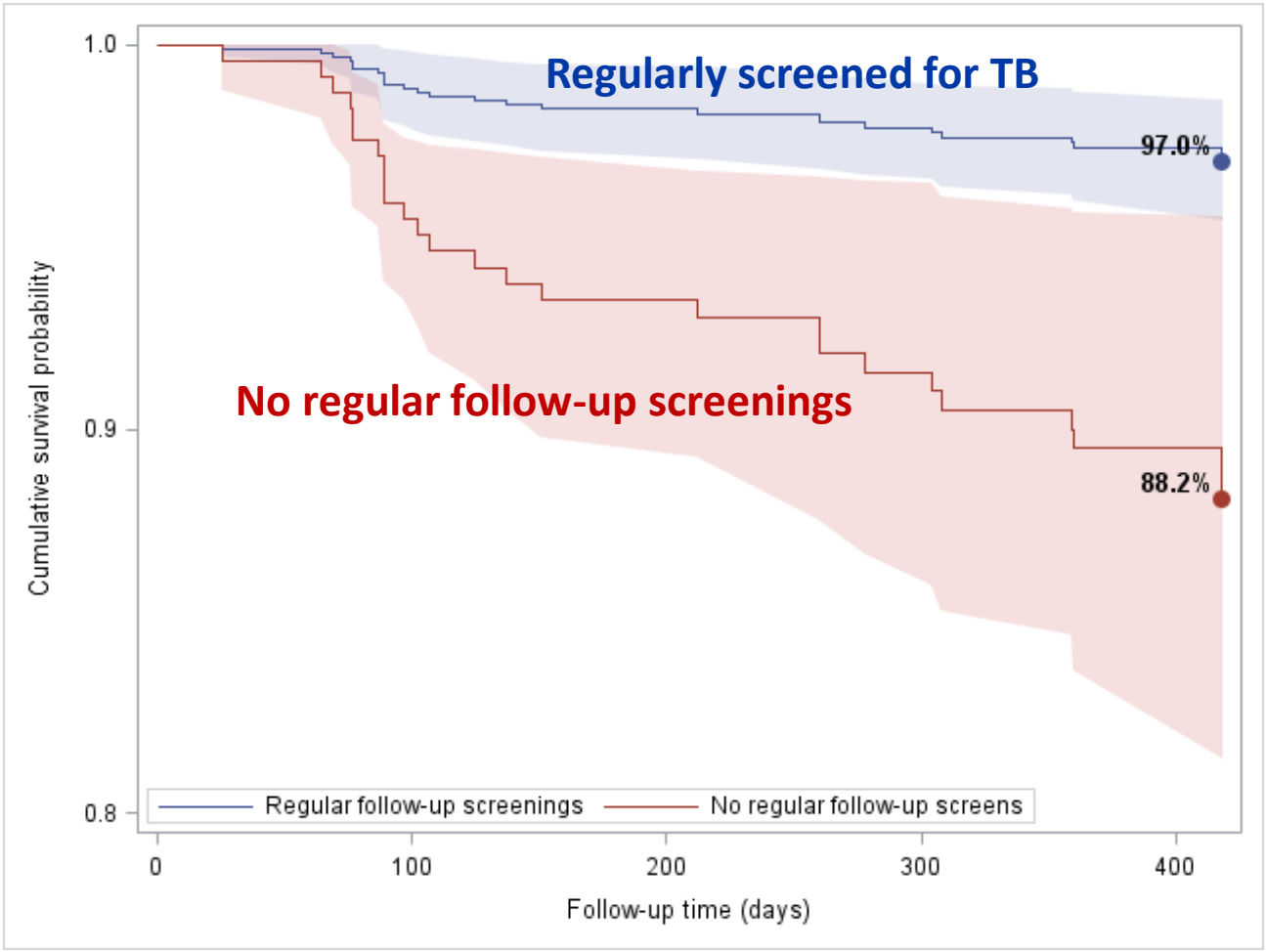
Chry Monyrath et al, OA-310-04

Active Case Finding (2)

- 789 persons living with HIV in Viet Nam, not yet on antiretrovirals
- TB symptom screen and diagnostic/treatment algorithm added to routine clinical encounters every 3 months
- One year of follow-up

Cowger et al, Union-CDC Late-Breaker

Impact of Regular TB Screening on Mortality



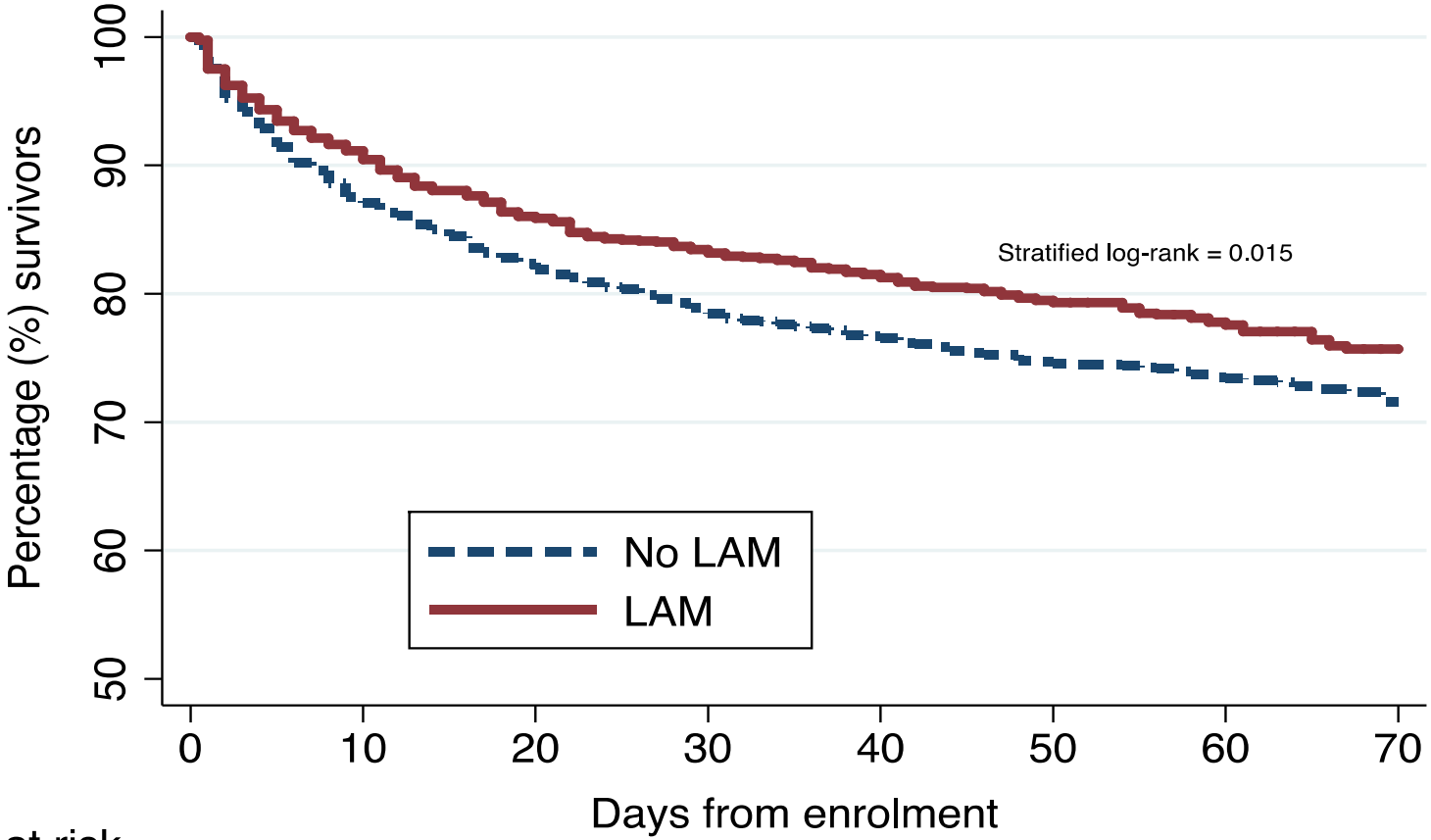
All participants were screened at enrollment; Regular screening was defined as at least 1 screening visit every 4 months.

Diagnostics

- Pragmatic randomized controlled trial examining impact of urine lipoarabinomannan strip test
- Adults admitted to hospital with suspected HIV-TB in South Africa, Tanzania, Zambia, Zimbabwe

Peter et al, Union-CDC Late-Breaker

Primary outcome: Mortality



Number at risk

No LAM	1271	1069	997	953	923	896	690	263
LAM	1257	1093	1028	994	970	941	696	246

Overall reduced hazards of 18%

INH Mono-Resistance

- Retrospective cohort from Durban, South Africa (2000-2012)
- Compared TB episodes:
  - INH mono-resistant
    - N = 523
  - Drug susceptible: INH, RIF & any other drug tested
    - N = 16,296
- INH mono-resistant treatment:
  - New cases: 6 months HRZE
  - Retreatment: Modified retreatment regimen

van der Heijden et al, OA-466-06

Mixed Effects Logistic Regression Models Including HIV Status

Outcome: Died

N=6,746/16,736 (40%)	Odds Ratio	95% Confidence Interval	P Value
INH mono-resistant TB	1.91	0.84, 4.31	0.12
Age (per 1-year increase)	1.03	1.01, 1.05	**0.003**
Pulmonary TB	0.58	0.31, 1.10	0.10
HIV infected	2.94	1.48, 5.84	**0.002**

Outcome: Died + Failed

N=6,746/16,736 (40%)	Odds Ratio	95% Confidence Interval	P Value
INH mono-resistant TB	3.51	1.80, 6.86	**<0.001**
Age (per 1-year increase)	1.02	1.00, 1.04	**0.02**
Pulmonary TB	0.73	0.38, 1.37	0.33
HIV infected	2.29	1.34, 3.91	**0.003**

TB and diabetes

- Participants in community-based health screening study in Taipei (2005-2008)
- Records linked with national health insurance database
- Diabetes diagnosis based on drugs prescribed or fasting glucose ≥ 126 mg/mL
- Poor diabetes control defined as fasting glucose ≥ 130 mg/mL

Lee et al, OA-427-05

Results from Cox proportional hazards regression model for association between diabetes status, glycemic control, and risk of TB

	No. of cases	Person-year	TB Incidence (95% CI) (per 100,000)	Multivariable-adjusted HR (95% CI) *
Non-diabetes	247	463,645	59.6 (52.9, 66.3)	Ref
Diabetes	57	46,121	53.3 (46.6, 59.9)	**1.62 (1.20, 2.19)**
Good glycemic control	8	13,144	60.9 (18.7, 103.0)	**0.66 (0.32, 1.34)**
Poor glycemic control	49	32,977	148.6 (107.0, 190.2)	**2.10 (1.53, 2.89)**

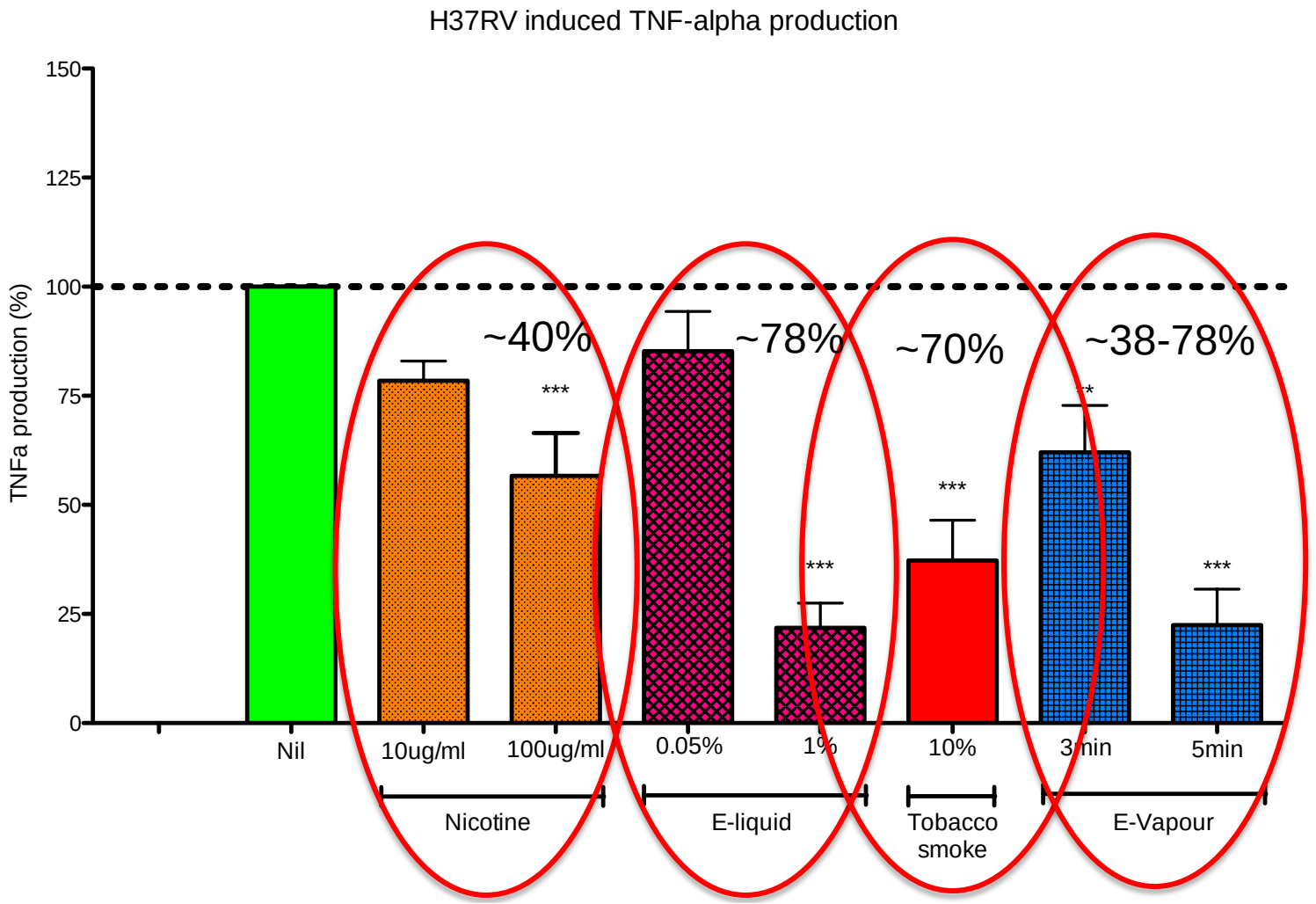
*adjusting for age (continuous variable), sex, tobacco smoking, alcohol use, body mass index, frequency of outpatient visit utilization (continuous variable), and medical comorbidities of malignancy, pneumoconiosis, steroid use, end-stage renal disease

TB and e-cigarettes

- Adherent monocyte model
- Fresh CSE (Marlboro-tobacco), eCSE (e-cig vapour), e-liquid (E-cig solution) TWISP®, nicotine [Sigma®]
- Infected with BCG, H37RV, CDC1551
- Measured TNF-alpha in cell culture supernatant

van Zyl-Smit et al, CDC Late-Breaker Session

M.TB induced TNF-α responses are impaired by: Nicotine, Tobacco smoke & E-cigarette vapour



Consistent trend with BCG, H37RV & CDC1551

LTBI in low-incidence countries (1)

- Examined experience with 12 week INH-rifapentine regimen (once-weekly dosing) in 7 US federal prisons
- 70% male, median age 36
- 20% were known contacts of persons with pulmonary TB
- 424/463 (92%) completed treatment, compared with historical figure of ~55% for INH

Lobato, OA-398-05

LTBI in low-incidence countries (2)

- Micro-simulation Markov model to project diagnostic outcomes in a simulated North American health care worker cohort, over 10 years
- Modeled different serial screening strategies after accounting for the major sources of variability in serial QFT results
- Projected outcomes under different testing algorithms and different cut-offs for defining a positive conversion

Zwerling, Dowdy et al, OA-400-05

Results: 10-Year Outcomes of Serial Testing

True Negative	**66.5%** (65.6, 67.4)
False Negative	**0.2%** (0.1, 0.3)
True Positive	**8.1%** (7.6, 8.7)
False Positive	**25.2%** (24.3, 26.0)
Number of Tests	**83,500** (82900, 84000)
Infections Missed*	**8.2%** (1.5, 14.8)

- **33% tested positive after 10 years**
- **Only 8% truly infected**
- **3 to 1 false positive for every true positive**
- **8.2% of true infections missed**

* People who were truly infected and tested negative on their subsequent test

Costs of TB care

- Early post-diagnosis costs for patients living with TB and/or HIV and their households in South Africa (Gauteng)
- Data collected in 2013

Mudzengi et al, OA-335-04

Definition of terms

Type of cost		Description
Direct	Medical	Consultation fees and cost of medicines.
	Travel	Transport cost on a round trip to any health facility
	Food	Cost of supplementary food and food bought while admitted in hospital
Indirect	Reported income loss	Money lost due to a diagnosis-related job loss and unpaid sick leave
Catastrophic		Patient costs accounting for more than 10% of individual cost [4]

- **Household costs -** Guardians and carers refer to persons who accompanied the patient to health facility and those who took household duties during illness of patient, respectively

4. Ranson MK, WHO Bulletin 80, 2002

Mean costs (USD, 2013)

	N	Patient					Household		Total costs
		Direct			Total direct	Indirect	Mixed		
		Food Cost	Medical	Travel		Income loss	Guardian	Carer	
TB/HIV	117	13.84	1.81	5.18	**20.83**	48.74	10.21	5.37	**85.15**
HIV only	302	9.9	0.86	1.51	**12.27**	15.49	0.74	7.61	**36.11**
TB only	44	9.4	0.06	1.95	**11.41**	38.73	16.84	0.94	**67.92**

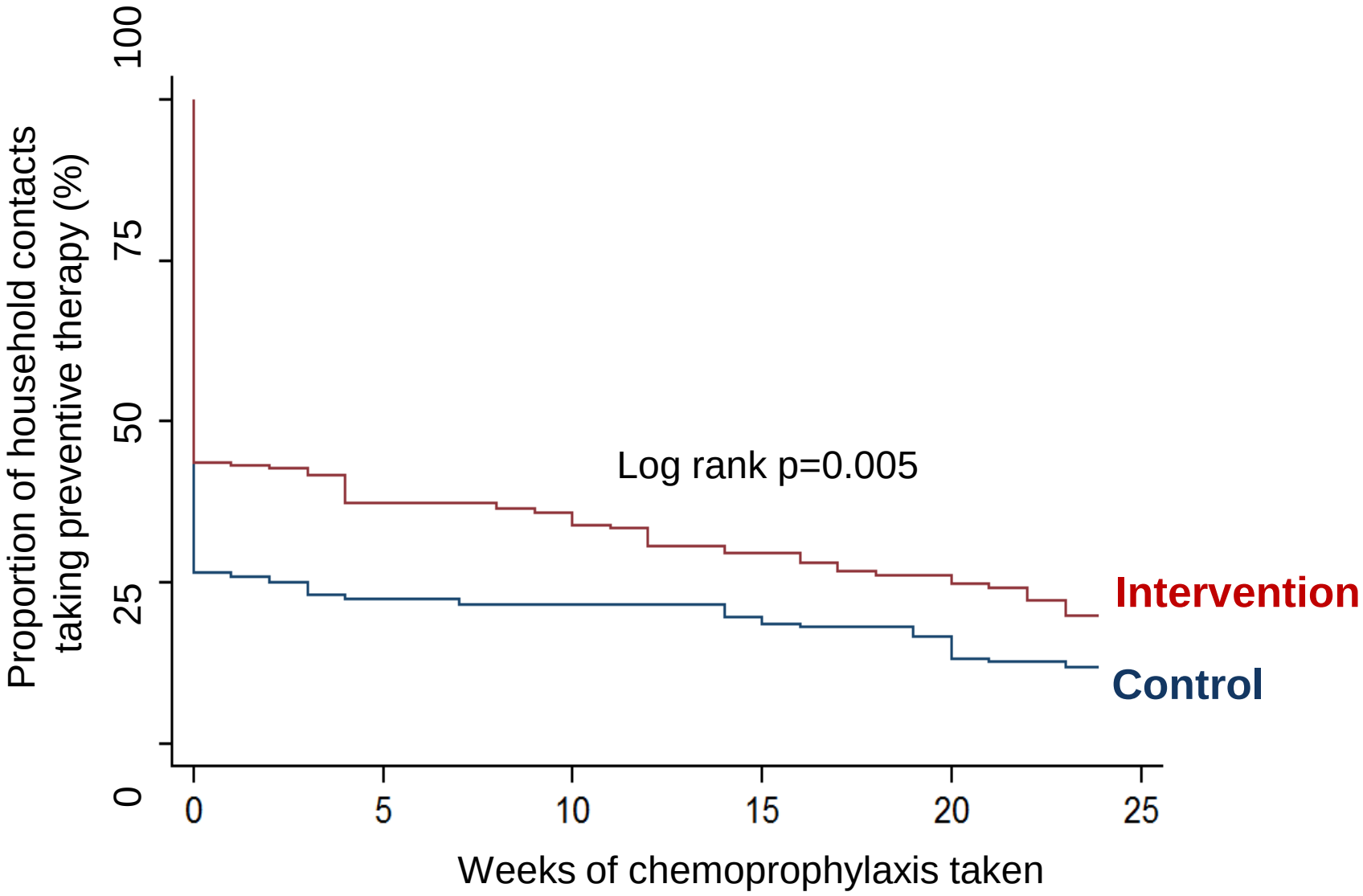
- Primary cost driver was income loss
- Mean costs catastrophic, highest for TB/HIV (18% of income)
  - *16% & 9% for TB only and HIV only respectively*

Social protection and cash transfers

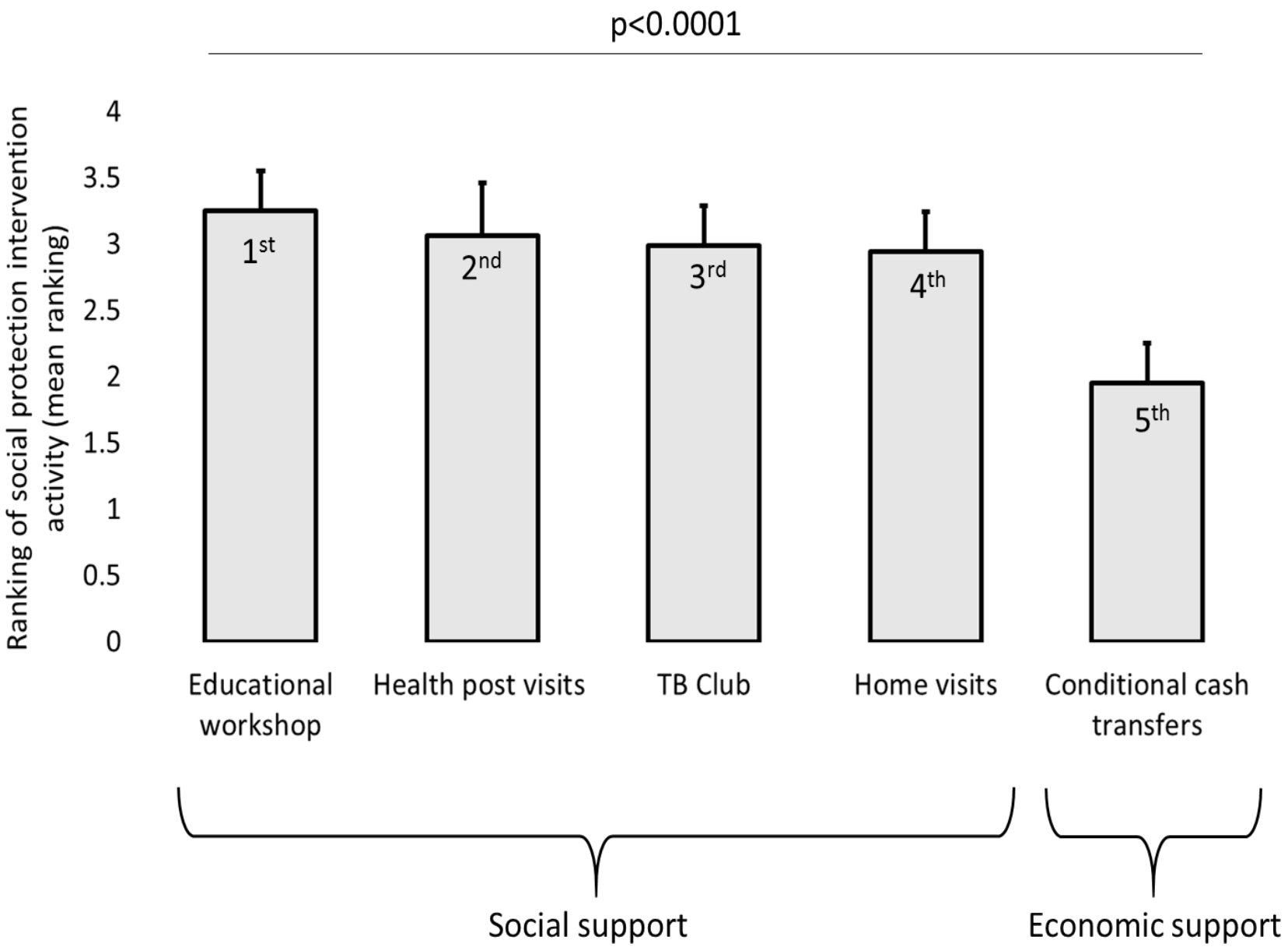
- Pilot trial with cluster randomization at household level in Lima, Peru
- 311 households with TB patient and contacts randomized to either standard care or standard care plus socioeconomic intervention
- The intervention consisted of household visits, community meetings and conditional cash transfers

Wingfield, Union-CDC Late-Breaker Session

Results: TB preventive therapy



Results: Feedback



MDR-TB, stigma and ethics

- Adolescents' experience of MDR-TB and participation in clinical research
  - South African study highlights challenges of stigmatization, body image, particular needs for support in this group
- The ethics of risk-benefit analysis of new TB drugs
  - Beyond traditional "consequentialist" risk-benefit approach, we need to consider broader social context and dynamics
    - These impose the risks on patients who are deciding about complex and potentially fatal disease and treatment
    - Need to consider other principles e.g. reciprocity, solidarity

Zimri et al, PC-1139-06; Silva et al, PC-717-04

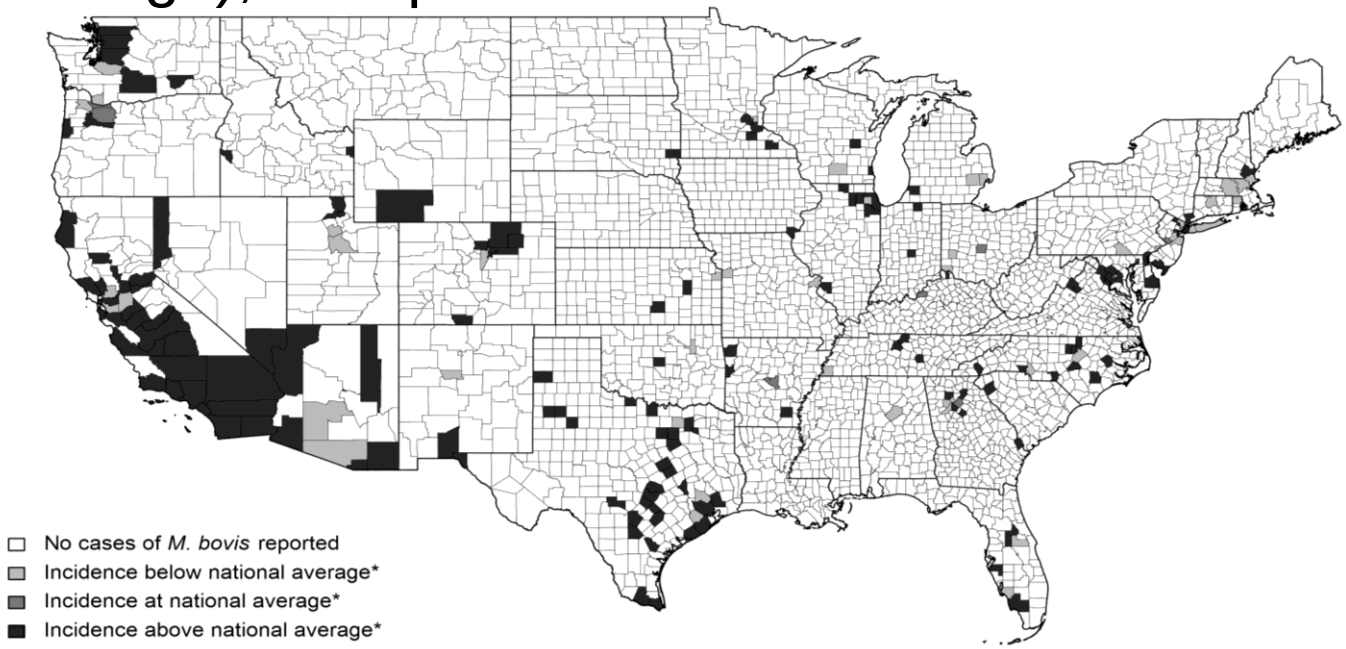
ZOONOTIC TUBERCULOSIS

Adrian Muwonge

Human Tuberculosis due to *Mycobacterium bovis* in the United States, 2006–2013

Zoonotic TB accounts for 1.4-1.6% of TB cases in the US

It typically affects: Female, Hispanics and or Foreign-born patients, Patients living along the U.S.-Mexico border region Children (<15 years of age), who present with EPTB



Colleen Scott et al-CDC

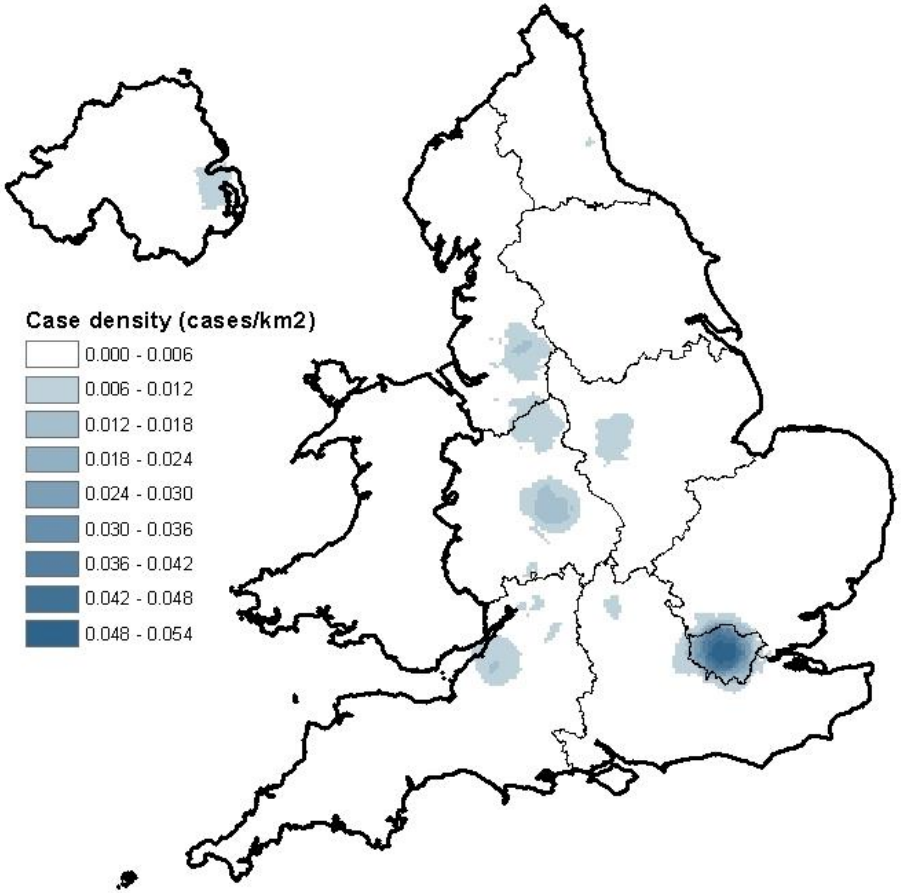
Human tuberculosis due to *Mycobacterium bovis* in England, Wales and Northern Ireland: a 13 year national cohort analysis of the epidemiology

357 culture confirmed *M.bovis* TB cases, ranging from **17 in 2002** and **35 in 2014**

72% of cases were **UK born**
most of who where **65+ years**

Majority of **non-UK born** case were resident in **London**

Most cases in the Agricultural sector
Or had contact with animals



Pathogens isolated in Human samples in India

Specimen	*M.tb*	*M.bovis*	*M.tb + M. bovis*	Total N-PCR Positive
CSF (212)	6	**36**	**22**	42
Endometrial Biopsies (393)*	109	**14**	**14**	123
Pleural Fluid + Sputum (58)*,**	20	-	-	20
Total (663)	**135 (20.4%)**	**50 (7.5 %)**	**36 (5.4%)**	**185 (27.9 %)**

Prof . H. Krishna Prasad
TB Immunology Lab
Department of Biotechnology
All India Institute of Medical Sciences

Distribution of Mycobacteria isolation in Cattle Samples, India

Specimen	*M.tb*	*M.bovis*	*M.tb* + *M. bovis*	Total
PSLG (64)	10	15	03	28
Blood (64)	12	12	01	25
Milk (61)	**19**	**19**	07	45
Total (189)	**41 (39.0 %)**	**46 (43.8 %)**	**11 (10.5 %)**	**98 (51.9 %)**

Prof . H. Krishna Prasad
TB Immunology Lab
Department of Biotechnology
All India Institute of Medical Sciences

BACTERIOLOGY (CULTURE) AND MOLECULAR TYPING OF CATTLE SAMPLES SCREENED AT THE ABATTOIR IN NIGERIA (2013-2015)

VARIABLE	CATEGORY	FREQUENCY	PERCENTAGE
Total number of suspected tuberculous lesions collected	North	210	76.1
	South	66	23.9
Total number of culture positive samples	North	109	69.9
	South	47	30.1
Total number of *M. bovis*	North	**59**	**68.6**
	South	**27**	**31.4**
Total number of NTM	North	13	48.1
	South	15	52.9

BACTERIOLOGY (CULTURE) AND MOLECULAR TYPING OF LIVESTOCK WORKERS SCREENED IN NIGERIA (2013-2015)

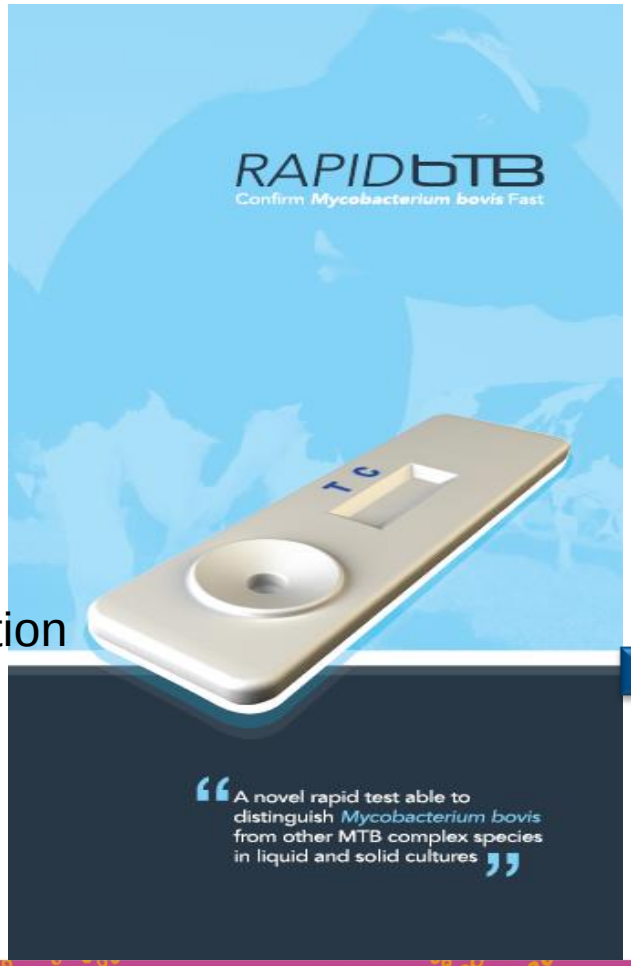
VARIABLE	CATEGORY	FREQUENCY	PERCENTAGE
Total number of participants screened	Traders	114	70.1
	Butchers	70	29.9
Total number of culture positive samples	Traders	7	58.3
	Butchers	5	41.7
Total number of *M. tuberculosis*	**Traders**	**1**	**20.0**
	Butchers	**4**	**80.0**
Total number of NTM	Traders	6	85.7
	Butchers	1	14.3

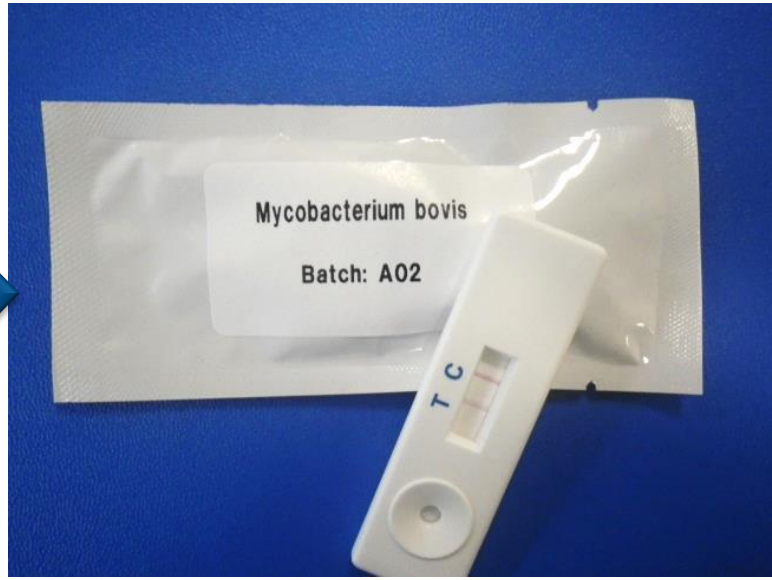
A novel lateral flow test developed in the veterinary context for Zoonotic TB diagnostics

Detects <u>whole</u> *M. bovis* cells

Good detection <u>sensitivity</u>

Excellent detection <u>specificity</u>





Linda D. Stewart and <u>Irene R. Grant</u>
Institute for Global Food Security

Animal transmission models to inform TB vaccine development

Cough and sneeze

Social

Fred Quinn ,Department of Infectious Diseases
College of Veterinary Medicine
University of Georgia, Athens, USA

THANK YOU AND SEE YOU IN LIVERPOOL