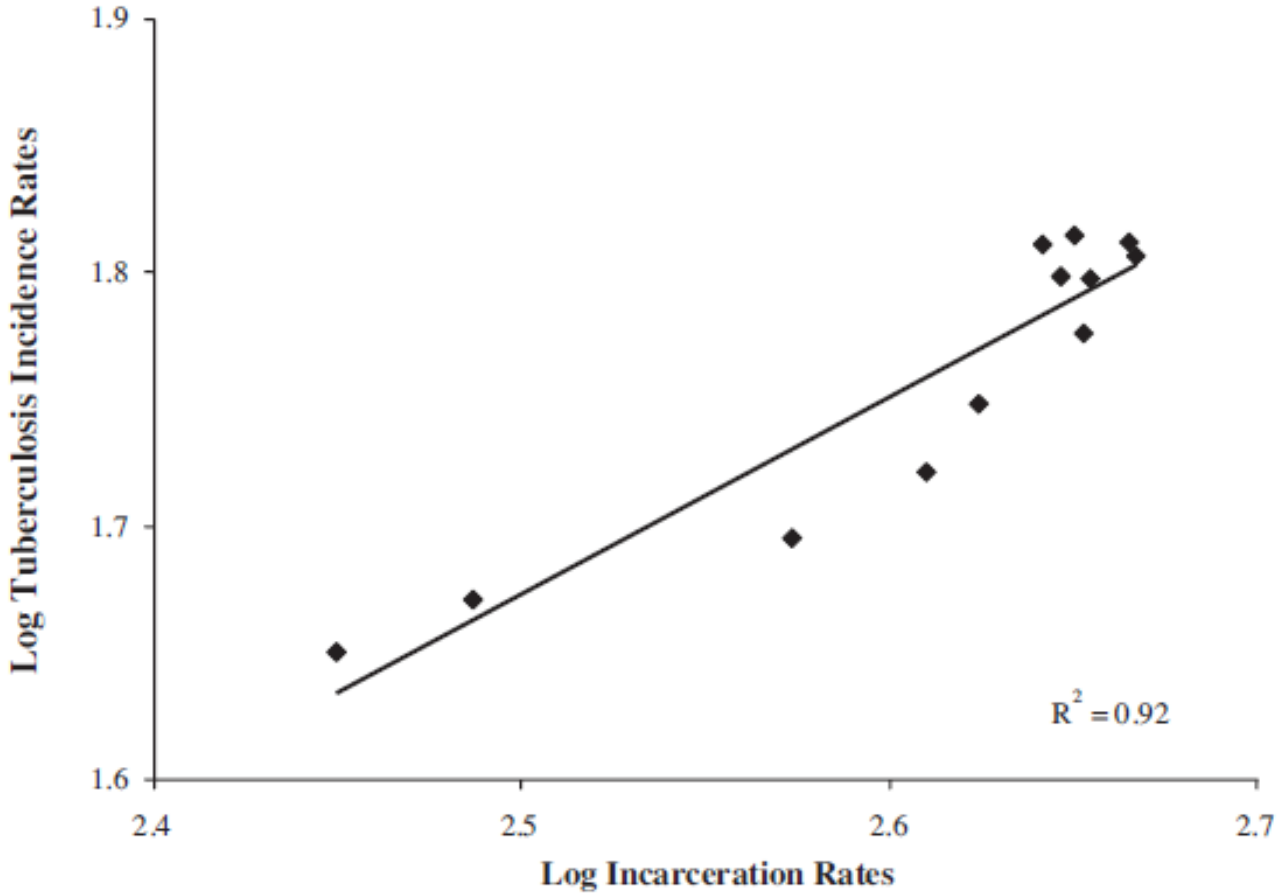
Roundtable. Detection and treatment of TB

Andrew Black



Stuckler, PNAS 2008

Accountability

- Mechanisms need to exist to allow individuals to have a voice that matters, and a means to ensure accountability.

Screening for TB

Reasons:

- Tuberculosis control at the facility. Detection of the most infectious cases in order to remove them from the community until they are rendered non infectious.
- Diagnose all forms of active Tuberculosis and treat for the benefit of the individual.
- Identify those without TB disease who would be eligible for TB preventive therapy.
- HCT must form an integral part of TB screening.

Frequency of TB screening

- On entering: To detect diagnosed TB requiring continued treatment. To detect undiagnosed active/infectious TB.
- On exit: To detect undiagnosed TB pre return to the community (linkages essential).
- Bi-annual for all.
- Monthly for HIV-positive inmates.
- Self or peer referred.

Screening methods.

- Screening tool needs to be simple, practical/feasible, acceptable and cost efficient. Should have an acceptable number needed to screen ratio (patients who screen positive without TB/ patients that screen positive with TB)
- Dependent on the population characteristics and prevalence of TB in the population.

Symptom screening

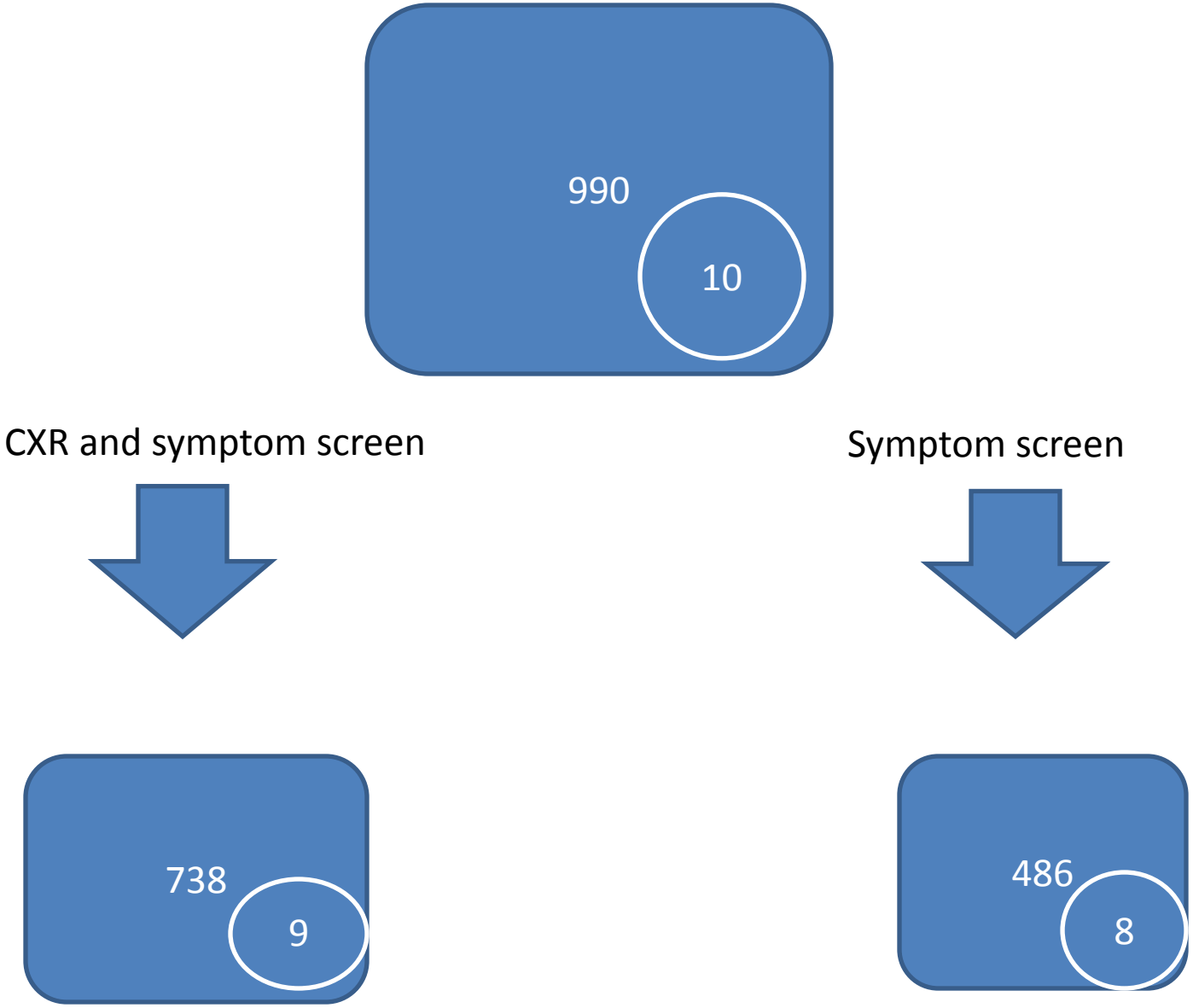
- The Guideline recommends symptom screening using the traditional symptoms of chronic cough and chronic fever. It is not adequate for screening HIV-positive individuals.
- Four Question screen : cough of any duration, fever of any duration, night sweats, weight loss has been shown to have excellent performance in most settings with TB and HIV burden (sens 78.9%). However sensitivity varied depending on the setting and needs to be assessed for the role of screening in correctional services.

Getahun.2011,Plos Med

X-ray

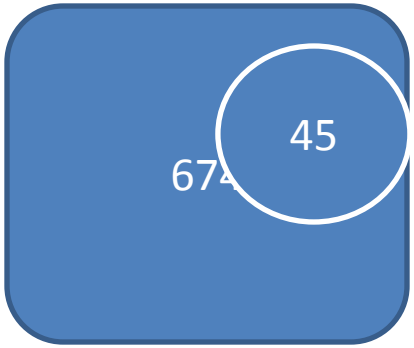
- “Numerous studies have shown that this screening combination (symptom screen and chest X-ray) doubles the TB case-finding rate”.
- Chest X-ray for every person who is identified with TB.
- Meta analysis of screening in HIV positive populations (Getahun.2011,Plos Med) showed the addition of abnormal CXR findings into the symptom screen increases sensitivity by 11.7%, reduces specificity by 10.7% may be considered when screening populations with a very high prevalence of TB.

1% prevalence



5% prevalence

CXR and symptom screen



Symptom screen

Tuberculin skin test

- Not for screening however needs to become part of standard of care for HIV-positive persons when assessing for IPT.

GeneXpert MTB/RIF

- All suspects should be managed as per the GeneXpert algorithm.
- Correctional facilities will need to determine the availability of GeneXpert in their area.

Smear microscopy

- Must be done on all GeneXpert positive persons to determine their infectiousness and for monitoring individual patient treatment response and the programme effectiveness.
- Smear result should be used to determine the period of isolation required on treatment prior to returning to the facilities general community.

TABLE 3 Recommended duration of isolation[#] for patients with pulmonary tuberculosis at low risk for drug resistance or with known susceptible isolates[¶] based on pre-treatment sputum smear grade

Initial smear grade	Duration of isolation for nonsevere disease[+]	Duration of isolation for severe disease[§]
0	0 days	Until clinical improvement
1	7 days	Until clinical improvement after 7 days
2	7 days	Until clinical improvement after 7 days
3	14 days	28 days
4	25 days	42 days

[#]: based on number of days of treatment required to increase time to detect tuberculosis in liquid culture (TTD-TB) to ⩾14 days; [¶]: if drug resistance is suspected, respiratory isolation should continue until isolate is known to be susceptible; [+]: based on the time taken for 50% of patients to achieve TTD-TB ⩾14 days (see figs 1 and 2), provided that satisfactory clinical improvement occurs; [§]: based on the time taken for 90% of patients to achieve TTD-TB ⩾14 days (see figs 1 and 2). Severe disease corresponds to extensive cavitation/frequent or severe cough/minimal clinical improvement.

Ritchie. 2007,ERJ

Contact investigation

Treatment of Tuberculosis

- ? Must follow latest DoH guidelines. These need to be made available to all facilities and replaced when new guidelines are developed.
- Patient groups that may require adaptations to the guidelines must be included in the National DoH guidelines.

Differences

- Retreatment cases are to receive 2RHZE/4RH only if they have confirmed R and H sensitive tuberculosis. GeneXpert only gives information about R therefor a LPA or culture based DST is required to assess sensitivity to H.
- All Xpert MTB/RIF-positive, rifampicin resistant patients must have a sputum sent for DST and be referred to a MDR-unit.
- Data is required to determine the burden of resistant TB in prisons and based on this the appropriate number of isolation facilities with the ability to manage drug resistant TB patients must be provided.

- Correctional services must facilitate activities such as adherence support groups for inmates.
- Directly observed treatment.

Monitoring

- Patients should be educated about the symptoms of common side effects of TB drugs and self report if they occur. The prison health care worker can specifically ask about symptoms when they dispense the daily treatment.
- Sputum must be sent for smear at 2 and 5 months.
- Weight should be recorded monthly and failure to gain weight or weight loss requires further investigation by a health care professional.
- Patients on MDR treatment need intensive and specialised monitoring and facilities should be provided to manage drug resistant prisoners.

Continuity of care

- DoH stationary and electronic registers must be used. The patients green TB treatment card must be given to them when they are transported. A full transfer summary must be provided when patients are transferred to other facilities.
- Prior to release prisoners on TB therapy must be advised as to the location of TB clinics in their area. If a prisoner chooses a particular clinic the clinic must be notified to expect the patient.

SPUTUM RESULTS

Pretreatment		End of intensive phase 2/3 months		End of Treatment 5/7 months		Culture**						
Smear Date	Smear Result	Smear Date	Smear Result	Smear Date	Smear Result	Specimen Date	Culture Result	Resistance				
								R	H	Z	E	S

Sputum appointments:

** Non converters: Retreatment cases and HIV positive - Smear negative PTB cases

If not diagnosed according to Smear Microscopy Basis of Diagnosis:

X-Rays ☐ Date: d d m m y y y y Skin test ☐ _____ mm OTHER ☐

TREATMENT SUPERVISOR

Facility ☐ Community ☐ Number of DOT Dosages. End of Intensive phase ☐

Name: _____ End of Treatment ☐

Address: _____

Tel/Cell: _____

Referred Patients

☐ Transferred *(Patient transferred to another Sub-district, district, province or country and for whom treatment outcome is not known)*

☐ Moved *(Patient moved to another facility in the same sub-district not counted as a final outcome)*

Transferred or Moved to:

Facility: _____

Patient continuing treatment. Yes: ☐ No: ☐ Unknown: ☐

TREATMENT OUTCOMES

☐ Cured *(Patient (initially smear positive) who is smear negative at or 1 month prior to completion of treatment and on at least one previous occasion.*

☐ Treatment Completed *(Patient who has completed treatment but does not have bacteriologic proof of cure.)*

☐ Treatment Defaulted *(Patient whose treatment is interrupted for 2 consecutive months or more.)*

☐ Treatment Failure *(Patient who is smear-positive at 5 months or later during treatment or become MDR-TB.)*

☐ Died *(Patient who dies for any reason during TB treatment.)*

NOTES:

_____

Treatment outcome Date: d d m m y y y y

Discharged by *(print name)* _____

NATIONAL TUBERCULOSIS CONTROL PROGRAMME
PATIENT TREATMENT CARD

GW 20/15
Nov 06

Sub-district _____ Facility _____

Surname _____ Full names(s) _____

Nickname _____

Gender: F M Age ☐

ID Number:

Registration number: y y y

Registration date: d d m m y y y y

Type of Registration: N *Newly Registered* M *Moved in from facility in same Sub-district* T *Transferred-in (from a facility from outside the sub-district)*

PATIENT CATEGORY

N New Patient

RF Re-treatment after Failure (pulmonary)

OK All Other Re-treatment cases *e.g. After Completion, Smear Negative PTB - EPTB's*

RL Relapse pulmonary *(Retreatment after Cure)*

RD Re-treatment after default (pulmonary)

CLASSIFICATION OF DISEASE

ICD10 Code _____

Pulmonary TB ☐ Extra PTB ☐ Both ☐

For Extra PTB - Site of Disease: _____

NOTIFICATION INFORMATION

Has patient been notified Y N Notified by *(Print name)* _____

Notification date d d m m y y y y

"The printing of these materials was supported by funding from USAID through the TASC II TB project"

REGIMEN AND DOSAGES

Treatment Start Date d d m m y y y y

☐ Regimen 1 - New Adult Cases ☐ Regiman2 -Retreatment Adult Cases ☐ Regimen 3- Children ☐ OTHER _____

a. INITIAL INTENSIVE PHASE

Drug:	RHZE	RHZ	S	Cotrimoxazole	OTHER *(Specify)*			Weight at Diagnosis
Dosage								Kg

R = Rifampicin H = Isoniazid Z = Pyrazinamide E = Ethambutol S = Streptomycin

Month / Return date	Date 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31

b. CONTINUATION PHASE

Drug	RH	E	Cotrimoxazole	OTHER *(Specify)*			
Number tabs							

Month / Return date	Date 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31