

Active Case Finding

Passive case finding

- Detection of TB disease among symptomatic patients who self-present to medical services – with a focus on detecting cases with typical symptoms of pulmonary TB and use of standard diagnostic tests.

Active case finding

- Screening target group of people who do have not yet “self-presented” for evidence of TB disease.
- Issues
 - Target group
 - Screening procedures
 - Frequency of screening
 - Subsequent care/adherence

ECF or Enhanced case finding

- Involves public education or information campaign to increase awareness and encourage self-presentation.
 - House to house pamphlets
 - CHW education



Target Groups

- Same high risk groups as for latent TB
 - HHCs
 - Homeless
 - Prisoners/residents of institutions
 - HIV
 - Miners
 - Other comorbidities (DM, transplant, etc)
 - High burden communities (mass screening)

Screening procedures

- Symptom screens
- Mass miniature fluorography (abreugraphy)
- CXR
- Sputum smear
- Sputum culture
- Sputum Xpert
- Other samples?

Symptom screening

- Standard screening (cough, hemoptysis, fever) has low sensitivity and specificity.
- Frequency of other causes of cough depends on season, age, smoking, pollution, etc.
- Prevalence surveys show many smear positive people asymptomatic.

MMR/CXR

- Pros
 - Long history of use in Europe and elsewhere
 - Improved sensitivity and specificity
 - Immediate result
 - Can be mobile
- Cons
 - Radiation exposure depending on frequency
 - Requires reader
 - Challenging in young children and extra-pulmonary disease.



Smear/Xpert

- Pros
 - Picks up most infectious people
 - Can be done quickly but not at high volume
- Cons
 - Many cases smear negative
 - Cost
 - Turn-around time

How to evaluate ACF?

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STATE OF THE ART

STATE OF THE ART SERIES
Active case finding/screening
Series Editor: Martien Borgdorff, *Guest Editor:* Knut Lönnroth
NUMBER 2 IN THE SERIES

The benefits to communities and individuals of screening for active tuberculosis disease: a systematic review

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- Does ACF increase the number of TB cases detected compared to PCF?
- Does ACF identify TB at an earlier stage of disease than PCF?
- Does ACF improve TB outcomes?
- Does community based ACF reduce incidence or prevalence of TB over time?

of TB cases detected

- **First round** likely to identify new cases not previously detected but unclear if/when those cases would have been detected.
- Optimal study design?
 - Longitudinal
 - Long enough to include repeat rounds
 - Compared to PCF in same setting/time

3 studies on Q1

- Morocco '93-'04, HHCs only, continuous
 - 10^6 people screened, 5.6% all cases detected through ACF with some decline over time.
- Czechoslovakia '60-'72, MMR 95% population, q 3 year. % detected by ACF fell from .86 to .52.
- Netherlands '41-'55. 25% population per year. % due to ACF increased from .35 to .47.

RCTs

- Door to door screening in Brazil favela
 - Increased case notification during screening period but not afterward, so no overall change.
- 2 studies in Ethiopia
 - Modest increases in notifications
- Infants in South Africa
 - Rate increased 2.6 fold.

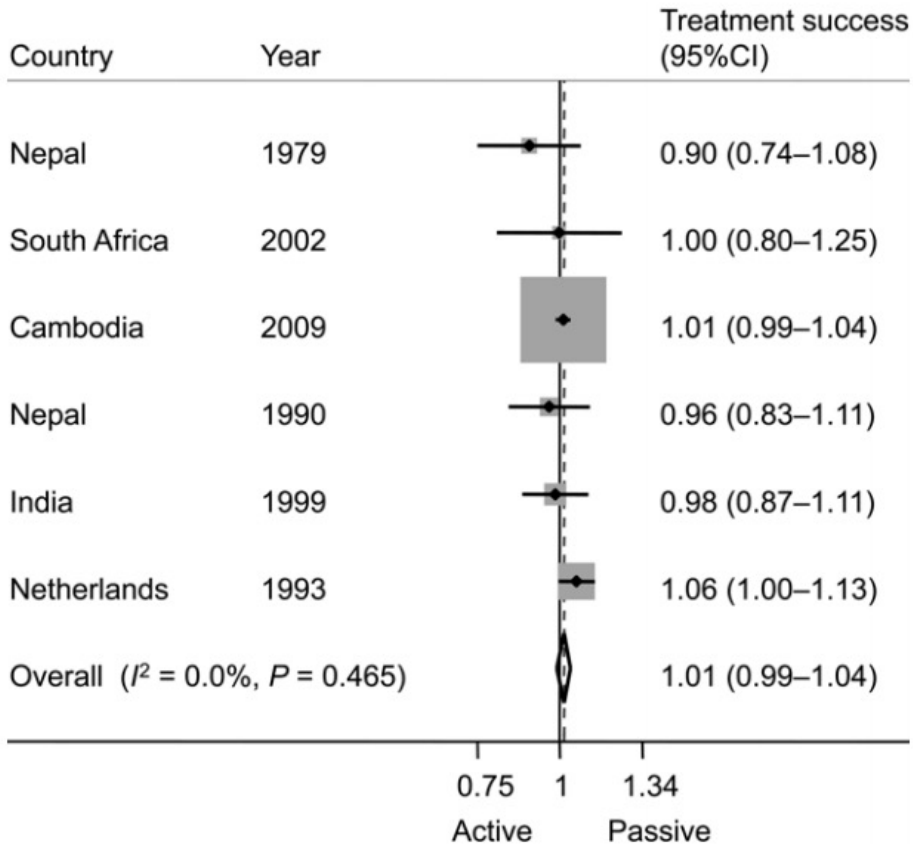
Earlier detection?

- How would you measure this?

Earlier detection

- 15/15 studies suggested earlier detection on basis of:
 - Lower smear positivity
 - Reduced cavitary disease on CXR
 - Some reduction in self reported delay (time from symptoms to presentation)
- BUT
 - Methods for PCF diagnosis not always clear. Some PCF relies on smear status for dx.

Improved outcomes?



Treatment success = cure + completion, excludes death, failure, and default.

Opportunities for bias?

One study, in SA miners, showed strong reduction in mortality with ACF compared to PCF in HIV negatives (15X) and HIV positives (2.5X).

Community TB rates

- Zimbabwe 2005. Compared door to door versus mobile van screening. Decline in TB by 40% over 3 years. No control group.
- Zambia (Zamstar). ECF/HHS/Both/None
 - No “significant” diff but HHS had .45 incidence.
- Cambodia 2002
 - Incidence post-survey fell in surveyed clusters
- Brazil 2005
 - HHS versus SOC. 10% decrease in HHC areas versus 5% increase in SOC.