Operational Challenges in Implementing IPT in children

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Outline

- Introduction
- Operational challenges in implementing contact investigation and IPT in children
- Experience from Cohort study in Hawassa, Ethiopia
- Innovative Community-based TB diagnosis, prevention and treatment
  - TB REACH Ethiopia-LSTM project
- Discussion/Recommendations

Introduction

- Children in contact with infectious TB cases are at a higher risk of infection and progression to disease.
- IPT is effective in preventing TB progression (Smieja et al, 2000)
- WHO and most NTPs recommend contact screening and provision of IPT for asymptomatic children age <5 years (WHO, 2006)
- However, contact screening and IPT provision are often overlooked (CTWG, IJTLD, 2007)
- The gap between policy and practice related to contact screening and IPT is significant especially in developing countries (Hill et al, 2011)
- The implementation of contact investigation and IPT encounters multiple challenges

Operational challenges

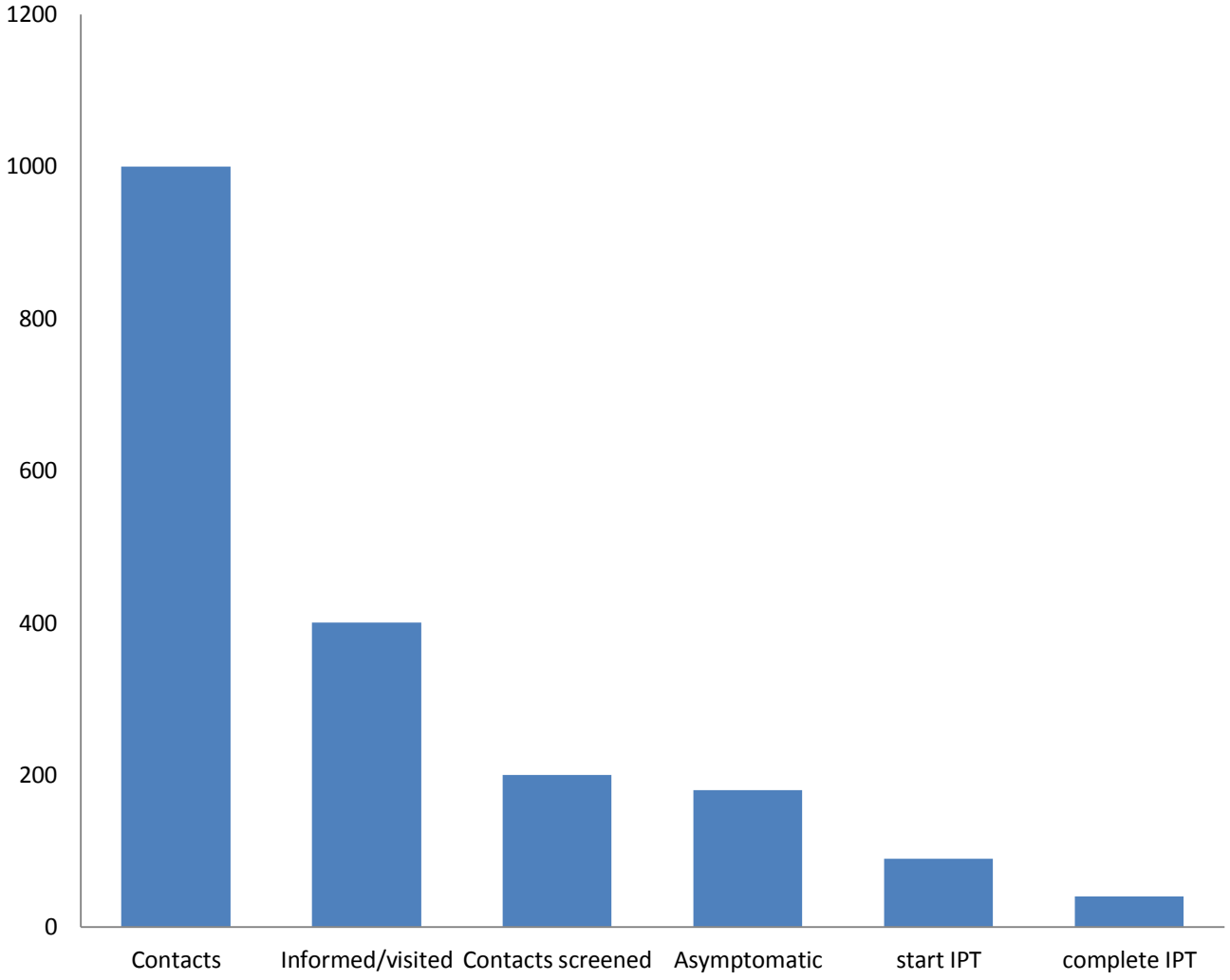
1. Contact screening

- NTPs recommend contact screening but most don't implement it
- Those implementing, ask index cases to bring their contacts ("passive" approach)
- Often staff don't inform index cases to bring their contacts
  - Lack of awareness
- Majority of index cases who are informed don't bring their contacts
  - Perception and awareness of parents about the advantages of screening
  - Limited access especially for rural communities (Pothukuchi et al, 2011)

2. IPT initiation and Compliance

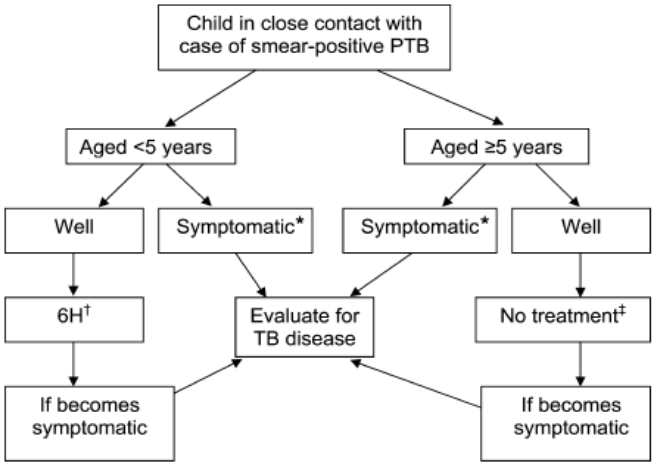
- IPT related recording and reporting often don't exist
- Very few children initiate IPT
- Even active tracing didn't improve IPT uptake significantly (Zachariah et al, 2003)
- Compliance is very poor and/or not documented
- Perception of staff about risk of drug resistance
- Frequent shortage of drugs
- Awareness of parents about advantages of IPT is inadequate
- limited access to the services especially for rural communities

Contact investigation and IPT



Opportunities

- TST and CXR should be used for screening wherever available, but their unavailability shouldn't preclude contact management
- Clinical assessment is sufficient to decide initiation of IPT for children with no symptoms
  (http://whqlibdoc.who.int/hq/2006/WHO_HTM_TB_2006.371_eng.pdf)



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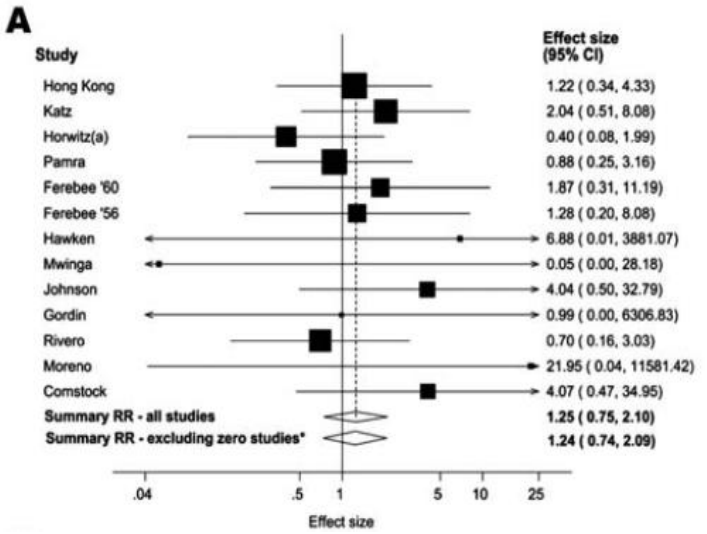
- Concern about risk of INH resistance and reluctance to offer IPT
- However, review of 13 IPT trials with over 35,000 participants showed low risk of resistance (RR 1.45, 95% CI 0.85-2.47)



Balcells et al, EID 2006

Cohort study in Hawassa, Southern Ethiopia

We have conducted a cohort study between 2007-2010 among children in contact with TB cases to determine compliance to IPT and TB progression

- Smear-positive cases were identified in 3 health facilities and their houses were visited and mapped by GPS
- IPT started for children <5y old as recommended by the NTP
- 184 (82 age < 5y and 102 age ≥5y) children in contact with 83 index cases were followed for a median period of 24 months
- 46% of the children age <5y and 67% age ≥5y had TST ≥10mm, 12% and 9% were HIV positive respectively
- 82 children age <5y initiated IPT and were followed monthly

…Cohort study

- 27 took INH for at least 4 months and only 10 (12%) completed the 6-month course
- The main reason for interrupting IPT was that parents thought drugs were not necessary for their healthy children
- None of those who initiated IPT developed active TB during follow-up
- While 11% (11) children age >5y who didn't receive IPT developed active TB. None of these children were HIV positive
- Risk of developing active TB among children in contact with smear-positive TB is high even without HIV infection and IPT reduces this risk

Garie, Yassin, Cuevas, 2011, PLOs One

Innovative community-based interventions for improved TB control in Ethiopia

TB REACH Ethiopia-LSTM project

Aim: to improve TB case detection and treatment outcome among rural population by introducing a community-based approach and engaging HEWs

Activities

Awareness creation workshops were conducted at all levels and attended by over 1,200 political/community/religious leaders, stakeholders, health personnel & ex-TB patients

Training of staff involved in the project – HEWs from 524 *kebeles*, 300 health centre staff, TB focal persons and 19 supervisors

20 LED Fluorescent microscopes were distributed and lab technicians were trained

Regular ACSM activities are conducted in schools, social and religious gatherings and through local radio

HEWs identify TB “suspects” and collect sputum samples

HEWs **prepare smears** and phone supervisors to collect slides

Supervisors initiate treatment for SS+ in their residences, screen household contacts and initiate IPT

Supervisors collect and submit smeared slides to lab technicians

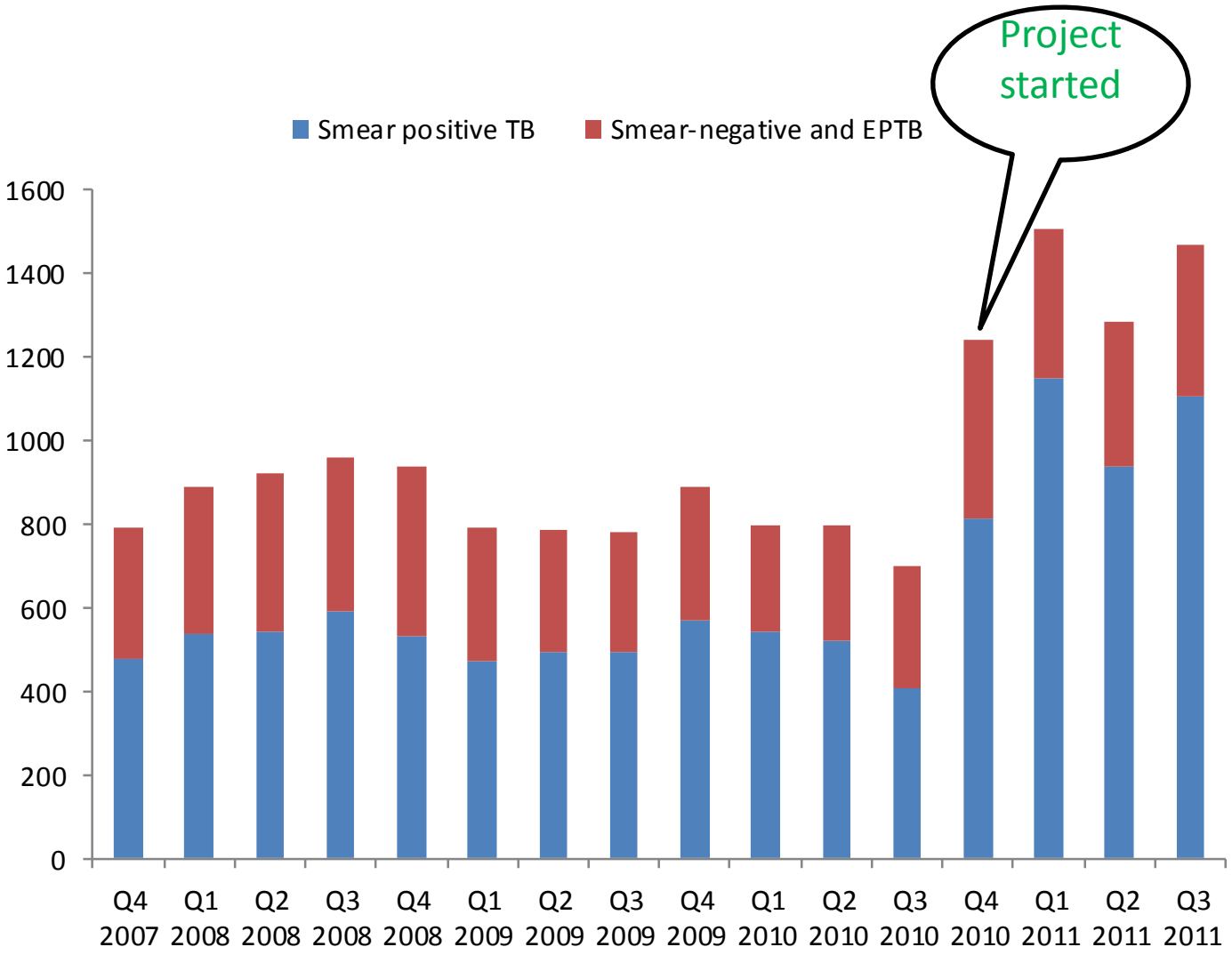
HEWs support treatment including IPT, report outcome and follow and refer SS- cases

Lab tech examine smears and report results to supervisors, keep slides for EQA

Between Oct-2010 and August 2011

- 33,510 **(60% females)** TB suspects were identified and screened by HEWs,
  - 1,473 (4.4%) diagnosed as smear-positive and initiated treatment (**54%** females)
- Among household contacts visited, 1,150 were symptomatic and **48** were diagnosed as TB and initiated treatment
- 2,283 **(45% female)** patients with smear-positive and 1,420 **(44% females)** all forms of TB were diagnosed and initiated treatment in health facilities
- Smear-positive case notification rate has been doubled during the 1st year of the project from the pre-project of **68 to 132 per 10^5 population**
- The new Community-based approach resulted in a higher proportion of females and children being screened and started anti-TB treatment

Trends of TB case notification before and after the initiation of the new community-based approach



Contact investigation and IPT activities in the project

- There was no INH until May 2011
- HEWs received refresher training in May-June
- HEWs provide support and monitor IPT compliance at home

Month (2011)	No of SS+ cases detected	No of contacts registered	No of contacts age <15y	No of contacts age <5y	No of TB cases diagnosed	No of <5y imitated IPT
May	307	375	66	27	9	7
June	462	505	44	38	5	13
July	409	2424	217	166	3	67
August	328	9144	1081	741	11	174
September	342	1854	675	185	2	398
All	1848	14302	2083	1157	30	659 (57%)

Successful implementation and scale-up of IPT services would depend on

Planning and prioritizing IPT

- Proper planning and resource allocation within the NTP
- Ensuring availability of INH (preferably in blister packs)
- Provision of separate registers, contact cards and reporting formats
- Phased implementation and scaling-up of activities

Capacity building

- Training of staff about diagnosis and treatment of childhood TB, contact investigation and IPT
- Improving communities' awareness about the risk of TB after exposure and the role of IPT in mitigating this risk
- Counseling of parents about the importance of completing IPT

Community-based contact screening, IPT provision and follow-up improve **access**, **uptake** and **compliance**

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