TB Screening and IPT

Experience from Ethiopia

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ICAP, Columbia University Ethiopia Program

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Ethiopia – Country Profile

- 80 million people
- 83 ethnic groups and languages
- Widespread & strong tradition of faiths
- Federal; 11 regions
- 85% rural; only few secondary cities
- Less than US$100 GDP per capita
- Poor social indicators,
- 70% live within 10km of a health facility
- ANC coverage is 52% and only 16.4% women deliver at facilities
ICAP Supports HIV/AIDS Care and Treatment Programs in 14 SSA and 3 CA Countries

Cameroon
Côte d’Ivoire
Ethiopia
Kenya
Lesotho
Malawi
Mozambique
Nigeria
Rwanda
South Africa
Swaziland
Tanzania
Uganda
Zambia

Yellow = MTCT-Plus
Green = MCAP
Striped = MCAP & MTCT-Plus
Hatched = MCAP & USAID

Kazakhstan
Kyrgyzstan
Tajikistan
Oromiya: 29,118,188
Somali: 4,325,446
Dire Dawa: 388,731
Harari: 194,745
Total Population: 34 million

Characteristics of ICAP-E Program

- Large number of geographically distant remote facilities -
  - 75% of sites rural - Access
  - Low HIV prevalence
  - Stigma
  - Poor set-up [Human Resource & Infrastructure]
  - Lack of CSOs

ICAP - E

National
- Pediatrics; EID;
- TB-HIV; PLWHA

Four RHBs
- Capacity Building/TA

Two Local Universities

Site Level Support
- 06 Sites - Sep. 2005
- 87 Sites - Sept. 2011
Continuum of Care Model

- Laboratory Support
  - OI prophylaxis
  - OI treatment
  - ART
  - PMTCT
  - Palliative Care
  - STI care & prevention
  - TB Care & prevention
  - HCT

- Monitoring & Evaluation

Comprehensive care – Holistic Approach
ICAP-Columbia University Ethiopia Program

No. of ICAP Supported HFs

<table>
<thead>
<tr>
<th>June, 05</th>
<th>June, 06</th>
<th>June, 07</th>
<th>June, 08</th>
<th>June, 09</th>
<th>June, 10</th>
<th>June, 11</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>28</td>
<td>38</td>
<td>44</td>
<td>61</td>
<td>70</td>
<td>87</td>
</tr>
</tbody>
</table>

No. of Clients Enrolled in HIV Care and ART at ICAP Supported HFs

<table>
<thead>
<tr>
<th>June, 05</th>
<th>June, 06</th>
<th>June, 07</th>
<th>June, 08</th>
<th>June, 09</th>
<th>June, 10</th>
<th>June, 11</th>
</tr>
</thead>
<tbody>
<tr>
<td>12029</td>
<td>13550</td>
<td>2585</td>
<td>35539</td>
<td>57559</td>
<td>31649</td>
<td>20087</td>
</tr>
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<tr>
<td>110808</td>
<td>66450</td>
<td></td>
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</tr>
</tbody>
</table>
Background: TB/HIV Collaborative Activity in Ethiopia

- The initiative began in January 2002
- National coordinating body – TB/HIV Advisory Committee (THAC) was established in 2002
- Initiated with 9 pilot sites (2004)
- The sites have been subsequently expanded to more than 50 HFs in 2005
- TB/HIV implementation guideline developed in 2005
TB Screening Among PLHIV Newly Enrolled in HIV Care - 2005
National Symposium on Latent TB in PLHIV

Objectives:

• To review the latest guidelines on the diagnosis and Treatment of LTBI in adults & children
• To review data and share programmatic experiences on the diagnosis & treatment of LTBI in HIV-infected individuals in resource limited setting
• To review data from Ethiopia (epidemiology of TB, epidemiology of TB/HIV, results of pilot programs on TB screening & IPT).
• To recommend approaches to the management of LTBI in HIV-infected patients in Ethiopia
**Background:**
**TB/HIV Collaborative Activity in Ethiopia**

- **At National Level:**
  - National coordinating body – TB/HIV Advisory Committee (THAC) revitalised in 2007
  - TB/HIV Technical Working Group (TWG) also established in April 2007
  - TB/HIV implementation guideline Revised and Distributed

- **Regional and Facility Level:**
  - Establishment of Regional TB/HIV Steering Committees
  - Introduction and strengthening of PIHCT
  - Introduction and strengthening of TB screening
  - Introduction of TB Infection control
# Adult TB Screening and IPT Monitoring Tool

## Adult: TB SCREENING AND INH PREVENTIVE THERAPY (IPT) MONITORING TOOL (DRAFT)

### I. TB SCREENING (To be filled for all newly enrolled HIV positive clients for Pre ART/ART)

**Date:**

<table>
<thead>
<tr>
<th>Identification</th>
<th>Name ____________________________________</th>
<th>Age____</th>
<th>Sex____</th>
<th>Pre ART or Unique ART No [UAN] ________________</th>
</tr>
</thead>
</table>

**TB Screening Checklist**

<table>
<thead>
<tr>
<th>Investigations for TB (If Positive screen)</th>
<th>Contraindications for IPT</th>
<th>Y</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>* Cough &gt;2 wks</td>
<td>Active TB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>* Fever&gt;2 wks</td>
<td>Abnormal CXR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>* Night Sweats &gt;2 wks</td>
<td>Diagnosis of TB in past 3 years</td>
<td></td>
<td></td>
</tr>
<tr>
<td>* Wt loss &gt; 3 Kgs in the last 4 Wks</td>
<td>Active hepatitis [Clinical or lab]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>* History of TB contact in past 1 Year</td>
<td>Prior allergy to INH</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Known Alcoholic</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hx of poor Rx compliance</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

If patient has active TB ⇒ Refer for TB treatment  
Date of referral ______________________________

**IS PATIENT ELIGIBLE FOR IPT?**

<table>
<thead>
<tr>
<th>Yes ____</th>
<th>No ____</th>
</tr>
</thead>
<tbody>
<tr>
<td>If No, Reason ______________________________</td>
<td></td>
</tr>
</tbody>
</table>

If yes, start IPT as per the guideline and use the follow-up chart below

### II. INH PREVENTIVE THERAPY [IPT] FOLLOW UP CHART

<table>
<thead>
<tr>
<th>Weight_____</th>
<th>INH daily dose__________</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Date IPT collected</th>
<th>TB Symptoms [cough, fever, night sweats, wt loss]</th>
<th>Hepatitis Symptoms [Abd pain, nausea vomiting, Abn LFT, Children: persistent irritability,  yellowish urine and eyes]</th>
<th>Neurologic Symptoms [Numbness, tingling, paresthesia]</th>
<th>Rash</th>
<th>Adherence (≥ 80% doses = Good &lt; 80% doses = Bad)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Y   N   If Yes action taken</td>
<td>Y   N   If Yes action taken</td>
<td>Y   N   If Yes action taken</td>
<td>Y   N   If Yes action taken</td>
<td>Good</td>
</tr>
</tbody>
</table>

| Outcome of IPT (Write Date): Completed ________ Defaulted___________ Died ________ Transferred out ___ |
**CHILDREN: TB SCREENING AND INH PREVENTIVE THERAPY (IPT) MONITORING TOOL**

**TB SCREENING** (To be filled for all newly enrolled HIV positive clients for Pre ART/ART)  
Identification  
Name ____________________  Age____  Sex____  Pre ART or Unique ART No [UAN] ________________

**TB Screening Checklist**

<table>
<thead>
<tr>
<th>Question</th>
<th>Y</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Cough &gt;3 wks</td>
<td>___</td>
<td>___</td>
</tr>
<tr>
<td>2. Fever&gt;2 wks</td>
<td>___</td>
<td>___</td>
</tr>
<tr>
<td>3. Documented weight loss or failure to gain weight</td>
<td>___</td>
<td>___</td>
</tr>
<tr>
<td>4. Close contact with active TB</td>
<td>___</td>
<td>___</td>
</tr>
</tbody>
</table>

**Investigations for TB (If Positive screen)**

<table>
<thead>
<tr>
<th>Investigation</th>
<th>Y</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sputum AFB: [If cough&gt;3 weeks for &gt;5yr]</td>
<td>Active TB</td>
<td>___</td>
</tr>
<tr>
<td>Neg</td>
<td>Pos ___</td>
<td>Abnormal CXR</td>
</tr>
<tr>
<td>Gastric aspirate: [If cough&gt;3 weeks for &lt;5 yr]</td>
<td>Diagnosis of TB in past 3 years</td>
<td>___</td>
</tr>
<tr>
<td>Chest X-Ray</td>
<td>Normal___</td>
<td>Abnormal ___</td>
</tr>
</tbody>
</table>

**Contraindications for IPT**

<table>
<thead>
<tr>
<th>Y</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active hepatitis [Clinical or lab]</td>
<td>Prior allergy to INH</td>
</tr>
</tbody>
</table>

If patient has active TB ➔ Refer for TB treatment  
**Date of referral** ________________

**For <5 yr children**, start IPT if: (No to Q 1-3) + (Yes to Q4) + (no contraindication to IPT).  
**For >5 yr children**, start IPT if: (No to Q 1-3) + (Yes or no to Q4) + (no contraindication to IPT)

If you start IPT, use the follow up chart below

**II. INH PREVENTIVE THERAPY [IPT] FOLLOW UP CHART**

Weight _____  INH dose (calculate as 5-10mg/kg/day for 6 months) = __________

<table>
<thead>
<tr>
<th>Date IPT collected</th>
<th>TB Symptoms [Cough, fever, weight loss]</th>
<th>Hepatitis Symptoms [Abd pain, nausea vomiting, Abn LFT, Children: persistent irritability, yellowish urine and eyes]</th>
<th>Rash</th>
<th>Adherence (&gt; 80% doses = Good &lt; 80% doses = bad)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Y</td>
<td>N</td>
<td>If Yes action taken</td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

**Outcome of IPT (Write Date):**  
Completed _________  Defaulted___________  Died _________  Transferred out ___
TB Screening and IPT Monitoring Tool

## TB SCREENING

<table>
<thead>
<tr>
<th>TB Screening Checklist</th>
<th>Y</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cough &gt; 2 wks</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fever &gt; 2 wks</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Night sweats &gt; 2 wks</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weight loss &gt; 2 Kgs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>History of TB</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Additional Investigations**

- (For symptomatic patients only)
- CXR (if indicated)
  - Normal
  - Abnormal

**Pre ART or Unique ART No (UAN)**

<table>
<thead>
<tr>
<th>Y</th>
<th>N</th>
</tr>
</thead>
</table>

If patient has active TB

- Refer for TB treatment
- Date of referral

## INH PREVENTIVE THERAPY (IPT) FOLLOW UP CHART

<table>
<thead>
<tr>
<th>Weight (kg)</th>
<th>INH Dose (mg)</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Data IPT collected</th>
<th>TB Symptoms (cough, fever, night sweats, etc)</th>
<th>Hepatitis Symptoms (Abdominal pain, nausea, vomiting, LFT, children: persistent irritability, yellowish urine and eyes)</th>
<th>Neurologic Symptoms (Numbness, tingling, paralysis)</th>
<th>Rash</th>
<th>Adherence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y/N</td>
<td>Y/N</td>
<td>Y/N</td>
<td>Y/N</td>
<td>Y/N</td>
<td>Good/Bad</td>
</tr>
</tbody>
</table>

Outcome of IPT (Write Date)

<table>
<thead>
<tr>
<th>Completed</th>
<th>Defaulted</th>
<th>Died</th>
<th>Transferred out</th>
</tr>
</thead>
</table>

Prepared By: Columbia University: International Center for AIDS Care and Treatment Programs (ICAP) – Ethiopia
INH PREVENTIVE THERAPY [IPT]

**INDICATIONS**
- HIV Positive with
  - No Clinical, Bacteriologic or Radiological evidence of active TB
  - No History of TB in the past 3 years

**CONTRAINDICATIONS**
- Active TB
- Symptoms Compatible with TB, Even Though Diagnosis cannot be confirmed
- Abnormal CXR
- Diagnosis of TB in the Past 3 Years
- Active Hepatitis (Clinical or Lab)
- Prior Allergy or Intolerance to INH
- Known or Reported High Daily Alcohol Consumption
- History Of Poor Compliance With Treatment

**FOLLOW UP**
- Patients on IPT need monthly follow up.
  - Monitor for signs and symptoms of drug toxicity
  - [Mainly hepatitis e.g. Jaundice, anorexia, nausea, vomiting or abdominal pain]
  - Evaluate for signs and symptoms of active TB
  - Evaluate for and emphasize on adherence

**Body Weight** | **Dose** |
--- | --- |
<30kg | INH 100mg (1/2 tab) + Pyridoxine 25mg Daily for 6 months |
>30kg | INH 300mg (one tab) + Pyridoxine 25mg Daily for 6 months |

*IPT Is Given Daily for 6 Months Every 3 Years*

Prepared By: Columbia University: International Center for AIDS Care and Treatment Programs (ICAP) – Ethiopia
Source – TB/HIV Implementation Guideline FMOH-Ethiopia, July 2005
Human Resources
(Training)
Human Resources
(Clinical Mentoring)
Key Achievements
Trend in TB Screening Among PLHIV Newly Enrolled in Care

- 2005: 1200 (10%) PLHIV enrolled, 1086 (26%) TB screened
- 2007: 21994 (58%) PLHIV enrolled, 21731 (79%) TB screened
- 2008: 18438 (90%) PLHIV enrolled, 12000 (65%) TB screened
- 2009: 15407 (94%) PLHIV enrolled, 12000 (79%) TB screened
- 2010: 13500 (94%) PLHIV enrolled, 12000 (90%) TB screened
Trends in TB screening & ICF Among PLHIV Newly Enrolled in Pre-ART HIV Care

- **TB screened**
  - 2005: 0%
  - 2006: 0%
  - 2007: 14.2%
  - 2008: 11.2%
  - 2009: 11.1%
  - 2010: 10.1%

- **PLHIV enrolled**
  - 2005: 20000
  - 2006: 25000
  - 2007: 05000
  - 2008: 10000
  - 2009: 15000
  - 2010: 20000

- **Active TB** (11.1%)
Trends in IPT initiation Among PLHIV Clients in HIV Care

Shortage of INH

* N.B: The data for 2011 is for six months
Trends in IPT initiation Among PLHIV Clients Newly Enrolled in Pre-ART HIV Care and Eligible for IPT at ICAP Supported Sites

Shortage of INH

% On IPT

2005 2006 2007 2008 2009 2010 2011
TB Screening Algorithms - Revised

Adult TB Screening Algorithm - 2010

- Adults and adolescents living with HIV*
  - Screen for TB with any one of the following:**
    - Current cough
    - Fever
    - Weight loss
    - Night sweats
  - No
  - Yes

- Assess for contraindications to IPT***
  - No
    - Give IPT
  - Yes
    - Refer IPT

- Investigate for TB and other diseases****
  - Not TB
  - TB
    - Other diagnosis
    - Follow up and consider IPT
    - Treat for TB

Screen for TB regularly at each encounter with a health worker or visit to health facility

Algorithm for TB screening in adults and adolescents living with HIV in HIV prevalent and resource constrained settings

Children TB Screening Algorithm - 2010

- Child over 12 months of age and living with HIV*
  - Screen for TB with any one of the following:
    - Poor weight gain**
    - Fever
    - Current cough
  - No
  - Yes

- Assess for contraindications to IPT***
  - No
    - Give IPT
  - Yes
    - Refer IPT

- Investigate for TB and other diseases****
  - Not TB
  - TB
    - Other diagnosis
    - Follow up and consider IPT
    - Treat for TB

Screen for TB regularly

Algorithm for TB screening in children more than one year old and living with HIV
Trends in IPT initiation Among PLHIV Clients in HIV Care (I.e. Newly Enrolled and those on follow-up)

Shortage of INH

Introduction of New WHO Algorithm

* N.B: The data for 2011 is for six months
Trends in IPT initiation Among PLHIV Clients Newly Enrolled in Pre-ART HIV Care and Eligible for IPT at ICAP Supported Sites

- Shortage of INH
- Introduction of New WHO Algorithm

% On IPT
Trends in IPT Initiation in Adults & Children

Introduction of New WHO Algorithm

- **Apr - June 2010**: 1438, 93% (Total Initiated on IPT), 1423, 94% (IPT in Adults), 7% (IPT in Pediatrics)
- **July - Sep 2010**: 1423, 94% (Total Initiated on IPT), 1423, 94% (IPT in Adults), 6% (IPT in Pediatrics)
- **Oct - Dec 2010**: 2007, 91% (Total Initiated on IPT), 2007, 91% (IPT in Adults), 6% (IPT in Pediatrics)
- **Jan - Mar 2011**: 2539, 94% (Total Initiated on IPT), 2539, 94% (IPT in Adults), 6% (IPT in Pediatrics)
- **Apr - June 2011**: 3278, 90% (Total Initiated on IPT), 3278, 90% (IPT in Adults), 10% (IPT in Pediatrics)
Lessons Learned

- Introduction of the simple clinical algorithm is feasible, acceptable and is a key-strategy for IPT scale-up.

- Availability of updated National TB/HIV Implementation guidelines and training manuals.

- Provision of training followed by regular clinical mentoring with emphasis on TB screening, ICF, IPT.

- Provision of provider support tools (TB screening & IPT monitoring tool, INH dose/CI/SE chart, etc).

- Monitoring of performance & site specific feedback.
Challenges Encountered

• **Human Resource:**
  – High work load of health workers
  – high staff turn-over - Shortage of trained staff
    • the need to motivate providers;
    – “Fear of INH resistance”

• **Supplies:**
  – Shortage of INH, particularly paediatric formulations
  – Shortage of Pyridoxine

• **Monitoring and Evaluation:**
  – Lack of comprehensive recording and reporting system
    • National TB and ART registers lack information on:
      – IPT completion rate, Adverse Events,....
  – Suboptimal record keeping
Next Steps

• Continue building the capacity of HCWs & Program Managers:
  o Through need based basic and refresher trainings
  o Through on-site clinical mentoring
  o Support/strengthen the use of routinely collected TB/HIV data for CQI

• Ensuring efficient drug (INH) Supply Chain Management System

• Strengthening TB/HIV M & E System:
  – Work with the FMOH to ensure inclusion of pertinent TB/HIV indicators in the national HMIS
  – Train and mentor health care providers on importance of documentation and reporting

• Conducting Operational Research:
  – Focusing on “IPT Implementation – Field Experience”
    • Documentation of best practices and innovative approaches
Acknowledgment

• Federal Ministry of Health - Ethiopia
• PEPFAR/Centers for Disease Control – Ethiopia
• ICAP-Columbia University, New York HQs
• The Management of Oromia, Somali, Harari, and DD RHBs
• The Management and Staffs of ICAP Supported Sites
• Staffs of ICAP in Ethiopia
• All clients
Thank You