Implementing LTBI activities in Community Health Centers

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Learning objectives:

- Review historical TB department – CHC collaboration
- Define preventive care from a primary care provider-patient perspective
- Review challenges that CHC’s face with LTBI testing and treatment
- Improve communication of risk
Local TB department and ICHS collaboration

- Late 1990’s to early 2000 AAPCHO grant supported ICHS to track LTBI activities
- Essentially tracked Cascade process
- Achieved ‘over 90%’ LTBI treatment completion rates
- Grant supported a partially funded coordinator position

Factors for success

- Single clinic site with less than 8 providers
- Single pharmacy with free INH
- Single testing (PPD) and treatment choice (6 months INH)
- Funded and dedicated FTE time for nurse/MA coordinator to call pts for refill of meds and track completion of testing and treatment
Implementation science vs. community health primary care

- Implementation research starts with single topic of interest
- Primary care in CHC’s must deal with multiple issues, including socioeconomic and psychosocial issues, language and culture
- Implementation science bottom up topic but top down approach
- CHC approach starts at community needs level to implement at patient needs level

Primary Care perspective

- Provider – Patient dyad is the fundamental functional relationship
- Preventive care from perspective of this dyad
  - Redefined as any testing or treatment of an asymptomatic condition
- Provider has a disease narrative
- Patient has an illness narrative
- Dyad functions better when these narratives are congruent
Disease vs Illness narrative

- Disease narrative is the medical system’s explanation for illness or ill-health
- Illness narrative is a person’s explanation for sickness based on their cultural, social, and personal background and experiences
- A ‘health literate’ person may have little difference between disease and illness narratives
- The cost to bridge a large gap between the two is paid for in time: education and counseling

Dr. Arthur Kleinman ‘Illness Narratives’

- What do you call the problem?
- What do you think has caused the problem?
- Why do you think it started when it did?
- What do you think the sickness does? How does it work?
- How severe is the sickness? Will it have a short or long course?

Fadiman, A. *The Spirit Catches You and You Fall Down*
Dr. Arthur Kleinman's eight questions

- What kind of treatment do you think the patient should receive? What are the most important results you hope he/she receives from this treatment?
- What are the chief problems the sickness has caused?
- What do you fear most about the sickness?

Fadiman, A. *The Spirit Catches You and You Fall Down*

Provider-Patient time math

- A full-time primary care provider has 2000-4000 patients in their panel
- On average a patient comes in 3-5 times a year to see their PCP
- The average time for a primary care provider to see a patient is 15-20 minutes
- This means a primary care provider spends 1-2 hours a year on average with each patient
Preventive care topics

- Preventive screening: hypertension, hyperlipidemia, colon and breast cancer screening

- Lifestyle risk: Obesity, smoking, alcohol, physical inactivity

Preventive Care redux

Treatment of identifiable but asymptomatic conditions:

- Hypertension
- Type 2 DM
- Hyperlipidemia
- Osteoporosis
- Hepatitis B/C
- LTBI
- Periodontal disease
Provider prioritization factors

- Prevalence
- Morbidity and mortality
- Disease vs. illness narrative gap
- Cost of intervention (Time, $$, change)
- Communication of risk: NNH vs NNT
- Patient acceptance of priorities
- Value based payment measures

LTBI challenges

- Prevalence
- Morbidity and mortality
- Large disease vs. illness narrative gap
- Cost of intervention (Time, $$, side effects)
- Communication of risk: risk vs benefit
- Patient acceptance of priorities
- Value based payment measures
LTBI in primary care

- Faces competition from more visible, prevalent conditions
- Faces diversion of efforts by practice and systems transformation efforts at multi-clinic level.*
- Lacks clear testing and treatment protocols
- Lacks clear ways to communicate risk


LTBI in primary care strategies

- Team based care with nursing, pharmacy, health education, etc. Involve PCP minimally
- Clearer testing and treatment protocols: decision support and POC tools
- Better tools to communicate risk
- Minimize cost to patients
Communication of Risk

- The way doctors communicate risk can affect a patient's perception of risks (framing bias)
- Supplement verbal explanations with numerical data
- Use absolute numbers; do not use relative risks or percentage improvements
- State the odds from a positive and negative perspective and use a consistent denominator


Communication of Risk

- Use visual aids wherever possible, to maximize understanding
- Use of simple visual aids can also improve the doctor-patient relationship
- Make sure the patient's informed consent is based on information—not just data

## Latent Tuberculosis Infection (LTBI) Treatment Guidelines (2018)

**Designed for ICBS medical providers at a community health center serving primarily the Asian immigrant population in the Sattar family.**

1. **Principles checklist/aide memoire**

   - More than 80% of people infected with TB disease states each year get sick from untreated latent TB disease.

### Table: LTBI Treatment Guidelines

<table>
<thead>
<tr>
<th>Topic</th>
<th>Discussion</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Why treat LTBI?</strong></td>
<td>The majority of active TB cases in U.S. state are treated in individuals with an identification of latent TB infection. Treating LTBI reduces the reservoir of people who may develop active TB later in their lives.</td>
<td>More than 80% of people infected with TB disease states each year get sick from untreated latent TB disease.</td>
</tr>
<tr>
<td><strong>How to test for LTBI?</strong></td>
<td>The WHO (World Health Organization) recommends LTBI testing for asymptomatic adults and children in high-risk countries and in countries with an established TB control strategy at least 3 months duration.</td>
<td>See “Adult Tuberculosis Risk Assessment” and “Teen Tuberculin” for more details.</td>
</tr>
<tr>
<td></td>
<td>1. START treatment and complete 6 months of treatment.</td>
<td>See <a href="https://www.who.int/htc/documents/AdultTBranchment.pdf">World Health Organization</a> and <a href="http://www.cdc.gov/tb/teenage/teen_tuberculin.pdf">Teen Tuberculin</a> for more details.</td>
</tr>
<tr>
<td><strong>How to screen for LTBI?</strong></td>
<td>Deterrent to test is a deterrent to treat.</td>
<td>Immunocompromised individuals are at high risk and are more likely to develop TB infection.</td>
</tr>
<tr>
<td></td>
<td>Since the majority of patients with TB are at-risk groups, it is reasonable to identify those who might benefit most from treatment. LTBI, particularly those who are immunocompromised.</td>
<td>Immunocompromised individuals are at high risk and are more likely to develop TB infection.</td>
</tr>
<tr>
<td><strong>How to treat LTBI?</strong></td>
<td>Once LTBI is diagnosed, treatment is initiated immediately.</td>
<td>Treat LTBI with 6 months of directly observed treatment.</td>
</tr>
<tr>
<td></td>
<td>TB drug therapy includes INH, Rifampin, Ethambutol, and Pyrazinamide.</td>
<td>Treat LTBI with 6 months of directly observed treatment.</td>
</tr>
<tr>
<td><strong>How to handle TAB</strong></td>
<td>Treatment for TB involves the use of a 6-month regimen with active TB treatment for those cases.</td>
<td>Treat LTBI with 6 months of directly observed treatment.</td>
</tr>
<tr>
<td><strong>How to handle LTBI</strong></td>
<td>Before starting treatment, a history of exposure is recorded and a chest x-ray is performed.</td>
<td>Treat LTBI with 6 months of directly observed treatment.</td>
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**Note:** This guidelines are intended for use in a community health center serving primarily the Asian immigrant population in the Sattar family. The guidelines are based on the best available evidence and expert opinion. Healthcare providers should consider local epidemiological data and patient factors when deciding on the appropriate treatment for LTBI.
## Treatment Options for Latent TB Infection


### Isoniazid (INH) and Rifapentine

<table>
<thead>
<tr>
<th>Dosages</th>
<th>Pearls</th>
</tr>
</thead>
<tbody>
<tr>
<td>Once weekly x 12 weeks (3HP regimen)</td>
<td></td>
</tr>
<tr>
<td>Isoniazid 15 mg/kg per dose once weekly when 300 mg tablets are used.</td>
<td></td>
</tr>
</tbody>
</table>

#### Dosages

<table>
<thead>
<tr>
<th>Kg</th>
<th>Lbs</th>
<th>Dosage</th>
</tr>
</thead>
<tbody>
<tr>
<td>38 or less</td>
<td>80 or less</td>
<td>500mg</td>
</tr>
<tr>
<td>45 - 55 kg</td>
<td>99 - 120 lbs</td>
<td>750mg</td>
</tr>
<tr>
<td>56 kg or more</td>
<td></td>
<td>max</td>
</tr>
</tbody>
</table>

#### Rifapentine once weekly dosage

<table>
<thead>
<tr>
<th>Kg</th>
<th>Lbs</th>
<th>Dosage</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.0 – 14.0 kg</td>
<td>22 - 31 lbs</td>
<td>300mg</td>
</tr>
<tr>
<td>14.1 – 25.0 kg</td>
<td>32 - 55 lbs</td>
<td>450mg</td>
</tr>
<tr>
<td>25.1 – 32.0 kg</td>
<td>56 - 71 lbs</td>
<td>600mg</td>
</tr>
<tr>
<td>32.1 – 49.9 kg</td>
<td>72 – 110 lbs</td>
<td>750mg</td>
</tr>
<tr>
<td>≥50.0 kg</td>
<td>111 or more</td>
<td>max</td>
</tr>
</tbody>
</table>

#### Target Duration:

- 12 doses
- 120 doses
- >180 doses acceptable; 270 doses preferred.

### Rifampin

**Preparation:** 150mg or 300mg capsules.

**Adult Dosage:** generally 600 mg

**Pediatric Dosage:** 15-20mg/kg/d (600mg max)

**Target Duration:** 120 doses

### Isoniazid Daily

**Preparation:** 100mg or 300mg tablets.

**Dosage:**

- Adults: 5 mg/kg per dose (300 mg max)
- Children: 10-15mg/kg per dose (300mg max)

**Consider 200 mg once daily for adults 40 kg or less**

**Target duration:** >180 doses acceptable; 270 doses preferred.

### Thank you