The Integration of TB Screening and Care into Primary Health Care:
A FQHC’s Perspective
International Services
David MBEYA
Program Manager
Goals/Objectives

- Introducing BMS
- Refugee Health Program
- Standards of Care/Guidelines
- Data
- Conclusion
Who Are We?

BMS has been deeply involved with community health services throughout the City and the county since 1984.

- 6 Community Health Centers
- 8 school based sites

BMS serves nearly 50,000 patients. (~125,000 visits per year).

Several programs to assist patients: Deaf services, International Services, Health Benefits Advisors, Pharmacy Assistance, Outreach, CHW, Substance Abuse...

- Primary care services:
  - Adult Medicine
  - Family Practice
  - Pediatrics & Adolescent Medicine

- Obstetrics & Gynecology
- Behavioral Health
Who Do We Serve?

- Diverse patient population from different backgrounds and cultures. Approximately 60 countries and 30 languages.
  - ~10,000 active Hispanic Patients
  - 3,500 active non-Spanish, non-English speakers including refugees

- The 10 top Languages:
  - Spanish
  - Nepali
  - Arabic
  - Burmese
  - Tigrinya
  - American Sign Language
  - French
  - Amharic
  - Kinyarwanda
  - Swahili
The Refugee Health Program has set the tone in recent years at BMS when it comes to Tuberculosis testing and management LTBI patients.

- Piloting and implementing the IGRA test.
- Coordinating the transfer of LTBI treatment for Baltimore City patients
- Staff training
- LTBI management
Refugee Health Program

BMS screens refugees and asylees from 3 Jurisdictions at our Highlandtown location.

▪ Baltimore City
▪ Baltimore County
▪ Anne Arundel County

Approximately 1000-1200 screened annually.
Refugee Health Assessments

Yearly Refugees Health Screenings

<table>
<thead>
<tr>
<th>Year</th>
<th>Screenings</th>
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<tr>
<td>2006</td>
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<td>2014</td>
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<td>2015</td>
<td>913</td>
</tr>
<tr>
<td>2016</td>
<td>1040</td>
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Refugee TB Screening

Late 2011 the Refugee Program piloted a new blood test, an IGRA test: QuantiFERON® TB Gold.

- More accurate
- Not affected by BCG
- Target group: 5 years old and over
- Operationally: Eliminates the need to return for a PPD reading for 92% refugees

Following the trial period, implemented Spring 2012 to both refugees and other patients with health insurance. Others would remain on the TST.
Refugee TB Screening

Fall 2012, commissioner’s advisory redirected the care and management of Latent TB to Primary Care Providers.

The refugee Health Team worked with BCHD:

- LTBI protocols
- Referral process for active cases/uninsured
- Class B waivers
- Consulting with clinicians for specific cases
- In-service training for clinical and program staff
Transition to PCP

Clinician’s Visit

MA Rooms

• Patient

Clinician Evaluation

Review Packet
TB Signs/Sx
Clinician Doc
Gross physical examination
Order
Quantiferon as needed

MA Follow-up

• PPD placement:
  o Only for uninsured.
  o 0-5 yo
  o As instructed per Clinician

MA Schedules PPD reading 48-72 hours.

Do not Schedule Immunizations Only visits with clinicians. Only visits with a diagnosis code are reimbursed.

Positive QUANTIFERON RESULTS

Clinician Receives QFT results in their PAQ

Clinician order CX-ray.
Clinician Tasks his/her MA

MA processes the request based on COUNTY

MA orders CX-ray Under PCP’s name.

MA Completes and Faxes B. County DOH forms
Fax CMP and CBC

Anne Arundel County

Baltimore Co.

Coordinate with Int’l Services to inform patients.

BALT. CITY RESIDENTS

Clinician Receives QFT results in their PAQ

Clinician order CX-ray.
Clinician Tasks his/her MA

MA processes the request based on INSURANCE

Pt. With Insurance

Refer to BCHD/Chest Clinic

Schedule Fu for LTH Care

Patient With NO insurance

Refer to BCHD/Chest Clinic

Do NOT order Chest X-ray
Refer patient to BCHD/Chest Clinic
Care Plan to inform case Manager/Client to schedule follow up when Insurance is active/available.

RHA forms

Blue - Baltimore City
Pink – Baltimore County
Yellow – Anne Arundel County
Integration into Care

- TB assessments for new and existing patients.
- TB Questionnaire is embedded in several of our clinical guidelines and EMR templates.
- Various guidelines/forms are readily available to clinical staff for screening, testing, and patient education.
- Educate and train staff on existing clinical guidelines and resources.
Who Do We Test?

- Employment Requirement
- Contractual agreement: New OB patients at St. Agnes
Who Do We Test?

- Employment Requirement
- Contractual agreement: New OB patients at St. Agnes
Who Do We Test?

- Employment Requirement
- Contractual agreement: New **OB** patients at St. Agnes
- **Pediatric population**: Annually assessed during Well Child Visits or physicals (MDHK)

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**Tuberculosis Risk Assessment:**

(1 month and yearly thereafter)

1. Has your child been exposed to anyone with a case of TB?
2. Was your child, or a household member, born in an area where TB is common (e.g., Africa, Asia, Latin America, and the Caribbean)?
3. Has your child, or a household member, lived more than a year in an area where TB is common?
4. Does your child have daily contact with adults at high risk for TB (e.g., those who are HIV infected, homeless, incarcerated, and/or illicit drug users)?
5. Does your child have HIV infection?
Who Do We Test?

- Employment Requirement
- Contractual agreement: New OB patients at St. Agnes
- Pediatric population:
  Annually assessed during Well Child Visits or physicals (MDHK)
- Adult patients:
  - New Immigrants to our Practice
  - Patients deemed at-risk based on risk assessment questionnaire
**Who Do We Test?**

**TST Risk Assessment**

### High risk:
- >= 5 mm induration is considered positive with risk factors listed below
- 1. Is the patient HIV positive?
- 2. Has the patient ever had a chest x-ray that was “suggestive” of TB?
- 3. Has the patient had close contact with someone who has infectious TB?
- 4. Has the patient had an organ transplant?
- 5. Is the patient immunosuppressed for other reasons (e.g., taking the equivalent of 15 mg of prednisone per day)?

<table>
<thead>
<tr>
<th>Risk Level</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>&gt;= 5 mm induration is considered positive with risk factors listed below</td>
</tr>
<tr>
<td>Intermediate</td>
<td>&gt;= 10 mm induration is considered positive with risk factors listed below</td>
</tr>
<tr>
<td>Low</td>
<td>&gt;= 15 mm induration is considered positive</td>
</tr>
</tbody>
</table>

Persons with no known risk factors for TB:

*Although skin testing programs should be conducted only among high-risk groups, certain individuals may require TST for employment or school attendance. An approach independent of risk assessment is not recommended by the CDC or the American Thoracic Society.*

From [http://www.cdc.gov/tb/Publications/guidelines/AppendixB_092706.pdf](http://www.cdc.gov/tb/Publications/guidelines/AppendixB_092706.pdf)
Risk Assessment Data

- **2015** 11,520 patients assessed for TB
  - 8,500 not at-risk
  - 3,020 at-risk: ~1,100 tested
  - Not tested: Previous positive/treated, asymptomatic
  - 833 adults/remaining are under the age of 18

- **2016** 11,979 patients assessed for TB
  - 8,192 not at-risk
  - 3,787 at-risk: ~1,400 tested
  - 423 adults

Almost 50% of pediatric assessments were performed at our SBH suites
Workflow

• All other counties: Patients are referred to the Local Health Department. Clinician may order a Chest X-Ray.

• Baltimore City residents: Patients with Latent TB are treated in-house by the PCP and nursing team.
LATENT TUBERCULOSIS INFECTION
B-CITY Residents

Positive PPD/Quantiferon Results. LTBI Assessment

Clinician reviews PAQ
- Order X-Ray
- Check if CBC w diff. was done.
- Check if CMP was done.
- Task MA for next steps

LTBI Evaluation during RSTL follow up.
- Patient are to be schedueled with their PCP in the allocated slots

Symptomatic?

TB Suspects Referred to Health Dept.

Symptoms assessed at the initial Visit

Clinician Evaluation
- Review of symptoms, labs
- Review of risk factors and contraindications
- Provide Pt with copy of treatment plan.

Treatment?

YES

Provide prescription and refill
- Provide TB info in the patient’s language.
- 1 mo F/U with Nurse. Complex cases can use the clinician or Dr. Priya’s consult.

NO

Close the LTBI case.
- Inform Refugee Program

Provide closeout letter

TB Suspect Referral
- Please send all relevant documents
- Send TB symptom evaluation details and clinician’s contact info.
- Notify Health Department by phone.
- Complete appropriate referral form.
- Send Lab results, incl. LFTs and HIV

Nurse’s Schedule
- Assess symptoms, check side effects, problems with standardized LTBI treatment records form.
- Check for Compliance and concerns.
- Schedule 1 month follow up with Nurse.

Nurse F/U
- Inform Clinician/Add comments to EHR notes.
- Provide certificate of completion when treatment ends

Symptoms: Nausea, poor appetite, Vomiting, Dark Urine, Itching
- Compliance: Ask patients to bring Rx bottle.

Provide Completion letter

IMPORTANT
- Appointments should be scheduled with an interpreter.
- If CMP/CBC are normal, do not repeat beyond visit #2
- During Nurse visits, please also check immunization status.
- Every patient should receive a Refugee Health Assessment Summary (RHAs) and LTBI information.
- Please confirm patient’s contact information for outreach calls.

RSTL DM 2015
• Patients with a positive QFT or TST result are asked follow up questions.
Treatment and Education

- Clinicians prescribe the entire treatment regimen and advise patients on refills.

- Monthly monitoring by a Nurse while on treatment and follow-up with clinicians in case of complications.

- Nurse visit consists of monitoring for medication intake and assessing for adverse reactions/LFTs.
## Treatment and Education

### Table 8. Regimens for Treatment of Latent TB Infection And Recommended Monitoring

<table>
<thead>
<tr>
<th>Drugs</th>
<th>Interval</th>
<th>Dose</th>
<th>Medical Monitoring</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Adults Recommended</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Isoniazid (INH)</td>
<td>Daily</td>
<td>INH 5 mg/kg (Max: 300 mg)</td>
<td><strong>Adults - INH (9 months) and RIF (4 months)</strong></td>
</tr>
<tr>
<td>9 months</td>
<td></td>
<td></td>
<td>Clinical Monitoring</td>
</tr>
<tr>
<td>Provide only one month supply at a time</td>
<td></td>
<td></td>
<td>Pretreatment: ask about previous TB drugs, oral contraceptives (if using rifampin) and other medications, history of liver disease, alcoholism and allergies. <strong>When using rifampin, use barrier method of contraception, increase methadone, etc.</strong> (See Appendix C).</td>
</tr>
<tr>
<td></td>
<td>Twice Weekly DOT</td>
<td>INH 15 mg/kg (Max: 900 mg)</td>
<td>Monthly (in person): check for anorexia, nausea, vomiting, abdominal pain, dark urine, jaundice, scleral icterus, rash, fatigue, fever or paresthesias.</td>
</tr>
<tr>
<td><strong>HIV-Negative Adults - Alternative</strong></td>
<td></td>
<td></td>
<td>Laboratory (AST, ALT &amp; bilirubin)</td>
</tr>
<tr>
<td>Rifampin (RIF)</td>
<td>Daily</td>
<td>RIF 10 mg/kg (Max: 600 mg)</td>
<td>Pretreatment: only necessary for persons with a history of liver disease (e.g., hepatitis B or C, alcoholic hepatitis or cirrhosis), persons who have a history of past or current alcohol abuse or injection drug abuse, HIV infection or women who are pregnant or &lt; 3 months post-partum.</td>
</tr>
<tr>
<td>4 months</td>
<td></td>
<td></td>
<td>During treatment: Monthly LFTs are recommended if baseline tests elevated, history of or risks for liver disease, the patient is pregnant/postpartum, or there are adverse reactions to treatment.</td>
</tr>
<tr>
<td>Provide only one month supply at a time</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em><em>Children</em> (ages 0-18)</em>*</td>
<td></td>
<td></td>
<td><strong>Children - INH (9 months)</strong></td>
</tr>
<tr>
<td>Isoniazid (INH)</td>
<td>Daily</td>
<td>INH 10-20 mg/kg (Max 300 mg)</td>
<td>Clinical Monitoring</td>
</tr>
<tr>
<td>9 months</td>
<td></td>
<td></td>
<td>Pretreatment: ask about other medications and medical conditions, allergies.</td>
</tr>
<tr>
<td>Provide only one month supply at a time</td>
<td></td>
<td></td>
<td>Monthly (in person): check for anorexia, nausea vomiting, abdominal pain, dark urine, jaundice, scleral icterus, rash, fatigue, fever or paresthesias.</td>
</tr>
<tr>
<td></td>
<td>Twice Weekly DOT</td>
<td>INH 20-40 mg/kg (Max: 900 mg)</td>
<td>Laboratory - no routine studies needed.</td>
</tr>
</tbody>
</table>

* Rifampin six months daily is an alternative regimen for children (10-20 mg/kg, maximum 600 mg), particularly those exposed to INH resistant disease.

**Treatment Completion:** nine months daily = 270 doses within 12 months. Six months daily = 180 doses within nine months. Nine months twice weekly DOT= 76 doses within 12 months. Six months twice weekly DOT = 52 doses within nine months. Four months daily rifampin (or rifabutin) = 120 doses within six months.
The nursing team monitors patients monthly.
LTBI Management

• Completion Letter
LTBI COMPLETION LETTER

Name: Test (*Testing  TST Date: 10/11/2016  Results: 12 mm
Date of Birth: 11/27/1988  QuanTron: negative IU/ml  First Test Done: 10/06/2016
Chest X-Ray Date: 10/06/2016  Results: Negative

Our records indicate that you have recently completed your treatment for Latent Tuberculosis Infection (LTBI). The treatment has reduced the risk of developing active tuberculosis disease during your lifetime.

No further skin testing is necessary. Routine periodic chest x-rays are also unnecessary in the absence of significant pulmonary symptoms of tuberculosis. In the event you do develop symptoms suggestive of tuberculosis, seek medical attention. Some of the symptoms include:

- A cough that persists for a month or more
- Bringing up large amounts of sputum (phlegm)
- Persistent, unexplained fever, weakness or fatigue
- Sweating at night that leaves the bed clothes damp
- Unexplained loss of weight (10 pounds or more)

Please keep this form among your important papers. The information provided on it will be important if you see your doctor or any other doctor for any of the above symptoms. It will also provide documentation should you be told you need TB testing in the future.

<table>
<thead>
<tr>
<th>Medication</th>
<th>Frequency</th>
<th>Dose</th>
<th>Date Started</th>
<th>Date Completed</th>
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<tbody>
<tr>
<td>Isoniazid</td>
<td>daily for 6 months</td>
<td>250</td>
<td>10/11/2016</td>
<td>04/11/2017</td>
</tr>
</tbody>
</table>

Erica Isles MD 10/11/2016 08:52 AM

Baltimore Edison Family Health Center
3120 Erdman Avenue
Baltimore, MD 21213-1720
(410)558-4800
LTBI Data 2015

2,041 patients were screened for Tuberculosis:
- 246 were positive
- 84 were treated for LTBI

<table>
<thead>
<tr>
<th>Languages</th>
<th>Count</th>
<th>Positive</th>
<th>Treated</th>
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<tbody>
<tr>
<td>English</td>
<td>774</td>
<td>54</td>
<td>12</td>
</tr>
<tr>
<td>Burmese/Hakha/Tidim/Chin</td>
<td>361</td>
<td>67</td>
<td>8</td>
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<tr>
<td>Spanish; Castilian</td>
<td>344</td>
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<tr>
<td>Arabic</td>
<td>98</td>
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<td>Nepali</td>
<td>94</td>
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<tr>
<td>Tigrinya</td>
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<td>Masalit</td>
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<tr>
<td>French</td>
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<td>Urdu</td>
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<tr>
<td>Somali</td>
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162 Not Treated

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<tr>
<th>Residence</th>
<th>Count</th>
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<tr>
<td>B. City</td>
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<tr>
<td>B. County</td>
<td>102</td>
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<tr>
<td>Other counties</td>
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Anne Arundel, Howard, Harford, and Caroline
LTBI Data 2015

Breakdown by Gender and Age
LTBI Data 2016

2,579 patients were screened for Tuberculosis:
- 250 were positive
- 65 were treated for LTBI

<table>
<thead>
<tr>
<th>Language</th>
<th>COUNT</th>
<th>POSITIVE</th>
<th>Treated</th>
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</thead>
<tbody>
<tr>
<td>English</td>
<td>860</td>
<td>63</td>
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</tr>
<tr>
<td>Spanish; Castilian</td>
<td>537</td>
<td>24</td>
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</tr>
<tr>
<td>Arabic</td>
<td>372</td>
<td>29</td>
<td>11</td>
</tr>
<tr>
<td>Burmese/Hakha/Tidim/Chin</td>
<td>194</td>
<td>44</td>
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<tr>
<td>Swahili</td>
<td>122</td>
<td>18</td>
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<tr>
<td>Nepali</td>
<td>91</td>
<td>14</td>
<td>6</td>
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<tr>
<td>Tigrinya</td>
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</tr>
<tr>
<td>Spanish</td>
<td>56</td>
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<td>Pashto</td>
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185 not treated

Residence

<table>
<thead>
<tr>
<th>Residence</th>
<th>Count</th>
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<tr>
<td>B. City</td>
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<tr>
<td>B. County</td>
<td>123</td>
</tr>
<tr>
<td>Other Counties</td>
<td>17</td>
</tr>
</tbody>
</table>

Anne Arundel, Harford, Howard and PG County.

Of the 45 City residents
- 35 had Normal Chest Xray
- 10 did not:
  - B1 waivers
  - Pregnancy
  - Retested, Neg. QFT
  - Moved out
  - Prior Positive
LTBI Data 2016

Breakdown by Gender and Age
Lessons Learned

• Better assessment for children

• No equivalent for Adult patients
  ✓ Can be triggered after review of personal and family history
  ✓ At the discretion of clinicians
  ✓ More consistent screening

• Opportunities
  ✓ Streamline process and training at other sites
  ✓ Data collection for non-refugee patients
  ✓ Improve tracking for unaddressed positive results and those sent to other counties
David N. Mbeya
Int’l Services & Refugee Program Manager
Baltimore Medical System, Inc.
Tel: (443)703-3403
Email: David.mbeya@bmsi.org
Web: www.bmsi.org