STEAMLINING LTBI REPORTING IN KAISER PERMANENTE – MIDATLANTIC STATES

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Mid-Atlantic Permanente Medical Group
Background: Kaiser Permanente Mid-Atlantic States

FAST FACTS

Founded: 1980

Headquarters: Rockville, Maryland

Comprised of:

- Kaiser Foundation Health Plan of the Mid-Atlantic States, Inc. (8,500+ Employees)
- Mid-Atlantic Permanente Medical Group, P.C. (1,600+ Physicians, 50+ Specialties)

Medical Offices: 31 (14 Urgent Care locations, 6 open 24/7)

Members Served: 750,000+
Background: LTBI reporting

A new latent tuberculosis (LTBI) reporting regulation went into effect in Maryland in July 2018.

State of Virginia followed shortly after with a similar reporting requirement.

Our medical group set out to establish a streamlined, standardized process for reporting LTBI cases by leveraging our integrated electronic medical record system.

In the process, we also aim to improve clinical processes for TB screening, LTBI management and monitoring of compliance reporting.
Old Reporting Workflow I

1. Screening performed
2. LTBI diagnosis is made
3. Treatment offered
4. Case reported to the local health department
Old Reporting Workflow II

Case reporting to the local health department

1. Search LTBI reporting form (print version, online)
2. Complete the form manually
3. Fax local health department
New Reporting Workflow I

Screening performed

LTBI diagnosis is made

Treatment offered

Enhanced templated documentation that captures clinical data

Case reported to the local health department
New Reporting Workflow II

Case reporting to the local health department

Search LTBI reporting form (print version, online) → Complete the form manually → Fax local health department

Letter generated using data collected during clinical documentation
Leveraging EHR tools to capture data

- MAPMG uses KP HealthConnect (based on Epic electronic medical record system).

- We utilized SmartTools to capture data used in letter generation
  - **SmartSet**: standardized order and documentation template
  - **SmartPhrase**: documentation tool
  - **SmartList**: list of pre-configured choices in SmartPhrases
  - **SmartForm**: tool for documenting structured data
  - **SmartData Element**: stores discrete data from SmartLists and SmartForms
  - **SmartLink**: tool that pulls stored information from SmartData Elements into letters
TB Screening and Latent TB Treatment & Reporting

This SmartSet has been created for screening of tuberculosis (TB) and treatment and reporting of latent tuberculosis infection (LTBI).

- **LTBI**
  - LTBI Diagnosis
  - LTBI Treatment
- **PPD & IGRA test**
- **CXR**
- **TB Screening SmartForm**
- **Fax letter to DOH**
- **LTBI treatment**
- **Monitoring lab tests**
- **Diagnoses**
- **Patient Instructions**

**Point-of-care Clinical Reference**

- **Letter**
  - Fax LTBI Letter to State Health Department
- **Progress Notes**
- **LTBI: PROGRESS NOTES**
  - RN Note: PPD Placement
  - RN Note: PPD Reading
  - RN Note: Positive IGRA/QuantiFERON TB Test
- **Physician Note: LTBI Initial Assessment**
- **Physician Note: Completion of LTBI Treatment**

**Screening Tests**
- **Quantiferon-TB Gold**
  - Preferred for testing patients who have received BCG (either as a vaccine or for cancer therapy) or where poor rates of return for PPD reading is a concern.
  - A chest radiograph should be obtained for patients who have a positive PPD or Quantiferon-TB Gold result.
  - PPD test should not be performed in a patient with history of tuberculosis or past PPD positive result.
  - PPD is preferred in children under 2 years of age.
  - Due to sample handling process in KP-MAS, it is recommended that blood samples for Quantiferon-TB Gold test be collected Monday to Thursday mornings only.

**TB Screening (PPD, Quantiferon-TB Gold)**

- **Imaging**
  - Chest X-ray
- **PPD & IGRA test**
- **CXR**

**Diagnoses**
- **LTBI Diagnoses**
  - SCREENING FOR PULMONARY TB (211.3)
  - LATENT TB OF LUNG (R76.11)
- **Patient Instructions (AVS)**
  - **Latent TB: Patient Instructions**
    - Tuberculin Skin Test (PPD)
    - Latent Tuberculosis
- **Ad-hoc Orders**

**Monitoring During Treatment**
- Baseline and routine laboratory monitoring during treatment of LTBI are indicated only when there is a history of liver disease, HIV infection, pregnancy (or within 3 months post-delivery), or regular alcohol use.
- Clinical monitoring should occur on a monthly basis to assess adherence, rationale for treatment, and to identify signs or symptoms of adverse drug reactions.

**LTBI Treatment Options**
- Rifampin 900 mg daily (duration 4 months)
  - Drip 60 capsule, R-3, Pill Now
- Isoniazid-Rifampin 300-600 mg daily (duration 3 months)
- Isoniazid 300 mg daily (duration 6 months)
- Isoniazid 300 mg daily (duration 9 months)

**RN & Physician Documentation**
SAMPLE NURSE NOTE

Hope Team, PhD came in for reading of the PPD skin test placed on 1/1/2020. Results have been entered into KP HealthConnect.

**Lab Results**

<table>
<thead>
<tr>
<th>Component</th>
<th>Value</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>PPDINTERP</td>
<td>12</td>
<td>01/01/2020</td>
</tr>
<tr>
<td>PPDINTERP</td>
<td>Positive</td>
<td>01/01/2020</td>
</tr>
</tbody>
</table>

PPD test is positive - Yes
US born: No - Country of birth: Neverland
Month/Year arrived in US: 10/2010
Reason for TB Screening: school/educational screening
Risk factors: Diabetes, Smoking, Hepatitis, Alcohol
HIV status at diagnosis: Negative

Confirm that TB Screening SmartForm has been completed and that data is current with special emphasis to TB sign and symptoms.

SAMPLE PHYSICIAN NOTE

**Chief Complaint**
TB Screening/LTB evaluation

**Subjective**
Hope Team, PhD is a 77 yr old adult presenting for tuberculosis screening/LTB evaluation.
The following information was collected by nursing staff during a recent TB screening visit.
U.S. born: No
County of birth: Neverland
Month/Year arrived in US: 10/2010
Date of 1st LTB test: 1/1/2010
Reason for LTB test: School/education screening
HIV status at diagnosis: Negative
Risk factors: Diabetes, Smoking, Hepatitis, Alcohol
PPD Date read: 1/1/2020
Interpretation: Positive
IGRA Test date: 12/31/2019
Interpretation: Positive
Data of Cavitary imaging: 1/2/2010

**Objective**

**Vitals:** There were no vital signs taken for this visit.
**General:** Alert, mellow
**Hernia:** Mucosa membranous molar, normal conjunctiva
**Nec:** Supple
**Lymphadenopathy:** No
**Cardiac:** Regular rate and rhythm. No murmurs
**Chest:** Clear to auscultation

**Assessment Plan**

History and physical exam consistent with Latent TB infection.
See diagnosis entry for additional diagnoses addressed in this office visit.
Diagnosis, treatment plan, and precautions reviewed with patient.
Treatment offered: Yes
Treatment started: Yes - 6 months isoniazid
Health Maintenance and Prophylactic Care gaps reviewed and addressed.

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Sending fax from the EHR

Click on **New Communication button** below, then choose **LTBI Maryland** or **LTBI Virginia**. The letter should be auto-populated if documentation is performed per recommended workflow. Click **Free Text** then enter Name and Fax Number from below. Click **Send Now** button to fax the form.

**Maryland** - Center for TB Control and Prevention
Fax: 410-767-5972

**Virginia** - TB Control
Fax: 804-371-0248

**Maryland Latent Tuberculosis Infection (LTBI) Reporting Form**

- **Provider Name**: Yonas S. Tamrat, MD
- **Provider Affiliation**: Kaiser Permanente
- **Provider Telephone**: 703-359-7878

For Health Department use only: LTBI case status
- [ ] Confirmed
- [ ] Suspected TB Infection
- [ ] Not a case
- LTBI case number (if known):

**Initial Report** or **Follow-up Report**

- **Last Name**
- **First Name**
- **Middle**
- **Date of Birth (MM/DD/YYYY)**
- **Sex at birth**
Aiming for process improvement that is a Win-Win for All

- Alignment of all relevant specialties and urgent care
- Physician and staff education on new tools and workflows
- Implementation of new LTBI screening and reporting process
- Evaluation of effectiveness of new process
- Expansion to other reportable diseases
Thank You!

Questions?