STEAMLINING LTBI REPORTING IN KAISER PERMANENTE – MIDATLANTIC STATES

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MAPMG HOPE (KP HealthConnect Optimization & Physician Efficiency)

Internal Medicine

Mid-Atlantic Permanente Medical Group

KAISER PERMANENTE®

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)**

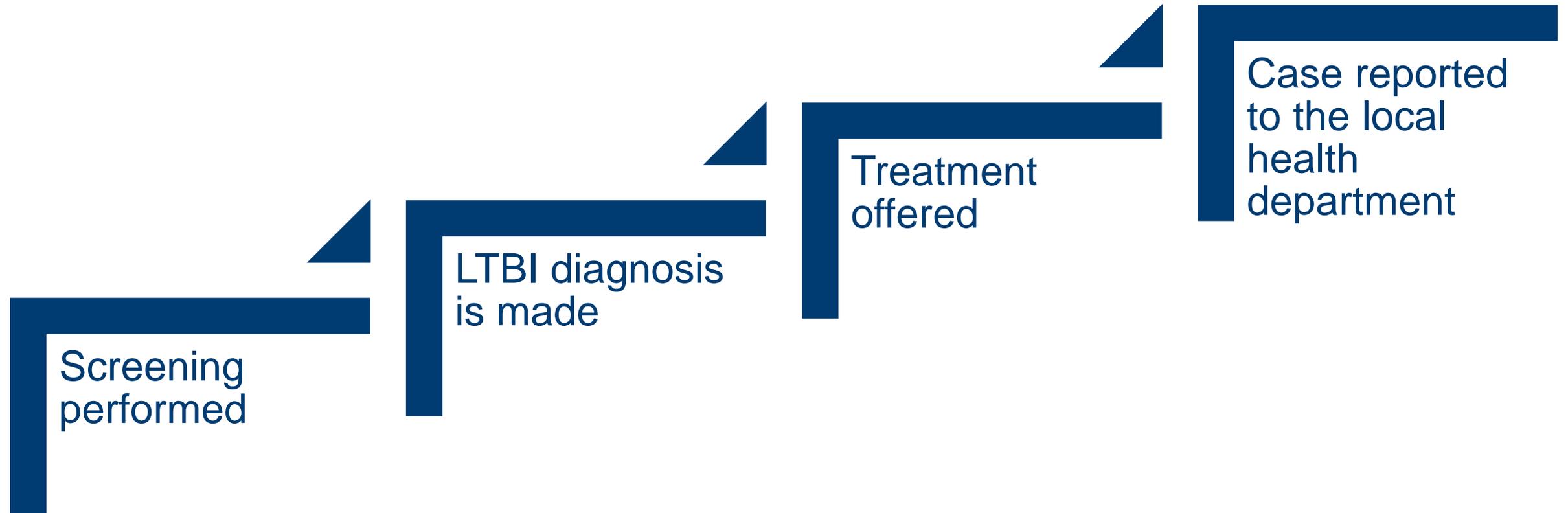Medical Offices: **31 (14 Urgent Care locations, 6 open 24/7)**

Members Served: **750,000+**

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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 LBTI 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.

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Old Reporting Workflow I

Screening
performed

LTBI diagnosis
is made

Treatment
offered

Case reported
to the local
health
department

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Old Reporting Workflow II

Case reporting to the local health department

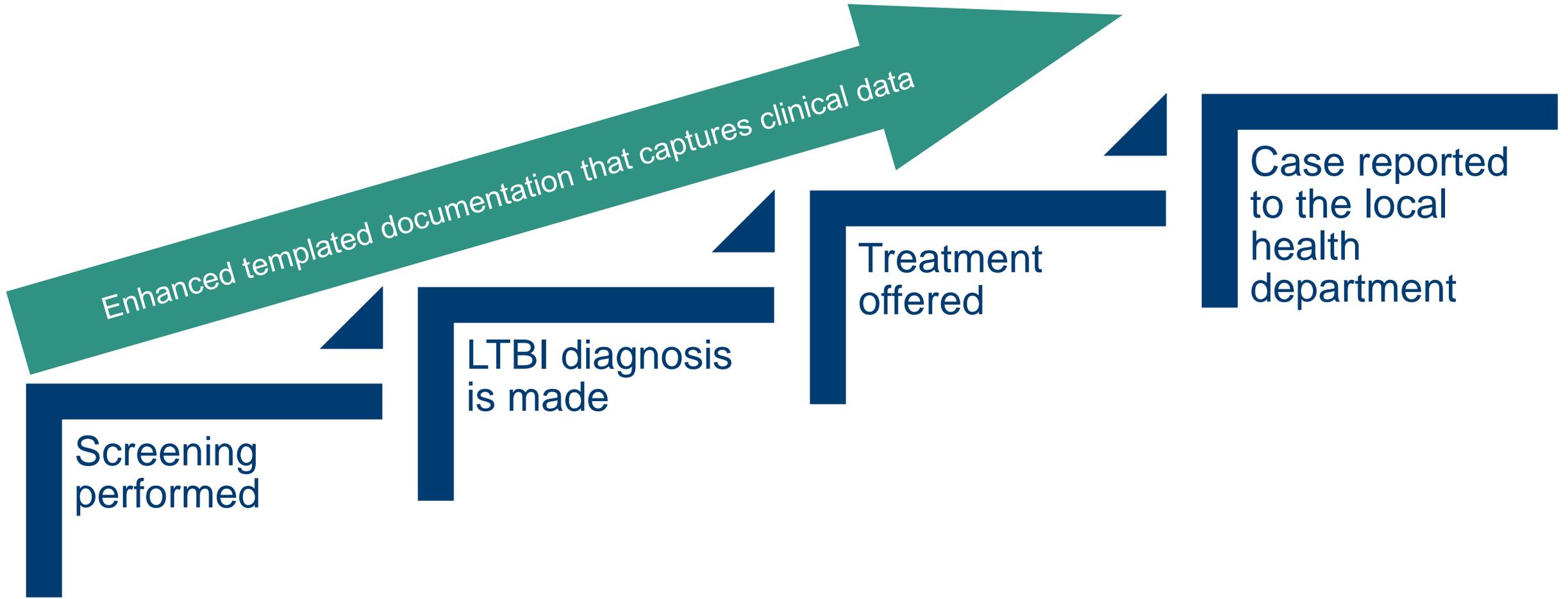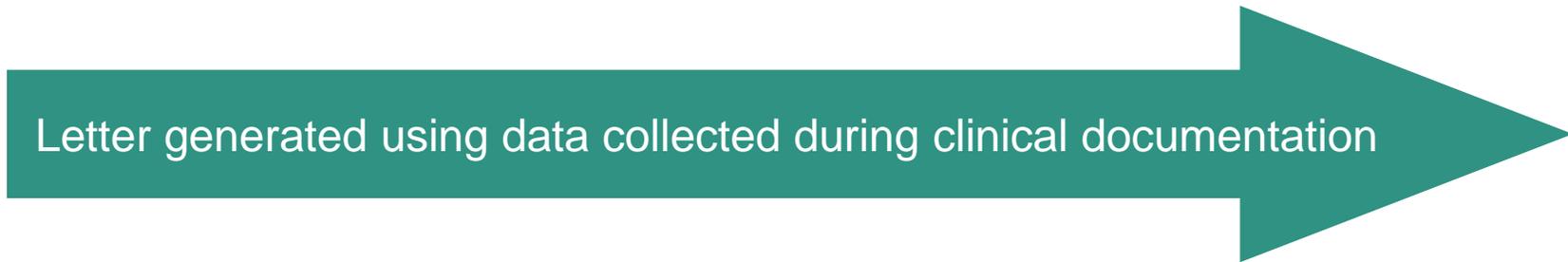| Search LTBI reporting form (print version, online)	→	Complete the form manually	→	Fax local health department

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New Reporting Workflow I

Enhanced templated documentation that captures clinical data

Screening performed

LTBI diagnosis is made

Treatment offered

Case reported to the local health department

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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

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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

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SmartSet

TB Screening and Latent TB Treatment & Reporting 🔧 Manage User Versions ▾ ⌃

This SmartSet has been created for screening of tuberculosis (TB) and treatment and reporting of latent tuberculosis infection (LTBI).
- Latent Tuberculosis Infection: A Guide for Primary Health Care Providers
- Targeted Tuberculosis Testing and Interpreting Tuberculin Skin Test Results
- Interferon-Gamma Release Assays (IGRAs) – Blood Tests for TB Infection
- Treatment Regimens for Latent Tuberculosis Infection (LTBI)

[Point-of-care Clinical Reference]

▼ Letter
- Fax LTBI Letter to State Health Department

[Fax letter to DOH]

▼ 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

[RN & Physician Documentation]

▼ TB Screening Tool
- TB Screening

[TB Screening SmartForm]

▼ Screening Tests
- QuantiFERON-TB Gold is 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 ordered 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)   Click for more

[PPD & IGRA test]

▼ Imaging
▶ Chest X-ray   Click for more

[CXR]

▼ Treatment
- Use this section for treatment of latent tuberculosis infection in HIV-uninfected nonpregnant adults.
- Contact infectious disease physician on the care team if patient is HIV-positive.
- Patients must be evaluated for active TB before initiating treatment for latent TB.
- Select treatment option based on patient specific factors including adherence to treatment and risk for drug interaction.
- Rifampin based regimen are preferred due to efficacy, high completion rate and low hepatotoxicity.
- Pyridoxine (Vitamin B6) 25-50 mg/d should be given to prevent neuropathy caused by Isoniazid (INH).

▼ Latent TB Treatment Options
- ○ Rifampin 600 mg daily (duration: 4 months)
  Disp-60 capsule, R-3, Fill Now
- ○ Isoniazid-Rifampin 300-600 mg daily (duration: 3 months)
- ○ Isoniazid 300 mg daily (duration: 6 months)
- ○ Isoniazid 300 mg daily (duration: 9 months)

[LTBI treatment]

▼ 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.

▼ Lab Orders
- ☐ Liver Function Test
  Normal, Routine
- ☐ Liver Function Test (Standing Order for patients with chronic liver disease) ●
  Normal, Routine, Expires: 6 Months, Manual-release, Interval: Every 4 Weeks, Count: 6

[Monitoring lab tests]

▼ Diagnoses
▼ LTBI Diagnoses
- ☐ SCREENING FOR PULMONARY TB [Z11.1]
- ☐ LATENT TB OF LUNG [R76.11]

[Diagnoses]

▼ Patient Instructions (AVS)
▼ Latent TB: Patient Instructions
- ☐ Tuberculin Skin Test (PPD)
- ☐ Latent Tuberculosis

[Patient Instructions]

▼ Ad-hoc Orders

SmartPhrases & SmartLists

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

Component	Value	Date
PPDINTERP	12	01/01/2020
PPDINTERP	Positive	01/01/2020

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

Permanente Medicine
Mid-Atlantic Permanente Medical Group

CHIEF COMPLAINT
TB Screening/LTBI evaluation

SUBJECTIVE
Hope Team, PhD is a 77 yr old adult presenting for tuberculosis screening/LTBI 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 first LTBI evaluation: 1/1/2020
Reason for LTBI test: School/education screening
HIV status at diagnosis: Negative
Risk factors: Diabetes, Smoking, Hepatitis, Alcohol
PPD Date read: 1/1/2020
Interpretation: 12 mm
IGRA Test date: 12/31/2019
Interpretation: POSITIVE
Date of CXR/chest imaging: 1/2/2020

CXR/chest imaging result: Not Consistent with TB

Relevant past medical, family and/or social history were reviewed.

OBJECTIVE
VITALS: There were no vitals taken for this visit.
GENERAL: Alert, nontoxic
HEENT: Mucus membranes moist, normal conjunctiva
NECK: 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.
Diagnoses, treatment plan, and precautions reviewed with patient.

Treatment offered: Yes

Treatment started: Yes - 6 months Isoniazid

Health Maintenance and Proactive Care gaps reviewed and addressed.

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Automated Letter Generation

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Sending fax from the EHR

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

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Thank You!

Questions?