Improved Latent Tuberculosis Therapy Completion Rates in Refugee Patients through Use of a Clinical Pharmacist

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UPenn Refugee Clinic

- Opened on October 15, 2010
- Partnership between UPenn and IHH
- 489 refugees screened since inception
- 20 Internal Medicine residents, all Global Health or Primary Care track, two “refugee clinic firm chiefs”
- 4 attending physicians (3 GIM, 1 ID)
- 1 clinical pharmacist and pharmacy students
- Specialty clinics: Mental Health, Women’s Health, and LTBI
Creation of the LTBI Clinic

- While active TB is relatively uncommon, LTBI is very common, present in up to 40% of new arrivals (though this depends on pre-travel risk).
- By early 2012 clinic staff at PCPC had identified that although 31.9% of patients screened positive for LTBI, approximately 80% of those patients either did not initiate or did not complete treatment and were lost to follow-up.
- A quality improvement project was undertaken to improve these measures; a pharmacist-run LTBI clinic was initiated in March 2012.

PharmD LTBI Clinic

- Standardized treatment: Rifampin 10 mg/kg (max 600mg) x 4 months.

Responsibilities of the pharmacist:
- Review diagnosis of LTBI, emphasize the importance of adherence.
- Screen for signs/symptoms of active tuberculosis.
- Provide counseling on rifampin use; discuss benefits and risks of treatment.
- Identify potential barriers to adherence; establish a plan to ensure adherence.
- Counsel on HOW to refill a prescription.
- Screen for adverse drug reactions; evaluate and manage drug-drug interactions.
- Assess adherence via pill counts and refill dates.
- Ensure all vaccinations and labs are up to date.

LTBI Four Month Timeline

- All refugee patients have baseline chemistries drawn at their initial screening visit.
- Patients with (+) QF Gold are sent for chest X-ray screening.
- Patients with (-) CXR are sent to PharmD for scheduling.
- Scheduled for treatment in 1 to 2 weeks.
- One month follow-up in LTBI Clinic.
- Final 4 month follow-up in LTBI Clinic; Certificate of Completion provided.

All patients who complete 4 months of rifampin therapy are reported to the Philadelphia Refugee Health Coordinator at the Department of Health for tracking and statistical purposes.
Penn Refugee Clinic

Total Clinic Demographics since LTBI Clinic Initiation (N = 436)

Tuberculosis' Demographics (N = 135)

*Combined LTBI + Active

+QFGold Results per Geographic Area

Other: Afghanistan, Ukraine, Russia, Belarus, Tajikistan, Uzbekistan, El Salvador

LTBI Data 2012 – 2016

- Adherence rates and patient demographics were recorded between 8/1/12 and 5/1/16

121 patients diagnosed with LTBI

103 patients initiated LTBI therapy at Penn Center for Primary Care

85 patients completed LTBI therapy within appropriate time frame (54 at our clinic, 31 completed DOH)

5 patients completion unknown

13 patients started therapy < 4 to 9 months ago and are currently receiving treatment

6 (5.8%) Isoniazid

97 (94.2%) Rifampin
LTBI Data 2012 - 2016

- 85 out of 90 patients (94.4%) successfully completed LTBI therapy
- Another 15 are expected to complete successfully
- Of the 85 patients that completed therapy, 34 patients (40%) would NOT have been adherent without PharmD intervention
  - 17 patients (20%) had an interruption in therapy due to a misunderstanding, they either misunderstood their diagnosis or the importance of LTBI therapy, had misconceptions about rifampin, or took rifampin incorrectly
  - 12 patients (14.1%) had poor adherence or forgot to pick up refills and benefited from monthly PharmD follow-up and adherence checks
  - 12 patients (13.8%) experienced barriers obtaining rifampin from their pharmacy
  - 2 physician mistakes, forgot to provide refills so patient stopped taking it after 1 month
  - 1 had an issue with their insurance card and were unable to receive the medication
  - 4 patients experienced adverse drug reactions (INH: nausea, paresthesias; RIF: drug rash, nausea, dizziness)
  - 13 patients fell under 2 or more intervention categories

Interventions Per Geographic Region

Summary of Data

- Prior to the establishment of a pharmacist-run LTBI clinic, less than 20% of patients were completing treatment for LTBI; many patients were lost to follow-up
- Through the implementation of a pharmacist-run LTBI clinic, completion rates have more than tripled; 94% of patients have successfully completed therapy within the designated time frame
- At least 40% would not have been adherent without PharmD intervention
- 100% of patients who completed therapy were reported to the Philadelphia Department of Health for tracking and statistical purposes
- PharmD visits allowed for patients to complete required vaccination series
- A pharmacist-managed LTBI clinic has substantial impact on improving treatment rates, reducing the transmission of disease, and improving overall public health outcomes
Questions?

Future Questions Please Contact:
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