WORKING THROUGH LATENT TUBERCULOSIS INFECTION (LTBI) HIV-NEGATIVE ADULTS A DIAGNOSIS AND MANAGEMENT ALGORITHM FOR PRIMARY CARE PROVIDERS
Washtenaw County Health Department Tuberculosis (TB) Control Program March 21, 2019
Washtenaw County Health Department

OBJECTIVES

- \bullet Discuss how Washtenaw County uses this algorithm to address LTBI in the county.



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WASHTENAW COUNTY HEALTH DEPARTMENT TUBERCULOSIS (TB) CONTROL PROGRAM

SERVICES

- · Bi-monthly evening clinic
- 24 hour support
- Patients
 Local and regional health care providers
- Direct Observational Therapy (DOT)
 Traditional (in-person) DOT
 Video DOT

STAFF

- TB Physician Consultant:Dr. Robert Dickson(Dr. Dana Kissner: back-up)
- TB Nurses:
- TB Nurse Staff (part-time):
- Karen ManniKelicia C. Byrd

WASHTENAW COUNTY HEALTH DEPARTMENT **TUBERCULOSIS (TB) CONTROL PROGRAM**

Mission

- Legal responsibility for preventing and controlling TB in the community by:
 - Identifying and treating persons who have suspect/active TB and ensuring they complete appropriate therapy.
- Identifying and screening contacts of persons with TB to determine whether they have latent TB infection or active disease and providing appropriate treatment.
 Screening high-risk populations to detect persons with latent TB infection and providing appropriate treatment to prevent progression to disease.



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Washtenaw County Health Department

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IMPETUS FOR CREATING A LTBI PROTOCOL FOR PRIMARY CARE PROVIDERS IN WASHTENAW COUNTY Capacity Empowerment Partnership

TUBERCULOSIS CASE RATES

	2018	2017	2016	2015	2014
United States		2.8	2.9	3.0	2.9
Michigan	1.1	1.3	1.3	1.3	1.1
Washtenaw County	2.4	2.2	2.8	1.7	1.9
Wayne County	2.3	2.5	3.1	2.5	2.3
Oakland County	1.5	2.0	1.3	1.4	1.4
Macomb County	0.6	1.4	1.3	1.6	1.2

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SCOPE OF THE PROBLEM

LTBI Reactivation:

- Reactivation of LTBI is a significant source of TB disease.
- Exposure to *Mycobacterium tuberculosis*: 30% will develop LTBI
 Untreated: 5-10% will progress to active TB disease.
 •>80% TB cases (in U.S.) due to reactivated LTBI.



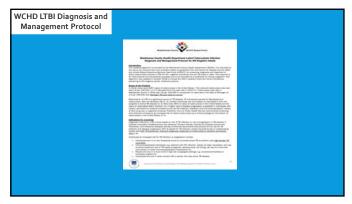
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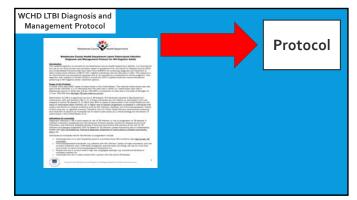
CRITICAL STRATEGY FOR ELIMINATION OF TB IN U.S.

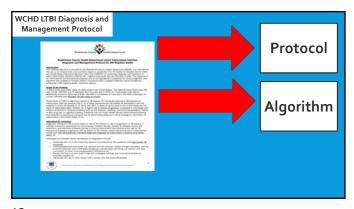
Screening and treatment of persons at high-risk:

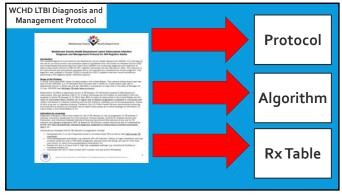
• Developing TB disease once infected with M. tuberculosis











RISK FACTORS FOR TB INFECTION OR PROGRESSION

- People who live in or have lived in high risk congregate settings (e.g. correctional facilities or homeless shelters or illicit drug use in group setting).
- · Healthcare workers and others who work in hospitals, nursing homes and other types of healthcare facilities .

- Immunosuppressed individuals including:
 HIV infection
 Hx organ transplant
 Treatment with immunosuppressive medications:
 ThF-alpha antagonist
 Steroids dose (10-15mg/ per day for more than one month)
 Other



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A HIGHER RATE OF DISEASE PROGRESSION FOR **INDIVIDUALS WITH:**

- Immunosuppression Diabetes Mellitus
- History of cigarette smoking History of illicit drug use



DIFFERENTIATING BETWEEN LTBI DISEASE & TB No symptoms or physical findings suggestive of TB disease. • TST or IGRA result usually positive, though may be negative, especially in newly infected or Chest radiograph is usually abnormal in pulmonary disease. However, may be normal in persons with advanced immunosuppression · Cannot spread TB bacteria to others. Should consider treatment for LTBI to prevent TB disease.

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DIAGNOSTIC TESTING TWO TESTING METHODS

- The Tuberculin Skin Test (TST)

- Measures the immune response to TB proteins in whole blood.
 There are 2 FDA approved and commercially available IGRAs:
 OuantiFERON®-TB Gold In-Tube test (OFT-GIT)
 T-SPOT®-TB test (T-Spot)

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- The IGRAs are often preferable to TST for adults with:
 - Low chance of returning for reading the test
 Past receipt of the BCG vaccine
- · IGRA testing does not cause the booster phenomenon that can occur with using TST

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YOU SHOULD KNOW: CAUSES OF FALSE-NEGATIVE TST

TST: some individuals may not react to the TST despite TB infection:

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TREATMENT OF LTBI: AN IMPORTANT PUBLIC HEALTH INTERVENTION

<u>Important:</u> LTBI treatment should be initiated <u>only</u> after TB disease has been ruled out?

There is a high risk of drug resistance and treatment failure if a patient with TB disease is treated with a single drug regimen.

Patients with suspected TB disease are managed by the local health department (LHD)

- LFTs normal: proceed with treatment regimen
 LFTs not normal: call the LHD for guidance



TREATMENT OF LTBI:

THE CDC RECOMMENDS SEVERAL REGIMEN OPTIONS FOR LTBITREATMENT

Note: Patients are more likely to complete shorter treatment regimens

- INH and Rifapentine (RPT) or 3HP: 3 months once weekly under Directly Observed Therapy (DOT) or self-administered therapy (SAT)
- Rifampin (RIF) for 4 months daily Isoniazid (INH) for 9 months daily (or twice weekly under DOT)

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TREATMENT OF LTBI:

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- Regimens commonly used by WCHD TB Clinic:

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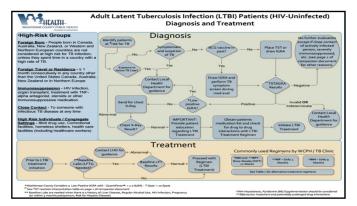
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WASHTENAW COUNTY HEALTH DEPARTMENT LTBI PROTOCOL FOR ADULT HIV-NEGATIVE ADULTS MONITORING: Determine appropriate level of monitoring Periodically assess the patient's progress: Ensurance of safe and effective treatment Components: Clinical monitoring a. signs of hepatitis b. adherence to the medication regimen c. symptoms of possible adverse drug reactions or interactions Laboratory testing Patient education



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		DOT must be used with					Report adverse events to CDC Division of Tuberrule Elimination by sending an email to:	

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CASE #1

- 66 yo male who immigrated to the U.S. from Indonesia 25 years ago presents as new patient for medical evaluation.
- He presents with complaint of cough and runny nose for 1 day. He denies fever, breathing problems, weight loss, or fatigue. He denies any sick contacts.
- His past medical history only includes heavy alcohol use in the past and high cholesterol for which he takes a statin cholesterol medication. Upon questioning, he reports receiving the BCG vaccine in the past.
- · His lung exam is normal
- · Is he a candidate for LTBI screen?



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CASE #2

- * 44 yo female who works as a nurse in a nursing home presents as new patient for medical evaluation.
- She reports that she hasn't been able to work for the last two week because of cough, fatigue, and low-grade fevers.
- She reports that several of her patients have been recently sick with respiratory illnesses, but one in particular was recently diagnosed with active TB.
- Her past medical history is negative. She is a previously healthy female. She is not on any medications.
- She has abnormal breath sounds on her lung exam.
- Is she a candidate for LTBI screen?



QUESTIONS?
WEND