REQUEST FOR TUBERCULOSIS MEDICATIONS PROCEDURE MANUAL

North Dakota Department of Health
2017
# Table of Contents

- Background of TB Program and Goals ................................................................................................... 3
- Goals for Reducing TB Incidence ........................................................................................................ 3
- Objectives on Case Management and Treatment ............................................................................. 3
- Objectives on Contact Investigations .................................................................................................. 3
- Who is eligible to receive TB medications? ............................................................................................ 4
- Treatment of Latent TB Infection (LTBI) .............................................................................................. 4
- Baseline Laboratory Testing ................................................................................................................ 5
- Treatment of TB Disease ..................................................................................................................... 5
- How to Treat Tuberculosis ....................................................................................................................... 6
- Latent TB Infection (LTBI) .................................................................................................................... 6
  - Groups Who Should Be Given High Priority for Latent TB Infection Treatment ......................... 6
  - Treatment Regimens ....................................................................................................................... 7
- Active TB Disease .................................................................................................................................. 9
  - Drug Susceptible TB Disease Treatment Regimens ...................................................................... 9
  - Continuation Phase of Treatment ................................................................................................. 10
  - Treatment Completion .................................................................................................................. 10
- Process to request TB medication(s) ................................................................................................... 12
- Requesting TB Medications .............................................................................................................. 12
  - e-Prescribing .................................................................................................................................. 12
- Maven Procedure ................................................................................................................................ 13
  - Searching and Creating Events ........................................................................................................ 13
- Creating a New Event ............................................................................................................................ 17
- Updating Patient Information ............................................................................................................. 21
- Use of Calendar Function ................................................................................................................ 23
- Adding scanned documents ................................................................................................................. 24
- Pharmacy Medication Request ............................................................................................................ 26
- Requesting LTBI Medication using the Wizard ................................................................................ 26
- Person Identifiers and Address Information ...................................................................................... 28
- Patient Evaluation ............................................................................................................................. 28
- Medication(s) Requested .................................................................................................................... 31
- Prescribing Provider .......................................................................................................................... 33
- Insurance Information ........................................................................................................................ 34
- Shipment Information .......................................................................................................................... 35
Background of TB Program and Goals
The North Dakota TB and Prevention Program is structured to eliminate TB in North Dakota.

Current strategies are effective in controlling TB, but not sufficient to promote progress toward the goal of eliminating TB in the United States. Current TB control priorities remain important to prevent a resurgence of TB, but expanded measures and new strategies are needed to achieve TB elimination. Targeted testing and treatment of latent TB infection in populations at high risk for TB are key strategies for lowering incidence and moving toward elimination.

Program Objectives and Performance Targets to eliminate TB in North Dakota include:

Goals for Reducing TB Incidence
- Reduce the incidence of TB disease
- Decrease the incidence of TB disease among US-born persons
- Decrease the incidence of TB disease among foreign-born persons
- Decrease incidence of TB disease among US-born non-Hispanic blacks or African Americans
- Decrease the incidence of TB disease among children younger than 5 years of age

Objectives on Case Management and Treatment
- Increase the proportion of TB patients who have a positive or negative HIV test result reported
- For TB Patients with positive acid-fast bacillus (AFB) sputum-smear results, increase the proportion who initiate treatment within 7 days of specimen collection
- For patients whose diagnosis is likely to be disease, increase the proportion who are started on the recommended initial 4-drug regimen
- For TB patients ages 12 years of age or older with a pleural or respiratory site of disease, increase the proportion who have a sputum culture result reported
- For TB patients with positive sputum culture results, increase the proportion who have documented conversion to negative results within 60 days of treatment initiation
- For patients with newly diagnosed TB disease for whom 12 months or less of treatment is indicated, increase the proportion who complete treatment within 12 months

Objectives on Contact Investigations
- For TB patients with positive AFB sputum-smear results, increase the proportion who have contacts elicited
- For contacts to sputum AFB smear-positive TB cases, increase the proportion who are examined for infection and disease
- For contacts to sputum AFB smear-positive cases diagnosed with latent TB infection, increase the proportion who start treatment
- For contacts to sputum AFB smear-positive TB cases who have started treatment for latent TB infection, increase the proportion who complete treatment
Who is eligible to receive TB medications?
The North Dakota TB Prevention and Control Program provides medication for all LTBI cases as well as all suspected/confirmed cases of TB disease for all individuals residing in North Dakota. Century Code 23-07.1-02 states medications for latent TB infection (LTBI) and active TB disease will be provided at no cost to the infected individual.

NDDoH contracts with public health to provide case management for all infected individuals during their treatment regimen.

Treatment of Latent TB Infection (LTBI)
Treatment should be initiated after the possibility of TB disease has been excluded. Treatment regimens use isoniazid (INH), rifampin (RIF) or isoniazid/rifapentine (3HP).

To receive medication(s) for LTBI the following items are needed:

1. Completed Request for Latent TB Infection Medications form
2. Radiology report of chest x-ray
3. e-Script sent to UND Center for Family Medicine – Bismarck

If the patient has no risk factors for TB, the chest x-ray must be dated within 6 months of the medication request.

If the patient has any of the following risk factors for TB, the chest x-ray must be dated within 3 months of the request for medications.

- Persons who have immigrated (within the last 5 years) from areas of the world with high rates of TB
- Children less than 5 years of age who have a positive TB test
- Groups with high rates of TB transmission, such as homeless persons, injection drug users, and persons with HIV infection
- Persons who work or reside with people who are at high risk for TB in facilities or institutions such as hospitals, homeless shelters, correctional facilities, nursing homes, and residential homes for those with HIV
- Substance abuse
- Silicosis
- Diabetes mellitus
- Severe kidney disease
- Low body weight (less than 10% of Ideal)
- Head and neck cancer
- Medical treatments such as corticosteroids or organ transplant
- HIV infection (the virus that causes AIDS)
- Close contacts of a person with infectious TB disease
- Person with changes to CXR consistent with prior TB
- Organ transplants or other immunosuppressed people
- Specialized treatment (i.e. meds that depress immune system) for rheumatoid arthritis or Crohn’s disease
Baseline Laboratory Testing

Baseline laboratory testing (measurements of serum AST, ALT, and bilirubin) are not routinely necessary.

Laboratory testing at the start of LTBI therapy is recommended for patients with any of the following factors:

- Liver disorders
- History of liver disease (e.g., hepatitis B or C, alcoholic hepatitis, or cirrhosis)
- Regular use of alcohol
- Risks for chronic liver disease
- HIV infection
- Pregnancy or the immediate postpartum period (i.e., within 3 months of delivery)

Baseline testing can be considered on an individual basis, especially for patients taking other medications for chronic medical conditions.

After baseline testing, routine periodic retesting is recommended for persons who had abnormal initial results and other persons at risk for hepatic disease.

At any time during treatment, whether or not baseline tests were done, laboratory testing is recommended for patients who have symptoms suggestive of hepatitis (e.g., fatigue, weakness, malaise, anorexia, nausea, vomiting, abdominal pain, pale stools, dark urine, chills) or who have jaundice. Patients should be instructed, at the start of treatment and at each monthly visit, to stop taking treatment and to seek medical attention immediately if symptoms of hepatitis develop and not to wait until a clinic visit to stop treatment.

AST or ALT elevations up to 5 times normal can be accepted if the patient is free of hepatitis symptoms, and up to 3 times normal if there are signs or symptoms of liver toxicity.

Fax all information local public health or state health department based on residence of infected person.

- Burleigh County (Bismarck-Burleigh Public Health) 701.221.6883
- Cass County (Fargo-Cass Public Health) 701.298.6926
- Grand Forks County (Grand Forks Public Health) 701.787.8145
- Ward County (First District Health Unit) 701.852.2103
- All other counties (NDDoH-TB Prevention and Control Program) 701.328.2499

Treatment of TB Disease

Treatment options for TB disease vary depending on many factors (HIV, drug resistance, pregnancy and in the treatment of children).

Please contact the TB Prevention and Control Program to discuss ordering medication for the treatment of suspected/confirmed TB disease. Phone: 701.328.2377 or 701.328.2499.

Complete either:

- Adult Patient Information Sheet for Treatment of Active Disease
- Child Patient Information Sheet for Treatment of Active Disease
How to Treat Tuberculosis

Latent TB Infection (LTBI)
People with latent TB infection do not have symptoms, and they cannot spread TB bacteria to others. However, if TB bacteria become active in the body and multiply, the person will go from having latent TB infection to being sick with TB disease. For this reason, people with latent TB infection are often prescribed treatment to prevent them from developing TB disease. Treatment of latent TB infection is essential for controlling and eliminating TB in the United States.

Treatment of latent TB infection should be initiated after the possibility of TB disease has been excluded.

Groups Who Should Be Given High Priority for Latent TB Infection Treatment

- HIV-infected persons
- Recent contacts of a TB case
- Persons with fibrotic changes on chest radiograph consistent with old TB
- Organ transplant recipients
- Persons who are immunosuppressed for other reasons (e.g., taking the equivalent of >15 mg/day of prednisone for 1 month or longer, taking TNF-α antagonists)

People with a positive IGRA result or a TST reaction of 10 or more millimeters

- Recent immigrants (< 5 years) from high-prevalence countries
- Injection drug users
- Residents and employees of high-risk congregate settings (e.g., correctional facilities, nursing homes, homeless shelters, hospitals, and other health care facilities)
- Mycobacteriology laboratory personnel
- Children under 4 years of age, or children and adolescents exposed to adults in high-risk categories

Persons with no known risk factors for TB may be considered for treatment of LTBI if they have either a positive IGRA result or if their reaction to the TST is 15 mm or larger. However, targeted TB testing programs should only be conducted among high-risk groups. All testing activities should be accompanied by a plan for follow-up care for persons with TB infection or disease.
### Treatment Regimens

The four treatment regimens for latent TB infection (LTBI) use isoniazid (INH), rifapentine (RPT), or rifampin (RIF). Treatment must be modified if the patient is a contact of an individual with drug-resistant TB disease. Consultation with a TB expert is advised if the known source of TB infection has drug-resistant TB.

<table>
<thead>
<tr>
<th>Drug(s)</th>
<th>Duration</th>
<th>Dose</th>
<th>Frequency</th>
<th>Total Doses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isoniazid (INH)</td>
<td>9 months</td>
<td>Adult: 5 mg/kg &lt;br&gt; Children: 10-20 mg/kg&lt;sup&gt;**&lt;/sup&gt; &lt;br&gt; Maximum dose: 300 mg</td>
<td>Daily</td>
<td>270</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Adult: 15 mg/kg &lt;br&gt; Children: 20-40 mg/kg&lt;sup&gt;**&lt;/sup&gt; &lt;br&gt; Maximum dose: 900 mg</td>
<td>Twice weekly†</td>
<td>76</td>
</tr>
<tr>
<td></td>
<td>6 months</td>
<td>Adult: 5 mg/kg &lt;br&gt; Children: Not recommended &lt;br&gt; Maximum dose: 300 mg</td>
<td>Daily</td>
<td>180</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Adult: 15 mg/kg &lt;br&gt; Children: Not recommended &lt;br&gt; Maximum dose: 900 mg</td>
<td>Twice weekly†</td>
<td>52</td>
</tr>
<tr>
<td>Isoniazid (INH) and Rifapentine (RPT)</td>
<td>3 months</td>
<td>Adults and Children 12 years of age and over: &lt;br&gt; <strong>INH</strong>: 15 mg/kg rounded up to the nearest 50 or 100 mg; 900 mg maximum &lt;br&gt; <strong>RPT</strong>: 10.0-14.0 kg 300 mg &lt;br&gt; 14.1-25.0 kg 450 mg &lt;br&gt; 25.1-32.0 kg 600 mg &lt;br&gt; 32.1-49.9 kg 750 mg; 500 mg maximum; 900 mg maximum</td>
<td>Once weekly†</td>
<td>12</td>
</tr>
<tr>
<td>Rifampin (RIF)</td>
<td>4 months</td>
<td>Adult: 10 mg/kg&lt;sup&gt;**&lt;/sup&gt; &lt;br&gt; Maximum dose: 600 mg</td>
<td>Daily</td>
<td>120</td>
</tr>
</tbody>
</table>

†Intermittent regimens must be provided via directly observed therapy (DOT), i.e., health care worker observes the ingestion of medication.

*Isoniazid (INH) is formulated as 100 mg and 300 mg tablets. Rifapentine (RPT) is formulated as 150 mg tablets in blister packs that should be kept sealed until usage.

** The American Academy of Pediatrics recommends an INH dosage of 10-15 mg/kg for the daily regimen and 20-30 mg/kg for the twice weekly regimen.

***In the United States, the recommended regimen for treatment of LTBI in children is a 9-month course of INH. For the treatment of LTBI in infants, children, and adolescents when INH could not be tolerated or the child has had contact with a case patient infected with an isoniazid-resistant but rifamycin-susceptible organism the American Academy of Pediatrics recommends 6 months of daily rifampin (RIF) (180 doses) at a dosage of 10-20 mg/kg.
Active TB Disease

When TB bacteria become active (multiplying in the body) and the immune system can’t stop the bacteria from growing, this is called TB disease. TB disease will make a person sick. People with TB disease may spread the bacteria to people with whom they spend many hours.

It is very important that people who have TB disease are treated, finish the medicine, and take the drugs exactly as prescribed. If they stop taking the drugs too soon, they can become sick again; if they do not take the drugs correctly, the TB bacteria that are still alive may become resistant to those drugs. TB that is resistant to drugs is harder and more expensive to treat.

TB disease can be treated by taking several drugs for 6 to 9 months. There are 10 drugs currently approved by the U.S. Food and Drug Administration (FDA) for treating TB. Of the approved drugs, the first-line anti-TB agents that form the core of treatment regimens are:

- Isoniazid (INH)
- Rifampin (RIF)
- Ethambutol (EMB)
- Pyrazinamide (PZA)

### Drug Susceptible TB Disease Treatment Regimens

<table>
<thead>
<tr>
<th>Regimen</th>
<th>INTENSIVE PHASE</th>
<th>CONTINUATION PHASE</th>
<th>Comments*</th>
<th>Regimen Effectiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>INH, RIF, PZA, EMB</td>
<td>7 days/week for 56 doses (8 weeks) or 5 days/week for 40 doses (8 weeks)</td>
<td>INH, RIF, PZA, EMB</td>
<td>7 days/week for 126 doses (18 weeks) or 5 days/week for 90 doses (18 weeks)</td>
</tr>
<tr>
<td>2</td>
<td>INH, RIF, PZA, EMB</td>
<td>7 days/week for 56 doses (8 weeks) or 5 days/week for 40 doses (8 weeks)</td>
<td>INH, RIF</td>
<td>3 times weekly for 54 doses (18 weeks)</td>
</tr>
<tr>
<td>3</td>
<td>INH, RIF, PZA, EMB</td>
<td>3 times weekly for 24 doses (8 weeks)</td>
<td>INH, RIF</td>
<td>3 times weekly for 54 doses (18 weeks)</td>
</tr>
<tr>
<td>4</td>
<td>INH, RIF, PZA, EMB</td>
<td>7 days/week for 14 doses then twice weekly for 12 doses*</td>
<td>INH, RIF</td>
<td>Twice weekly for 36 doses (18 weeks)</td>
</tr>
</tbody>
</table>
Continuation Phase of Treatment

The continuation phase of treatment is given for either 4 or 7 months. The 4-month continuation phase should be used in most patients. The 7-month continuation phase is recommended only for the following groups:

- Patients with cavitary pulmonary TB caused by drug-susceptible organisms and whose sputum culture obtained at the time of completion of 2 months of treatment is positive;
- Patients whose intensive phase of treatment did not include PZA;
- Patients with HIV who are not receiving antiretroviral treatment (ART) during TB treatment; and
- Patients being treated with once weekly INH and rifapentine and whose sputum culture obtained at the time of completion of the intensive phase is positive.

Treatment Completion

Treatment completion is determined by the number of doses ingested over a given period of time.
TABLE 2. Drug regimens for culture-positive pulmonary tuberculosis caused by drug-susceptible organisms

<table>
<thead>
<tr>
<th>Regimen</th>
<th>Drugs</th>
<th>Interval and doses¹ (minimal duration)</th>
<th>Regimen</th>
<th>Drugs</th>
<th>Interval and doses¹ (minimal duration)</th>
<th>Range of total doses (minimal duration)</th>
<th>Rating* (evidence)²</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>INH</td>
<td>Seven days per week for 50 doses (60</td>
<td>1a</td>
<td>INH</td>
<td>Seven days per week for 120 doses (10</td>
<td>192-300 (20 wk)</td>
<td>B (I)</td>
</tr>
<tr>
<td></td>
<td>RIF</td>
<td>wk) or 5 doses for 40 doses (50</td>
<td></td>
<td>RIF</td>
<td>wk) or 5 doses for 60 doses (10</td>
<td>22-75 (20 wk)</td>
<td>B (I)</td>
</tr>
<tr>
<td></td>
<td>PZA</td>
<td>wk) or 5 doses for 10 doses (5)</td>
<td></td>
<td>RIF</td>
<td>wk) or 5 doses for 10 doses (4)</td>
<td>30-45 (20 wk)</td>
<td>B (I)</td>
</tr>
<tr>
<td></td>
<td>BMB</td>
<td>wk) or 5 doses for 5 doses (6)</td>
<td></td>
<td>RIF</td>
<td>wk) or 5 doses for 5 doses (6)</td>
<td>40-60 (20 wk)</td>
<td>B (I)</td>
</tr>
<tr>
<td>2</td>
<td>INH</td>
<td>Seven days per week for 14 doses</td>
<td>2a</td>
<td>INH</td>
<td>Twice weekly for 30 doses (6 wk)</td>
<td>26-50 (20 wk)</td>
<td>B (I)</td>
</tr>
<tr>
<td></td>
<td>RIF</td>
<td>(2 wk) or twice weekly for 12 doses</td>
<td></td>
<td>RIF</td>
<td>Twice weekly for 10 doses (10 wk)</td>
<td>40-60 (20 wk)</td>
<td>B (I)</td>
</tr>
<tr>
<td></td>
<td>PZA</td>
<td>(2 wk) or twice weekly for 10 doses</td>
<td></td>
<td>RIF</td>
<td>Twice weekly for 5 doses (15 wk)</td>
<td>40-60 (20 wk)</td>
<td>B (I)</td>
</tr>
<tr>
<td></td>
<td>BMB</td>
<td>(2 wk) or twice weekly for 6 doses</td>
<td></td>
<td>RIF</td>
<td>Twice weekly for 5 doses (15 wk)</td>
<td>40-60 (20 wk)</td>
<td>B (I)</td>
</tr>
<tr>
<td>3</td>
<td>INH</td>
<td>Three times weekly for 42 doses (9</td>
<td>3a</td>
<td>INH</td>
<td>Three times weekly for 54 doses (10</td>
<td>78 (28 wk)</td>
<td>B (I)</td>
</tr>
<tr>
<td></td>
<td>RIF</td>
<td>wk) or 5 doses for 40 doses (50</td>
<td></td>
<td>RIF</td>
<td>wk) or 5 doses for 40 doses (50</td>
<td>100 (28 wk)</td>
<td>B (I)</td>
</tr>
<tr>
<td></td>
<td>PZA</td>
<td>wk) or 5 doses for 10 doses (21)</td>
<td></td>
<td>RIF</td>
<td>wk) or 5 doses for 10 doses (21)</td>
<td>100 (28 wk)</td>
<td>B (I)</td>
</tr>
<tr>
<td></td>
<td>BMB</td>
<td>wk) or 5 doses for 5 doses (21)</td>
<td></td>
<td>RIF</td>
<td>wk) or 5 doses for 5 doses (21)</td>
<td>100 (28 wk)</td>
<td>B (I)</td>
</tr>
</tbody>
</table>

Definition of abbreviations: BMB = Ethambutol, INH = Isoniazid, PZA = Pyrazinamide, RIF = Rifampin, RFP = Rifapentine.

* Definitions of evidence ratings: A = preferred, B = acceptable alternative, C = offer when A and B cannot be given, E = should never be given.

† Definition of evidence ratings: 1 = randomized clinical trial, 2 = data from clinical trials that were not randomized or were conducted in other populations, 3 = expert opinion.

‡ When DOT is used, drugs may be given 5 days/week and the necessary number of doses adjusted accordingly. Although there are no studies that compare five with seven daily doses, extensive experience indicates this would be an effective practice.

§ Patients with cavitation on initial chest radiograph and positive cultures at completion of 2 months of therapy should receive a 7-month (31 week), either 21/7 doses (66L) or 62 doses (twice weekly) continuation phase.

<table>
<thead>
<tr>
<th>Regimen</th>
<th>Drugs</th>
<th>Interval and doses¹ (minimal duration)</th>
<th>Range of total doses (minimal duration)</th>
<th>Rating* (evidence)²</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>INH</td>
<td>Seven days per week for 50 doses (60</td>
<td>192-300 (20 wk)</td>
<td>B (I)</td>
</tr>
<tr>
<td></td>
<td>RIF</td>
<td>wk) or 5 doses for 40 doses (50</td>
<td></td>
<td>B (I)</td>
</tr>
<tr>
<td></td>
<td>PZA</td>
<td>wk) or 5 doses for 10 doses (5)</td>
<td></td>
<td>B (I)</td>
</tr>
<tr>
<td></td>
<td>BMB</td>
<td>wk) or 5 doses for 5 doses (6)</td>
<td></td>
<td>B (I)</td>
</tr>
<tr>
<td>2</td>
<td>INH</td>
<td>Seven days per week for 14 doses</td>
<td>26-50 (20 wk)</td>
<td>B (I)</td>
</tr>
<tr>
<td></td>
<td>RIF</td>
<td>(2 wk) or twice weekly for 12 doses</td>
<td></td>
<td>B (I)</td>
</tr>
<tr>
<td></td>
<td>PZA</td>
<td>(2 wk) or twice weekly for 10 doses</td>
<td></td>
<td>B (I)</td>
</tr>
<tr>
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<td>BMB</td>
<td>(2 wk) or twice weekly for 6 doses</td>
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<td>B (I)</td>
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<tr>
<td></td>
<td>PZA</td>
<td>wk) or 5 doses for 10 doses (21)</td>
<td></td>
<td>B (I)</td>
</tr>
<tr>
<td></td>
<td>BMB</td>
<td>wk) or 5 doses for 5 doses (21)</td>
<td></td>
<td>B (I)</td>
</tr>
</tbody>
</table>

Source: MMWR: Treatment of TB – CDC, ATS, IDSA, June 20.2003 / Volume 52/ No. RR-11

https://www.cdc.gov/mmwr/PDF/rr/rr5211.pdf
Process to request TB medication(s)

Requesting TB Medications

Medication request may be requested by:

- Faxing the Request for LTBI TB Medications or Request for Active TB Medications to the appropriate public health unit or NDDoH as specified on form
- Mailing Request for LTBI TB Medications or Request for Active TB Medications to the appropriate public health unit or NDDoH as specified on form, acceptable but will delay shipment.

After receiving the request for medications, local public health will contact the patient to set up an appointment to start medications.

Information documented on the request for medications will be entered into MAVEN by local public health or state health department designee. Case will then be assigned to the TB Prevention and Control Coordinator to review all information is documented and patient meets the criteria to receive medication(s) through the TB Pharmacy Program. Approval to dispense medication(s) will be sent to pharmacy to fill prescription through MAVEN. Prescription will be mailed to local public health unit within 3 days.

E-Prescribing

E-Prescribing is a prescriber's ability to electronically send an accurate, error-free and understandable prescription directly to a pharmacy from the point-of-care - is an important element in improving the quality of patient care. It is recommended that all providers submit the request for LTBI medication electronically to:

UND Center for Family Medicine Pharmacy – Bismarck.

If unable to submit an electronic request, a legible printed copy of the prescription may be used.

If unable to locate UND Center for Family Medicine Pharmacy – Bismarck as a choice, try searching by city. If still unable to locate pharmacy, contact your local information technology staff as they may need to add it as a choice.
Maven Procedure
Medications to treat tuberculosis infection (LTBI) or tuberculosis disease (TB) are requested using MAVEN; North Dakota Department of Health’s web-based disease surveillance and case management system.

Searching and Creating Events
Before entering a new event it is important to ALWAYS search for that event first to reduce duplicate cases. Searching is also used to retrieve existing events.

How to Perform an Event Search

1. **Click on the Search Event icon on the MAVEN toolbar**

The Search Event screen will appear:

2. **Enter search parameters** into at least 1 field; it is preferable to use two or more parameters to narrow your search down, the more search criteria provided, the fewer results will display.
To perform a search “wildcards” may be used. Examples of wildcards are:

- T* in the first name field will bring up people whose name begins with a “T”
- *not in the last name field will bring up people whose name ends with “not”
- *mit* will bring up any name that includes that string of letters such as Emmitt or Smith

Adding the date of birth will narrow down the search too.

3. Click Search
4. To open the case, double-click on the line containing the correct event or highlight the line and click on select.

Another way to open a case is to highlight the line and click select.

If this is not the correct person; to clear search, click on clear and enter new parameters in applicable boxes and search again.
If there are no matches a new case needs to be made.
Creating a New Event
To create a new event in MAVEN, complete the following steps:

Step 1: Click on Create Event Icon in the MAVEN tool bar

Or use the Create New button
The following screen will appear:
2. Use the drop down box to select the disease TB LTBI by either clicking on the down arrow or scrolling until you see TB LTBI or type the letter “T” until TB LTBI appears.
3. Enter the demographic information.

Create Event - Person Information

Event Information
- Event Date: 05/02/2017
- Disease: TB-LTBI

Add Person
- First Name: Tiberius
- Middle Name: Byron
- Last Name: Omnot
- Suffix: 
- Maiden/Other Name: 
- Gender: Male
- Social Security Number: 
- Race: White / Caucasian
- Birth Date: 01/01/1980
- Place of Birth (Country): United States
- Is the case Hispanic or Latino?: No

Contact Information
- Home Type: 
- Street: 123 Main Street
- City: Bismarck
- State: ND
- Zip Code: 58501
- County: Burleigh County
- Country: USA
- Home Phone: (111) 111-1111
- Mobile Phone: (222) 222-2222
- Work Phone: (333) 333-3333
- Email: 
- Contact Method: 

Save

Clear
4. Save to create a new event (person) in MAVEN.

At a minimum enter:

- Name
- Date of Birth
- Gender

Updating Patient Information
If you obtain additional information after creating the person in MAVEN you can update the information using the Person’s Tab.

Click on Edit Person

The following screen will appear:
Add or correct any information and again click on save to accept the changes.

After clicking save, you will return to the dashboard (home screen).
Use of Calendar Function

Dates can be entered by free texting the date; using a two-digit month, two-digit day and four-digit year. The "/" will automatically be added where appropriate.

Or click on the calendar icon to open the calendar.

Use the drop down boxes to select the appropriate month and year. Click on the date and the date will be added.
Adding scanned documents

A chest x-ray (CXR) report performed within the past three months must be added to the patient’s case. NDDoH TB Controller will review all CXR reports to determine eligibility to receive LTBI medications. If any abnormal findings are present, documentation must be provided to rule out active infection.

Scan the CXR report and save it as a .pdf file.

Save the file either to your desktop or to a file you have created to save CXR reports.

To upload the report, in Maven go to the home page for the event created.

Click on add and the following screen will open:

Click on the Browse button, add the file from the saved location of the CXR.
In the description box, document CXR.

Click save.

The following screen will appear:

Click on dashboard to return to the home screen.

NDDoH TB Controller will review the CXR report.

Status will change from Requires Review to:

- Acceptable – eligible to LTBI medication
- Rejected – additional documentation will be requested prior to approval for LTBI medication
Pharmacy Medication Request

Requesting LTBI Medication using the Wizard

All of the information required to request LTBI medication can be found using the Pharmacy Medication Request Wizard. Locate the Pharmacy Medication Request using the Wizard drop down.
Click on View Wizard to open the page to request medication.

The page should look like this:
Person Identifiers and Address Information
Enter information into the wizard. Based on information added when creating the case, some information will pre-populate.

Patient Evaluation

A completed form will look similar to this.

Either a positive TST or positive IGRA must be documented. It is acceptable to document both a TST and IGRA result. All other fields are mandatory and must be completed.
If you enter yes to TST done, the following questions will appear:

- **TST Plant Date** – enter date test performed
- **TST Read Date** – enter date test read (48-72 hours after test performed)
- **Induration in mm** – measure only induration, no redness
- **Tuberculin skin test result** – based on reason for testing will determine if test is
  - Positive
  - Negative
- **TST done overseas** – enter no
- **Post-Exposure test**
  - Yes, if a contact to an active case
  - No, if not a contact to an active case
- **Diagnostic test** – should be yes, medications will not be dispensed if no entered.
If you enter yes to was an IGRA done, the following questions will appear.

- Which test was used
  - QFT
  - T-Spot
  - Unknown
- Results of test
  - Positive
  - Negative
  - Indeterminate
  - Borderline
- Date collected – enter date specimen was collected.

Chest X-Ray results

- Refused x-ray
  - No – this is the appropriate response
  - Yes – no CXR performed
- Initial chest x-ray results
  - Normal
  - Abnormal (consistent with TB)
  - Abnormal (not consistent with TB)
  - Not Done
  - Unknown
- Date of chest x-ray – date CXR was performed

Has clinician ruled out active disease

- Yes – if abnormal CXR consistent with TB, AFB smear and culture should be done prior to starting on LTBI medications.
- No – if a CXR is not done or unknown

Does the patient have any drug allergies?

- Enter all allergies in free text box

Does the patient have any medical conditions?

- Enter all medical conditions in free text box

Is the patient currently taking any other prescription or non-prescription medications?

- Enter all prescription and non-prescription medications in free text box
### Medication(s) Requested

<table>
<thead>
<tr>
<th>Request date: 02/01/2017</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Did patient start treatment?</td>
<td>✔️</td>
</tr>
<tr>
<td>Did patient complete treatment?</td>
<td>✔️</td>
</tr>
<tr>
<td>Closure code</td>
<td>✔️</td>
</tr>
</tbody>
</table>

**Request date** – enter date you are requesting LTBI medication

**Did patient start treatment?** Select yes to open the following questions. Patient weight must be documented for the pharmacist to fill the prescription.

**Select medication** – LTBI medications approved are isoniazid, rifampin and rifapentine.

**Treatment start date** is the date the first dose is taken.

**Treatment stop date** is the date the last dose is taken. Reassign case to NDDoH TB Controller.

**Did Patient complete treatment?** – will be completed by NDDoH TB Controller

**Closure code** - will be completed by NDDoH TB Controller

### Directly Observed Preventive Therapy

<table>
<thead>
<tr>
<th>Is medication being delivered DOPT?</th>
<th>✔️</th>
</tr>
</thead>
<tbody>
<tr>
<td>How often?</td>
<td>Two times a week</td>
</tr>
<tr>
<td>Total number of doses:</td>
<td></td>
</tr>
<tr>
<td>Dates:</td>
<td>02/10/2017</td>
</tr>
<tr>
<td>Dates:</td>
<td>02/15/2017</td>
</tr>
</tbody>
</table>

If medication is being given DOPT, responding yes will open additional questions.
Indicate how often DOPT is being done

- Daily
- Three times a week
- Twice a week
- Once a week
- Other

Document the date medication was given, click on add new for each additional date medication was given. When treatment is completed document the number of doses given and reassign case to NDDoH TB Controller.
Enter available information. At a minimum the ordering provider must be documented.
Insurance Information

Patient’s insurance status – from drop down select

- Insured
- Uninsured
- Unknown

If insured is selected the following field will appear:

Enter the appropriate insurance carrier.

TAB – the additional insurance information will appear.

Information can be added one of two ways by either placing the cursor in the appropriate box or by tabbing to the next field.

All fields must be answered. The policy start date can be added by free texting or my clicking on the calendar to open it up.
All prescription must be sent electronically to the UND Center for Family Medicine Pharmacy – Bismarck.

If unable to electronically send the prescription, include a legible copy of the prescription with the request for LTBI medication form.

Complete remaining information for your facility. This is the information the pharmacy will use to mail you the medication requested.

<table>
<thead>
<tr>
<th>Facility</th>
<th>Local Public Health</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>Nancy Nurse</td>
</tr>
<tr>
<td>Address 1</td>
<td>111 Koch Way</td>
</tr>
<tr>
<td>Address 2</td>
<td></td>
</tr>
<tr>
<td>City</td>
<td>Bismarck</td>
</tr>
<tr>
<td>State</td>
<td>ND</td>
</tr>
<tr>
<td>Zip code</td>
<td>58501</td>
</tr>
<tr>
<td>Phone (TB contact)</td>
<td>(701) 223-1112</td>
</tr>
<tr>
<td>Phone (facility main)</td>
<td>(701) 223-1111</td>
</tr>
<tr>
<td>Fax (facility main)</td>
<td>(701) 223-1113</td>
</tr>
</tbody>
</table>
Sharing an Event
To allow the contract pharmacy to document monthly shipments permission must be granted by sharing an event.

Event sharing allows a user to grant temporary permissions to another user (or another group) to view an event that ordinarily wouldn’t be accessible by that user (or group). Share an event, the user must be viewing the event within the Maven dashboard. Follow the steps below to share an event:

1) From Maven Dashboard (while viewing the event to be shared), click the Share Event button.

2) A screen displays all of the information about existing shares with the event. If there are no existing shares, the screen will display a blank table at the top of the window.

3) Select the type of permissions being allocated to the new user.

Share Event Fields

- **Event ID**  The Event ID of the event.
- **Person**  The name of the participant in the specific event being shared.
- **Disease**  The disease or product specified in the event being shared.
- **Type**  The type of permissions give to the user
  - View Only Limited  – User may view a limited amount of question data in the shared event, but may not make any updates to that event.
  - View Only Full  – User may view all question data in the shared event, but may not make any updates to it.
  - View and Update Limited  – User sees a limited amount of question data in the shared event, and may make updates to those questions.
  - View and Update Full  – User may view and edit all questions in the shared event.
- **User**  A dropdown list of users within Maven System
- **User Group**  A dropdown list of user groups within Maven System
- **Allow Delegation**  Specifies if the user or group with whom this event is being shared will have the ability to share it with another user or group.
4) Using the dropdown, choose the User or User Group with whom the event will be shared. Note that when creating a share, it is only possible to select either a user or a group, but no both at once. To share with an additional user or group, follow the steps to create another share.

5) Check the Allow Delegation box to allow the user or group with whom the event is being shared to also be able to share the event with other users or groups (if desired).

6) Click Save. The Shared Events table is now populated with the information from this share.

---

Unshare an Event

There will be occasions where it is only necessary to share an event with another group for a limited period of time. When the required amount of time has passed, it is advisable to unshare the event.

1) Open the event to be Unshared in the Maven Dashboard.

2) Click the Share Event button.

3) In the Action column, click the link that says Unshare next to the share that needs to be removed. A warning will pop up on your screen verifying that you want to stop sharing the event.

4) Click OK to confirm that the event should no longer be shared.
Reassign Case to NDDoH TB Controller

On the home page, click on the Event Data tab and select the Administrative Question Package to reassign the case to the NDDoH TB Controller.
The following screen will appear:

Use the drop-down box to reassign the case to the NDDoH TB Controller.

Click save.

The request for medications will go into the NDDoH TB Controllers workflow for review.

**Approval**

The TB Controller will review all information.

- Approved – Pharmacy is notified to fill prescription
- Rejected – Additional information will be requested and assigned by to the case owner.

Medication approval will be done by the NDDoH TB Controller after final review.

By clicking on yes, the request for medications will be placed in the pharmacy workflow. This alerts the pharmacist there is a prescription that needs to be filled.
Pharmacy Fulfillment

The pharmacist will review the TB Medication Request Workflow daily for any new prescriptions.

After filling the prescriptions and shipping the medications the pharmacist will document the date the medication(s) were shipped.

Click on Add New to indicate date refills were shipped.

Prescriptions will be filled and mailed within 3 days of notification.
During winter months, medication will be shipped Monday through Wednesday.
The Pharmacist will document the date medications are shipped and reassign the case back to the TB Controller.
To Reassign the case:
Go to the home page; double-click on Administrative Package.

The following screen will appear:

Reassign the case to the TB Controller and click Save.
Prescription that are not e-prescribed will be scanned in to the case in Maven for the Pharmacists review.

To view the prescription, go to the home page.

Under attachment, click on View

The following screen will open.

There may be multiple selections for review; prescription, CXR, physician notes – click on View to open the document for review.
Receiving Medication(s)
When medications are received enter the date the medication, the medication prescribed, dose, route and frequency. Place a check mark to indicate how many months of medication has been dispensed.

<table>
<thead>
<tr>
<th>Medication(s) Requested</th>
</tr>
</thead>
<tbody>
<tr>
<td>Request date: 07/04/2017</td>
</tr>
<tr>
<td>Did patient start treatment? Yes</td>
</tr>
<tr>
<td>Patient weight: 120</td>
</tr>
<tr>
<td>Unit: Pounds</td>
</tr>
<tr>
<td>Medication: Rifampin, Active Ingredient: Rifampin</td>
</tr>
<tr>
<td>Dosage: 600</td>
</tr>
<tr>
<td>Route: PO</td>
</tr>
<tr>
<td>Frequency: 1x per day</td>
</tr>
<tr>
<td>Data medication dispensed: 07/04/2017</td>
</tr>
<tr>
<td>Months medication was dispensed:</td>
</tr>
<tr>
<td>Length of regimen (mos): 5</td>
</tr>
<tr>
<td>Mid Start Date: 07/04/2017</td>
</tr>
<tr>
<td>Treatment Regimen Start Date: 07/04/2017</td>
</tr>
<tr>
<td>Treatment Regimen Stop Date: 11/04/2017</td>
</tr>
<tr>
<td>Comments:</td>
</tr>
</tbody>
</table>

Did patient complete treatment? Yes
Data treatment completed: 11/04/2017

Document Med Stop Date with the date treatment is completed.
Assign case to NDDoH for Review
Reassign case to NDDoH TB Controller for final review.
In the Event Data tab, double click on the Administrative question.

The following screen will appear:

![Event Data Screen](image)

To assign the case to the TB Controller, select from drop down box the name of the TB Controller and save the entry.

![Case Assignment Screen](image)

**Closure of Case**

The TB Controller will review for treatment disposition, assign a closure code and close the case.
Workflows

Workflow Queues are the mechanism within Maven to identify events and tasks that require user attention. Maven internally monitors new and updated events and tasks to determine what actions are required. Events satisfying monitored conditions are placed in queues, which are then made available to users with permissions to carry out those actions.

To see cases assigned to you, on the home screen click on the gear icon.
The screen will display all workflows, scroll to locate the TB workflow and click on the workflow assigned to you.

All cases that require attention will be displayed. Click on the case to open and complete assignment.