‘Tis the season for peace and hope...

The Kentucky TB Program faced many challenges throughout 2019: from turnovers in program staff and national TB testing serum shortages, to our recent office relocation due to flooding in the Public Health Services building. However, with every cloud we have found a silver lining. As public health servants we are trained to meet each adversity tenaciously. We have gained new staff with strong leadership skills and innovative ideas. The shortage of TB testing serum only emphasized the importance of TB testing, and our fortunate temporary work space has only enhanced cross-divisional program collaboration and sense of unity.

As each of us look towards the beginning of a new decade, let’s take time to reflect upon the good work from people who paved the way in establishing public health standards. Their hard work and dedication has enabled us to respond to each new challenge with readiness and expertise. We thank you for your partnership and service.

Peace and joy in 2020,

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A Discussion on Updated Healthcare Worker Guidelines for Tuberculosis Testing

Over the past few months, we have received questions from many of you related to the release of the Centers for Disease Control and Prevention’s (CDC) and National Tuberculosis Controller’s Association (NTCA) updated guidelines for tuberculosis (TB) testing among healthcare workers (HCW)\(^1\). We would like to clarify our healthcare worker’s regulation and provide answers to some of our most frequently asked questions.

In 2016 our program collaborated with the CDC/NTCA workgroup and submitted Kentucky’s healthcare worker regulation for TB testing for review. Based on discussions and feedback from this workgroup, our regulation (\texttt{902 KAR 20:205}) was updated in 2016 to reflect these upcoming guidelines.

This spring, upon the release of the updated guidelines, we reviewed \texttt{902 KAR 20:205}. We have determined that there would be no changes to our existing regulation, as we had already made provisions for healthcare agencies to identify employees of highest risk for transmission of TB in Section 2 as follows:

- Section 2(4), “A TB infection control plan shall include a listing of the job series of healthcare workers or another standardized method to describe which healthcare workers shall be included in the facility TB screening program.”
- Section 2(5)(a-e) provides detailed guidance for healthcare settings in determining those employees at greatest risk.

Additionally, Sections 4 & 5 detail guidance for initial and/or annual screening (individual risk assessment with symptoms screen) and testing (TST or BAMT) of newly hired and/or established employees.

Since 2016, we are proud that our regulation and awareness campaign (i.e. implementation toolkit) have been shared nationally to serve as a model towards implementing the workgroup’s recommendations in other states across the country.

\textbf{Remember!}

When testing anyone for tuberculosis, a risk assessment should be conducted in addition to the test itself.
Frequently Asked Questions

Q: Is the TST interpretation for a HCW always 10mm?
A: No, their individual medical risk factor (i.e. HIV infection, diabetes, hepatitis, or an exposure to an active case of TB) may indicate an interpretation of 5mm.

Q: Can I declare my facility a ‘low risk facility’ and only test on hire and exposure?
A: No — in Kentucky, no facility can declare themselves low risk and only test on hire and exposure. All healthcare facilities have to test new hires with a two-step TST or one BAMT along with a risk assessment; then follow any high-risk HCW’s annually with a TST or BAMT and a risk assessment.

- Examples of those to included in the high-risk group are referenced in the 2005 CDC guidelines\(^2\), which include, but are not limited to intensive care units, emergency rooms, bronchoscopy suites, respiratory staff, and some lab and radiology staff, among others. Only those who provide direct care to patients. Staff in housekeeping, engineering, data transcription, insurance and other ancillary areas do not need annual testing.

Q: Are all healthcare workers exempt from annual TB testing?
A: No — refer to 902 KAR 20:205. Sections 2 provides for guidance on identification of those who should be included in your facility TB screening program, while Section 5 details the annual requirement for TB screening and testing for those individuals identified.

If you, or any healthcare facility in your jurisdiction, has any addition questions, please to not hesitate to contact our program! Happy Holidays!

1. https://www.cdc.gov/mmwr/volumes/68/wr/mm6819a3.htm?s_cid=mm6819a3_w
2. https://www.cdc.gov/mmwr/preview/mmwrhtml/mm6819a3.htm
3. https://www.cdc.gov/mmwr/preview/mmwrhtml/mm6819a3.htm
As we move into the year 2020, the Kentucky TB Program will begin a new five-year Cooperative Agreement (CoAg) cycle. This means it is time to review the progress made on our Program Evaluation Plan (PEP) and evaluate for a new plan during the next five years (2020-2025).

Currently, our PEP focuses on evaluating completion of latent TB infection (LTBI) treatment among contacts to active TB cases. While it is important for all cases of LTBI to complete treatment, those we find as the result of a contact investigation are a top priority because the highest risk of conversion to active TB occurs within the first two years after infection.

This area was selected as our PEP focus because Kentucky has historically not met the corresponding National Tuberculosis Indicators Project (NTIP) indicator. This indicator – proportion of contacts completing LTBI treatment – has a 2020 National Target of 81% and a 2020 Kentucky-specific Target of 80%.* During the previous grant cycle (2010-2014), Kentucky had an average of 69.2% of contacts completing their LTBI treatment (range 65%-74%) – all below the national and Kentucky-specific targets of 81% and 80%, respectively (Figure 1). The most common reasons why LTBI treatment is not completed include patients being lost to follow-up, patient chose to stop medications, provider chose to stop medication, and adverse effect to medication.

In order to address this completion deficit, our PEP decided to focus on three strategies to increase the proportion of contacts completing LTBI treatment.

1. Encouraging short-term LTBI therapy (i.e. 12 week 3HP, or 4 week rifampin).
2. Utilization of incentives and enablers, when appropriate.
3. Promoting the PEP through educational presentations and program correspondence to make local programs aware of these efforts.

Through the Aggregate Report for Program Evaluation (ARPE), we are able to monitor Kentucky’s progress toward increasing the proportion of contacts completing LTBI treatment and progress toward meeting the NTIP targets.

Upon compiling and reviewing ARPE data, we are excited to share the significant improvements made within our PEP. From 2015-2017 the proportion of contacts completing LTBI treatment increased from 54% to 74% with preliminary data from the 2018 ARPE show a current completion rate of 57%. The 2018 ARPE includes many individuals who were still on treatment from contact investigations completed later in the year; while the final 2018 ARPE will not be completed until March 2020, the preliminary data suggests that the proportion of contacts completing LTBI treatment could be as high as 87%.

While Kentucky is currently below the national and state-specific NTIP targets, the significant increase observed in the proportion of contacts completing LTBI therapy is considered a success. Utilizing the strategies mentioned previously, we expect to see the proportion of contacts completing LTBI treatment continue to increase. ARPE data will continue to be evaluated in order to monitor Kentucky’s progress towards meeting these NTIP targets.
The success of this PEP is due to the dedication of our local health departments and their TB coordinators and nursing staff. Credit goes to them on their efforts on educating contacts on the importance of initiating and completing LTBI treatment. Additionally, short-course LTBI treatment regimens and the utilization of incentives and enablers has allowed many of these individuals to complete LTBI treatment when they might have been unable, or unwilling, to do so otherwise.

Due to the success seen in this PEP, we have decided to continue to informally monitor our progress towards increasing the proportion of contacts completing LTBI treatment and develop a new PEP beginning in 2020. Stay tuned to a future edition of *The DOT* to learn more.

* The NTIP targets serve as a goal to reach by states by the year 2020. National targets are set by the Centers for Disease Control and Prevention, while state-specific targets are set by the states themselves—this allows the state to take to evaluate data and procedures to set more accurate, attainable goals for themselves.

Local Health Department Year-End TB Reporting

With 2019 coming to a close, it can only mean one thing—it is time for local health departments (LHDs) to submit their TB data and reports! An official memorandum (pictured below) was sent to all Local TB Coordinators on December 9, 2019 containing instructions on how to submit all data and reports due to the Kentucky TB Program.

We wanted to take an opportunity to review these items and their due dates:

1. **Complete Report of Verified Case of Tuberculosis (RVCT) for all confirmed cases of TB**
   - All confirmed cases of TB must have a completed RVCT in the NEDSS based-system. Please be sure all variables have been entered with no “unknown” selections made.

2. **Report any outstanding “suspected” cases of TB**
   - Please report any “suspected” cases of TB from your local health department to the Kentucky TB program—please be sure to report those via phone and enter the patient information into NEDSS.

3. **Submit any outstanding latent TB infection (LTBI) reporting forms (TB-1 form)**
   - Please submit any outstanding TB-1 forms for any cases of LTBI treatment by your local health department. Please also be sure to re-submit the completed form once these cases have completed treatment.

All the data requirements detailed above are due by close of business on

**January 15, 2020**

Please do not hesitate to contact us if you have any questions or need any assistance completing these data reporting requirements. Please feel free to reach out to Charlie Rhea, TB Epidemiologist for assistance.
On June 21, 2019, the Centers for Disease Control and Prevention (CDC) released a Morbidity and Mortality Weekly Report (MMWR) detailing a nationwide shortage of tuberculin skin testing serum Aplisol.

At this time, our program has not received any reports of shortages in Kentucky’s largest healthcare facilities.

If agencies are impacted by the shortage, CDC recommends the following:

- Substitute interferon-gamma release assay (IGRA) blood tests for tuberculin skin tests (TSTs); both types are used to detect *Mycobacterium tuberculosis* infection, however the criteria for test interpretation of IGRA blood tests are different from those of TSTs.

- As similar results have been observed with Tubersol (tuberculin PDD, Mantoux; Sanofi Pasteur), another FDA-approved PPD tuberculosis antigen, it may be used as a substitute for skin testing.

- Prioritize allocations of TSTs, in consultation with state and local public health authorities. The CDC recommends only testing those who are at risk of TB (i.e., recent contacts exposed to persons with TB disease; born in or frequently travel to countries where TB is prevalent; individuals living in large group settings [i.e., homeless shelters, correctional facilities], immunocompromised individuals, children [especially those <5 years old] if they are in one of the risk groups).

- In settings where the likelihood of TB exposure is low, deferment of routine serial testing should be considered; annual testing of healthcare personnel is not recommended unless there is a known exposure or ongoing transmission. (See updated healthcare worker guidelines—pages 2-3)

Click here to read the CDC MMWR Nationwide Shortage of Tuberculin Skin Test Antigens: CDC Recommendations for Patient Care and Public Health Practice.
Changes Coming to Shipping Sputum Specimens to the State Lab

Say a fond farewell to the cans! Beginning in 2020, the Division of Laboratory Services (DLS) will begin using a new collection kit for sputum specimens. We will no longer be using the aluminum and outer cardboard cans with the blue inner tube. The new packaging will consist of a 50mL tube that is 95kPA pressure rated with orange cap, inner bag, and a small outer cardboard box. The outer boxes will still have the usual bright orange label for delivery by the United States Postal Service (USPS). Specimens may also be shipped by FedEx, with boxes placed in a UN3373 Pak bag (see infographic on page 9). In addition, if you are shipping a specimen to DLS for the rapid GeneXpert test, we are asking all submitters to please use the DLS FedEx account (see more information below) or a courier. We would like to have these specimens as quickly as possible.

We are continuing to provide a DLS funded FedEx account to alleviate the cost of shipping expenses. To gain access to the DLS FedEx account please contact Leigh Ann Bates at (502) 782-7703.

To request collection kits, visit the DLS website for the lab kits requisition form. You can also contact Leigh Ann Bates at (502) 782-7703.

New TB Laboratory Staff

We would like to introduce Melissa Peterson as the newest staff member of the Mycobacteriology (TB) Laboratory. Melissa is a graduate of Transylvania University and now lives in Versailles with her husband and four children. She joined the State Public Health Laboratory in 2007 and spent the first decade of her career with our Newborn Screening Lab. In 2018, she made the decision to switch to the Microbiology side and fill the recently vacated scientist position in the TB Lab. We are thrilled to have her, and she is enjoying the chance to learn new testing methods.

If you have any questions for the TB lab, please contact:

Katelyn Cox—(502) 782-7205
Melissa Peterson—(502) 782-7739
Rhonda Lucas—(502) 782-7731
Rachel Zinner —(502) 782-7754
Collection and Packaging of Sputum Specimens

Supplies Needed for Sputum Collection

1) Make sure two identifiers are on the specimen label.
2) Fill out Outreach form completely. Write the collection date on the Outreach form.

When You First Get Up; Before You Eat Anything!

1) Remove cap, and be careful not to place your mouth on the rim of the sputum tube.
2) Take three good, deep breaths.
3) Cough deeply enough to bring up secretions (NOT saliva) from your chest.
4) Spit secretions into tube up to 5 ml. (1 tsp.)
5) Place the cap straight and tight on the sputum tube (Do not place in a crooked position).

Packaging and Shipping

1) Place sputum tube into bag with absorbent and remove plastic strip to expose adhesive. Seal bag together by pressing adhesive to bag.
2) Place bag with sputum tube inside of UN3373 box.
3) Place Outreach form on top of specimen bag.
4) The specimen must be mailed to the state laboratory or taken to the local health department on the day of collection. Sputum that cannot be mailed or taken to the health department on the day of collection must be refrigerated (NOT frozen).

Shipping by US Postal Service - label is provided on box.
Shipping via FedEx - Place box(es) inside UN3373 Pak and place FedEx label on outer Pak.

Refer to 49CFR 173.199 for current regulations on packaging and shipping of Category B infectious substances.
Note: Orange cap primary container meets the 95kPa specification - Do not put blue cap tube from cannister kit in this kit.

Infographic of new collection kit for sputum specimen. This graphic details specimen collection, packaging, and shipping procedures.
Upcoming Trainings and Events

April 15-16, 2020
Spring TB 101 Orientation – Frankfort, KY
The Kentucky TB Program presents a 2-day course for new local health department personnel. Pre-requisites required. Please contact the Kentucky TB Program for more information.

May 26-29, 2020
NTCA Conference—Minneapolis, MN
The National Tuberculosis Controller’s Association will be hosting their National Conference this May in Minneapolis, Minnesota. With tracks for clinicians, nurses, and epidemiologists, it is the premier event to learn more about TB.

TBD
Kentucky’s TB Update for Physicians and Clinicians—TBA
Plan to join the Kentucky TB Program and SNTC as they present an update on TB for Kentucky’s physicians and clinicians.

October 14-15, 2020
Fall TB 101 Orientation – Frankfort, KY
The Kentucky TB Program presents a 2-day course for new local health department personnel. Pre-requisites required. Please contact the Kentucky TB Program for more information.

See the following pages for additional education opportunities and resources:
- TB Nurse Case Management: Working Though the Process
- Advanced Concepts in Pediatric TB
- Patient Fact Sheet Series—Translated TB Information
- A Clinician's Guide to the TB Laboratory
- Cultural Competency and Tuberculosis Control—Country Guides

For education and training questions, please contact

Heather Cox, Training and Outreach Coordinator
heather.cox@ky.gov or (502) 564-4276 ext. 4294
The TB Nurse Case Management course is available through the Southeastern National TB Controller’s Network. Click [here](#) to contact them for more information.
The Advance Pediatric TB course is available through the Southeastern National TB Controller’s Network. Click here to contact them for more information.
Translated TB patient fact sheets are now available through the Southeastern National TB Controller’s Network. Click here for their online webpage where you can find this product.
A Clinician’s Guide to the TB Laboratory

Click here for this resource on the Heartland National TB Center website.
Cultural Competency guides are now available through the Southeastern National TB Controller’s Network. Click [here](http://sntc.medicine.ufl.edu/Products.aspx) for their online webpage where you can find these products.
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Get the BUGS before...

You give the DRUGS!