



# TB TID-BITS

All links in this electronic newsletter are live.

Left click on the links to access the websites.

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## World TB Day



“World TB Day, falling on **March 24th** each year, is designed to build public awareness that tuberculosis today remains an epidemic in much of the world, causing the deaths of several million people each year, mostly in developing countries. It commemorates the day in 1882 when Dr Robert Koch

astounded the scientific community by announcing that he had discovered the cause of tuberculosis, the TB bacillus. At the time of Koch's announcement in Berlin, TB was raging through Europe and the Americas, causing the death of one out of every seven people. Koch's discovery opened the way towards diagnosing and curing TB.” - [http://www.stoptb.org/events/world\\_tb\\_day/](http://www.stoptb.org/events/world_tb_day/)

Visit the StopTB website to learn more.

Register with <http://www.worldtbdays.org> to share stories/inspiration/media with TB Controllers from across the world!

## New LTBI Regimen

Some of the best news to hit the TB world recently was the announcement of the 12-week INH/Rifapentine regimen to treat latent TB infection (LTBI). ISDH's original plan was to eventually provide this medication for all contacts to active cases as well as other high-risk individuals. Unfortunately, ISDH has had to change plans due to budgetary constraints (Rifapentine is much costlier than INH). However, we would still like for this regimen to be available, so if your LTBI patient is able to get the medication through insurance, and the health department is willing to provide DOT\*, Indiana's high-risk LTBI can have the convenience of shorter therapy.

NOTE: This regimen is new, so the FDA wants to know about any adverse reactions your patients experience. Adverse effects leading to hospital admission or death should be reported to local or state health departments for inclusion in this system (e-mail: [ltbidrugs@cdc.gov](mailto:ltbidrugs@cdc.gov)). Adverse events or medication errors also should be reported to FDA MedWatch at <http://www.fda.gov/medwatch>, by submitting a MedWatch Form 3500 (available at [http://www.fda.gov/medwatch/safety/FDA-3500\\_fillable.pdf](http://www.fda.gov/medwatch/safety/FDA-3500_fillable.pdf)) or by calling 1-800-FDA-1088

*And...while we're on the subject of medications, if you have any unopened bottles of TB meds (LTBI patient didn't complete therapy; TB suspect ruled out), please return them to Northwind Pharmaceuticals. Contact Ronda Fox (fax and email are best) and request a call tag (UPS label). She will need the following information: name of medications and # of bottles of each med (to calculate weight) and your fax # (to send you the UPS label).*

Telephone: 800-722-0772 (Leave a message if you get voice mail.)

Fax: 877-722-8999

Email: [ronda.fox@northwindpharmaceuticals.com](mailto:ronda.fox@northwindpharmaceuticals.com)

\*DOT=Directly Observed Therapy, means someone objective (not family or friend) watches the patient take each dose. The INH/Rifapentine regimen was studied using DOT. The CDC recommendations include the need for all 12 doses to be given DOT.

## TB Annual Report

The 2011 Annual Report of Tuberculosis in Indiana will be available in March 2012 at the ISDH TB Control webpage— <http://www.in.gov/isdh/19668.htm>. The Annual Report includes data and graphics regarding incidence rates, the number of state cases broken down by gender, age, race, county, place of birth, etc. If you receive inquiries about the annual report, please provide the preceding link. The report will be available on the TB webpage as soon as it is finalized. For those interested in Indiana's recent history of TB, the reports from 2000-2010 are also posted.

# New Protocol for Case/Cohort Review at ISDH

On the second Wednesday of each month, the TB Medical Consultant, Dr. Bradley Allen, meets with the ISDH TB Epidemiologist, four TB Nurse Consultants (Regional Nurses) and the Marion County Director of TB Control to offer medical guidance. We used to 1) present clinical cases to receive the ok to count, 2) present situations we had questions about and 3) present cases when it was time to close, i.e. they were finishing therapy. Plus, every four months, we looked at closed cases to gauge what went well and what needed work. Based on feedback from local health departments, we have combined Case Review and Cohort Review. We have also begun to ask for guidance from Dr. Allen at the four month mark of therapy instead of at the end. In this way, if there is a question or concern, there's still time to do something about it. (For example, if a patient is presented for closure, and it's discovered he/she actually needed nine months instead of six months of therapy, at that point it's not always easy to 1) find them or 2) convince them they need more medicine after we told them they didn't.) Plus, since we are now checking contact investigations earlier, we will know more quickly if you need help with an investigation or if there needs to be expanded testing.

Why are we sharing this? Well, you can expect that your regional nurse will be gathering information about your patients at the four month mark, and we hope it will be a more timely way to communicate ISDH recommendations to you. In fact, when we present one of your cases, we invite you to join in by conference call. You may have information to share that would otherwise be missed. Plus, you'll be able to talk directly to Dr. Allen and hear recommendations first hand. Thanks for all of your hard work!!!

**2011 TB Case Count**  
**100 TB Cases**

**6-HIV Test Not Offered**  
**6-HIV Status Unknown/Missing**

**ISDH 2011 TB Control Goal for Known HIV Status**

**68.5% of TB patients will know their HIV status**

**Goal Status for 2011**  
**71% of TB patients knew their HIV status**

## Pyrosequencing for Rapid Detection of Antibiotic Resistance

The ISDH TB Laboratory can now detect antibiotic resistance to *Mycobacterium tuberculosis* complex (MTBC) much more quickly, thanks to the new pyrosequencing assay. In contrast to the traditional antimicrobial susceptibility test, which has to be performed on pure culture and can take up to several weeks, the pyrosequencing assay can be performed directly on processed sputum specimens and can be completed within one week.

Due to the lack of an affordable, commercially available molecular test for antibiotic resistance, the ISDH TB Lab adopted the pyrosequencing method from another State Public Health Lab and implemented it in 2011. This method is used to detect mutations associated with resistance to two of the first line anti-tuberculosis (TB) drugs, Isoniazid (INH) and Rifampin (RIF). The assay can be performed on all PCR positive samples, including sputum specimens and TB isolates, provided that the sample has a high MTBC concentration. When present, these mutations almost always confer antibiotic resistance; however, if they are absent, the results do not completely rule out resistance caused by other mechanisms. The test is able to detect up to 90% of MTBC strains that are resistant to Rifampin and up to 65% of strains that are resistant to Isoniazid. As the INH and RIF assays are two separate lab tests, they will be reported as two separate line items on the lab report, and may possibly be reported at different times. Results are generally available within a week of sample receipt at the lab.

The main benefit to this new testing method is that it allows antibiotic resistant strains to be identified much more quickly, so patients are treated with the most appropriate antibiotics immediately. Since these two tests are not 100% sensitive, the phenotypic method (the traditional culture drug susceptibility test) will still be performed in parallel to confirm the pyrosequencing results. In addition, if a mutation is detected, the specimen/isolate will be immediately forwarded to the CDC for further molecular detection and susceptibility testing. For more information, please visit the CDC website's page on the molecular detection of drug resistance at: <http://www.cdc.gov/tb/topic/laboratory/guide.htm>

Recent rapid MDR detection by the ISDH Lab has exemplified the usefulness of the pyrosequencing method. The ISDH Lab staff is looking forward to continuing to contribute to the reduction and elimination of new TB cases in Indiana.

### **ISDH Lab Goal for TB Specimen Transit Time**

**75% of specimens will be received within two days of collection**

**Goal Status for 2011**  
**69% received within two days of collection**

### **LHDs that met ISDH Lab Goal for TB Specimen Transit Time**

**@100%:**  
Clinton, Huntington, Newton, Noble & Posey  
**@ 75% or above:**  
MCPHD TB General(97%), Warrick(96%), St. Joseph(94%), MCPHD TARC(91%), Vanderburgh(90%), Daviess (89%), Clark(83%), Grant (82%), Henry(79%) & MCPHD Foreign Born(75%)

## Important Reminders

1. Hoosier Uplands will now provide reimbursement of TB expenses (ex. incentives/enablers). The forms are available through your regional nurse. You will need to fill out a new W-9 and fax it to Hoosier Uplands to be reimbursed.
2. Almost all counties are now using LIMSNET to submit sputum specimens to the ISDH Lab! If you need help getting signed up, visit: <http://www.in.gov/isdh/24860.htm>
3. The new TB forms are available at <http://www.in.gov/isdh/19682.htm>. They are fillable PDFs. Please use these instead of the old forms.
4. Recording Tuberculin Skin Tests: Just a reminder that you need to record not just the day, but also the time when placing and reading TSTs. It's also highly recommended to record the wheal size of the injected PPD. In case your forms need to be updated, here's a link to CDC sample documentation forms: <http://www.cdc.gov/tb/publications/tbii/appendixD.htm>

# TB Spotlight

## Going the Extra Miles (literally) to Medicate TB Patients: Grant County

Amy Colgan is the TB control nurse for Grant County. We want to commend her for a particularly outstanding job in caring for TB patients this past year. She and others at Grant County Health Department have worked many weekends, as her patients required seven days per week directly observed therapy (DOT). For at least two months, trips were made to the home twice daily since the medication needed to be given every twelve hours. Amy and her health officer actually met with the County Commission, explained the situation and received approval for the health department's part-time nurses to work additional hours so that no doses would be missed. ISDH was also able to provide some funding to cover the DOT required outside health department hours.

Additionally, some of the medications needed to be compounded, so Amy called a local pharmacy and asked for help. The pharmacist compounded the meds and provided bottles with specially fitted lids and syringes which made measuring a breeze and decreased waste.

This county has truly gone the extra mile to see that TB patients receive the care needed to get well.

## Little Things have Big Effects: Warrick County

Warrick County Health Department (WCHD) has 3 nurses, Sharon James, Kathy Manning and Cecilia Scott, who together have 32 years of public health experience.

Sharon and Kathy manage the TB program. Together they teach the Basic Skin Test Classes at least two times a year, offering it to hospitals, medical offices and their own staff. TB Skin testing is done routinely for the fire department, their staff and to whomever comes to the health department requesting testing for work or school. All of this is continued even if a case should arrive, and they've rearranged their schedules to provide DOT when needed.

When medication regimens have required hearing or eye exams, monthly blood work or other services WCHD isn't able to provide, they've collaborated with neighboring counties. They try to make life easier for their clients, like making twice daily home visits when needed, and giving special rewards, such as ice cream to help a patient gain weight. These nurses work with each other, listen to their clients and try to help solve client problems when they can. Sometimes it is the little things that count: birthday cake, flowers from their garden or an ice cream from the Dairy Queen.

**These examples show that it doesn't hurt to ask, and you just might be able to provide much needed benefits for your patients! Let us know what you have done or what you're inspired to do from these stories!**

## An Example of Collaboration: Allen County

The Ft Wayne-Allen County (FWAC) Health Department is experiencing the reality of treating a patient with MDR TB. The staff in Allen County has risen to the challenges and has gained some valuable insights.

First, they took the initiative to set up a hotline manned with knowledgeable TB staff. People from the community were able to call and get any questions and/or concerns addressed. Callers were then asked to complete a quick survey to ensure that they had received good information, and that their fears and anxiety had been reduced or alleviated. These surveys gave the department a valuable gauge to the community's response to this MDR TB event.

It became apparent that in order to have success in the treatment of this patient, a multi-disciplinary team of healthcare workers was needed. FWAC reached out to ISDH staff, as well as doctors, nurses and laboratory professionals across the country to gain expertise in providing the best care possible to the patient. They continue to hold weekly teleconferences to ensure that the patient's plan of care is optimal.

During the contact investigation, FWAC collaborated with Ft Wayne Community School nurses in order to complete the testing in a timely and efficient manner.

## Forming Partnerships to Provide Discounted CXRs: Hendricks County

Several years ago, the TB Control nurse in Hendricks County started a conversation with a social worker at Hendricks Regional Hospital about chest x-rays. The dilemma was two-pronged. On one hand, the health department needed folks with a +TST/IGRA to get a chest x-ray; on the other hand, not all of these patients had insurance or the money to pay for the x-ray. The inability to pay led to 1) patients not getting the x-ray 2) patients being sent to collections when they didn't pay and 3) the hospital using resources to seek payment and perhaps having to eat the cost anyway. Tammy asked if there was a way to negotiate discounted pricing for uninsured patients being sent from the health department for chest x-rays to rule-out TB.

That initial conversation led to a conference call with the Hospital's Director of Financial Services and Chief Financial Officer. After Tammy explained the dilemma to them, the Chief Financial Officer asked on average, how many patients she was talking about. Because the numbers were relatively low, and the need was great, the Chief Financial Officer agreed to provide chest x-rays at no cost for uninsured patients sent from the health department. There is still a fee for the x-ray to be read by the radiologist, but the total out of pocket price is significantly lower.

ISDH TB MANUAL IS  
ONLINE!

<http://www.TB.in.gov>

**Indiana State  
Department of Health  
TB Control Program**

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Phone: 317-233-7434  
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<http://www.TB.in.gov>  
E-mail:  
[tbccontrol@isdh.in.gov](mailto:tbccontrol@isdh.in.gov)

**Medication Question?**  
Butler University TB  
Medication HOTLINE  
317-940-TBTB (8282)

**We love your feedback!**  
Comments, ideas and  
recommendations for  
future contributions can  
be sent to

**Helen Townsend**  
[htownsend@isdh.in.gov](mailto:htownsend@isdh.in.gov)

**Breaking News**—The term Total Drug Resistant TB has been seen in news outlets recently —“12 cases of Total Drug Resistant (TDR) tuberculosis have been reported in the city of Mumbai, India.” However, the World Health Organization (WHO) is calling these cases XDR-TB. Find out why: <http://www.who.int/tb/challenges/mdr/tdrfaqs/en/>

## Case Study: What Do You Think?

**TZ is a two-month old female with a 0mm TST and negative CXR. Her maternal grandfather was diagnosed with pulmonary TB when she was six weeks old. She and her mother live with her mother’s parents. TZ has lost weight in the last week and is increasingly lethargic. She was started on window prophylaxis with INH one week ago. (TZ’s mother has a 7mm TST and negative CXR. She was also started on INH one week ago.) Does TZ need further follow up to rule out TB disease? If so, why do you think so, and what follow up does she need?**

## Helpful Resources

— New Jersey Medical School Global Tuberculosis Institute (GTBI)-

<http://www.umdnj.edu/globaltb/home.htm>

The GTBI is the Regional Training and Medical Consultation Center (RTMCC) for the US northeast region (Indiana included) providing training, technical assistance and medical consultation for TB. The other three RTMCCs also have excellent information/resources: HEARTLand National TB Center—<http://www.heartlandntbc.org/>, Curry International Tuberculosis Center—<http://www.currytbccenter.ucsf.edu/>, Southeastern National Tuberculosis Center—<http://sntc.medicine.ufl.edu/>

— The Centers for Disease Control and Prevention (CDC), Division of Tuberculosis Elimination (DTBE), is pleased to announce the release of the interactive online course, *TB 101 for Health Care Workers*. The course was developed as a collaborative effort between DTBE and the four TB Regional Training and Medical Consultation Centers (RTMCCs).

*TB 101* is designed to educate health care workers about basic concepts related to TB prevention and control in the United States. The target audience for the course includes newly hired TB program staff and health care workers in areas related to TB (such as individuals who work in correctional facilities or HIV/AIDS clinics). There are six lessons in the course:

- Lesson 1: Introduction
- Lesson 2: TB Transmission and the Development of TB Disease
- Lesson 3: Testing for TB Infection
- Lesson 4: Diagnosis of TB Disease
- Lesson 5: Treatment of Latent TB Infection
- Lesson 6: Treatment of TB Disease

*TB 101* is available at [www.cdc.gov/tb/webcourses/tb101/default.htm](http://www.cdc.gov/tb/webcourses/tb101/default.htm).

Continuing education (CE) units for this course are offered free of charge for various professions. More information about the CE units is available at [www.cdc.gov/tb/education/CE/tb101.htm](http://www.cdc.gov/tb/education/CE/tb101.htm).

## Case Study: The Answer

Yes, she needs further follow up, even though her TST was 0mm and her CXR was normal. She is a close contact of an active pulmonary case; she’s <4y.o. Babies and children can get sick FAST and don’t always present the way adults do. Dr. will probably recommend: new CXR (which may not be normal anymore), gastric aspirate to collect sputum and initiation of 3-drug therapy (EMB usually omitted with children d/t potential damage to eyes).