



Philadelphia TB Newsletter

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WORLD TB DAY EDITION

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Tuberculosis Control Program
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The Philadelphia TB Newsletter is a quarterly publication that is intended to be a resource for clinicians, infection control personnel, and laboratories who diagnose, treat, and/or report tuberculosis (TB) in Philadelphia. It provides treatment updates and recommendations, reviews local and national TB epidemiology, and presents case studies.

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World TB Day 2010

Christina Dogbey, MPH
Epidemiologist, Tuberculosis Control Program

World TB Day is held annually on March 24th in order to raise awareness about the threat of TB and the measures needed to control the disease. World TB Day also commemorates the discovery of the TB bacillus by Dr. Robert Koch in March 1882. At that time, TB killed one in seven people in the United States and Europe. Although this disease can be cured and controlled, TB still remains the second leading cause of death among infectious diseases in the world.

According to the World Health Organization (WHO), the global healthcare community continues to make significant progress toward eliminating tuberculosis as a public health threat. Yet, despite these efforts, each year TB continues to cause nine million new cases worldwide. In 2008, there were an estimated 9.4 million new cases of TB, 11.1 million prevalent cases of TB, 1.3 million deaths from TB among HIV-

negative people and an additional 530,000 TB deaths among HIV-positive people (WHO, 2010). These alarming rates are partially attributed to the emergence of drug-resistant strains of *M. tuberculosis*. The theme for World TB Day 2010 is **“TB Elimination: Together We Can!”** This is part of the WHO’s **“I am stopping TB”** two year campaign initiated to encourage all individuals to do their part to combat TB.

To commemorate World TB Day 2010, the Tuberculosis Control Program is issuing the annual World TB Day edition of the Philadelphia TB Control Newsletter. Included in this issue are surveillance updates on TB in Philadelphia, information about requirements for reporting suspected and confirmed TB cases, and more.

For more information about World TB Day, please visit the World Health Organization at: www.worldtbday.org



Ten Killer Facts about TB

- Every 20 seconds, someone in the world dies of TB.
- Two billion people, or about one-third of the world's population, are infected with the bacteria that causes TB.
- About one out of every 10 of those people will develop active TB.-- If left untreated, a person sick with TB in their lungs can infect 10 to 15 people a year.
- TB is the leading infectious killer of people living with HIV/AIDs in the world.
- Some 9.2 million new cases of tuberculosis occurred worldwide in 2006, up nearly 40 percent from 1990, due mostly to population growth.
- India had the highest number of new absolute cases, followed by China, Indonesia, South Africa and Nigeria.
- Just 22 countries account for 80 percent of the worldwide cases of TB. The disease is most prevalent in developing countries.
- Multi drug-resistant TB, a form of TB that does not respond to the usual drugs and must be treated with special drugs, has proliferated in recent years and causes about 130,000 deaths annually.
- An even more extreme form of drug resistant TB, known as XDR-TB, is virtually incurable.

Source: World Health Organization

Tuberculosis Surveillance and Reporting

Daniel Dohony, MPH
CDC Senior Public Health Advisor

Surveillance-- the ongoing collection, analysis, interpretation and dissemination of health data-- is essential to the development and evaluation of public health programs. The objectives of tuberculosis (TB) surveillance are to:

- Ensure complete reporting of patients having confirmed or suspected TB disease
- Maintain the quality and completeness of information on persons with TB
- Facilitate the case management of patients with TB
- Ensure the prevention of ongoing transmission of TB via timely contact investigations.

Tuberculosis surveillance data are validated and verified using case review, data validation checks and the analysis of reporting practices of laboratories and clinical providers. These data are used to produce data reports and outcome indicators, answer research questions and evaluate interventions.

Effective surveillance is a combined effort through partnerships with local providers,

hospital laboratories, non-governmental organizations, social services agencies and other government entities. Surveillance activities that are facilitated by partner organizations include the medical evaluation of immigrants and refugees, coordination of care for TB patients who travel or permanently relocate, medication of pediatric patients by school nurses and the timely reporting of confirmed or suspected cases of TB.

As a reminder to our partners, the reporting of Confirmed or Suspected Tuberculosis by laboratories and clinical providers is mandated by both the State of Pennsylvania (35 P.S. § 521.1 et seq., 28 Pa. Code § 27.81 et seq.) and the City of Philadelphia (Philadelphia Health Code § 6-104 et seq) law. Reports must be received at the Health Department within 24 hours of diagnosis, specimen collection or start of anti-TB treatment. Providers can submit reports via telephone (215-685-6873), fax (215-685-6744), overnight mail or electronically via Pennsylvania's version of the National Electronic Disease Surveillance System (PA-NEDSS), available online at: <https://www.nedss.state.pa.us/nedss/>

New Pediatric TB Consult and Reporting Form

Irina Daskalaki, MD
Pediatric Consultant, Tuberculosis Control Program

Enclosed as an insert in this newsletter is the revised Report / Consultation Form For Pediatric Tuberculosis Cases. The form was revised to facilitate communication between providers about suspected or confirmed pediatric TB cases as well as children with latent TB infection (LTBI). The form includes data that we are necessary for the management of cases by

TB Control as well as data we are required to report to the Centers for Disease Control and Prevention. We ask that this form be used to report all suspected or confirmed cases of pediatric TB as well as pediatric LTBI. The form is also available for download on the Health Information Portal Website at <https://hip.phila.gov>.

Miliary Tuberculosis– Still a Diagnostic Challenge

David Schlossberg, MD
Medical Director, Tuberculosis Control Program

Miliary tuberculosis results from lymphohematogenous spread of *M tuberculosis*, classically following primary infection in children or complicating reactivation tuberculosis in the adult. Several features of miliary tuberculosis can delay or obscure diagnosis.

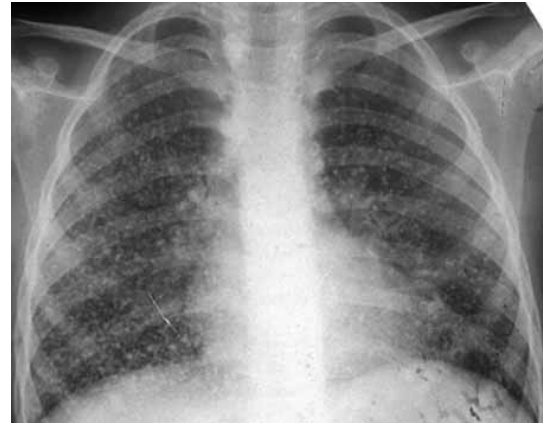
When the chest x-ray demonstrates a miliary pattern, bronchoscopy with BIOPSY should be done - for histology, stain and culture. Bronchoscopy without biopsy is not adequate, because it is the rule – not the exception – that sputum stain and culture are negative in miliary tuberculosis. Since the organisms in miliary tuberculosis spread through the bloodstream, there is no reason to have a positive sputum smear or culture unless there is concomitant pulmonary involvement. Since the organisms frequently enter the bloodstream from extra-pulmonary sites (e.g. lymph node, genitourinary tract or bone), sputum studies may remain negative; Thus, it can be a fatal error to rule out a tuberculous etiology of a miliary pattern simply because the sputum smear and culture are negative.

Compounding the diagnostic challenge, the chest x-ray may be normal, either early in the course of typical

miliary tuberculosis, or indefinitely in the cryptic form that is seen in elderly patients; the latter is often diagnosed only at autopsy.

Patients in whom miliary tuberculosis is a diagnostic possibility should have the chest x-ray repeated regularly, as the millet-seed-like lesions may appear late. Further, in a patient with fever of unknown origin or otherwise explained deterioration with a clear chest x-ray, evidence of disseminated tuberculosis may be found elsewhere, e.g. in the CSF, urine, marrow, fistulae and other involved tissues.

The diagnosis of miliary tuberculosis remains challenging, but it is worth keeping a high index of suspicion and treating immediately when the diagnosis is suspected on clinical grounds. Prompt institution of therapy dramatically reduces the 100% mortality of untreated patients.



Chest Radiograph of Miliary TB. Photo Credit: Dr Priya Chudgar, Lecturer in Radiology, Department of Radiology, KEM Hospital, Mumbai.

TB In the News: First U.S. Case of XDR-TB Treated in Florida

Extensively or extremely drug resistant tuberculosis (XDR-TB) is tuberculosis disease that is resistant to Isoniazid, Rifampin, a fluoroquinolone and one of the injectable anti-TB agents. The first identified case of XDR-TB in the United States was in a Peruvian student who was in Florida to study English. According to case history, he was symptomatic several months after he arrived in the U.S. and was confined to the A.G. Holley Tuberculosis Hospital for the duration of his 19 month therapy regimen.

While this patient was cured, XDR-TB is often fa-

tal. In South Africa 96% (52/54) XDR-TB patients identified died during treatment (WHO, 2010). For more information about the Florida XDR-TB case visit The Southeastern National Tuberculosis Center website at <http://sntc.medicine.ufl.edu/>

For more information about the challenges and global impact of MDR-TB and XDR-TB, please visit the World Health Organization website at www.who.int/tb/challenges/xdr/en/index.html



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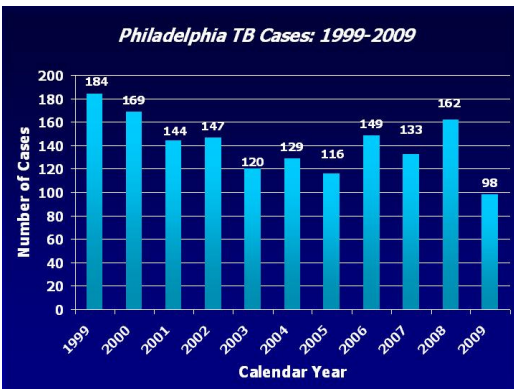
Phone: 215-685-6873 or 215-685-6744

Reporting

All TB cases and suspected cases must be reported to the TB Control Program within 24 hours of identification. To report a case or suspect, call 215-685-6873. Reports can also be faxed to 215-685-6477 or submitted through the Pennsylvania National Electronic Disease Surveillance System (PA-NEDSS). Reporting information is available on the TB Control website at www.phila.gov/health or can be obtained by calling 215-685-6873.

Tuberculosis Surveillance Update: 2009

Christina Dogbey, MPH
Epidemiologist, Tuberculosis Control Program



In 2009, the Philadelphia TB Control Program reported 98 confirmed cases of TB.

This represents a 39% decrease from the prior year when 162 new cases of TB were reported. This drop in incident cases of TB aligns with preliminary data from the Centers for Disease Control and Prevention, which indicates roughly a 10% drop in TB cases nationwide. Despite this, Philadelphia TB cases represent 62% (up from 60% in 2008) of the TB cases reported in the Southeast Pennsylvania Health District and 42% of the cases in the Commonwealth of Pennsylvania for the period.

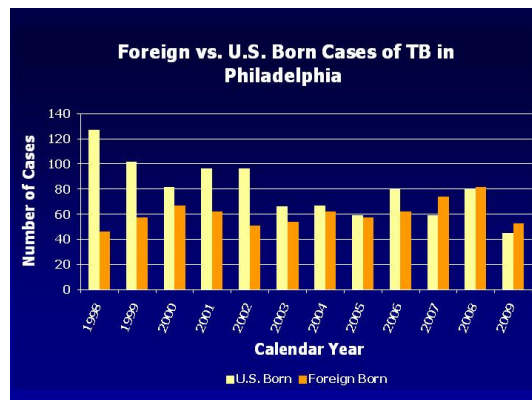
The majority of cases were male (58%) and between the ages of 45-65 years. The number of cases among children less than 5 years of age decreased from 17 (10.5%) cases in 2008 to 2 (0.2%) in 2009. Tuberculosis cases among those 65 years of age and older increased from 12.3% to 19.4%.

The percent of cases reported among African American patients remained constant at 49% while the

percent among Hispanic patients doubled from 6.8% in 2008 to 13.3% in 2009. While the percent of cases among Asians increased slightly from 27% to 28%, the percentage of TB cases among white patients more than doubled from 10.5% last year to 22.4% this year.

Once again, more than half of Philadelphia TB cases (54%) were foreign born, continuing the trend we have seen in the data on Philadelphia patients starting in 2007. This trend closely reflects the national data, in that as U.S. born cases steadily decline, foreign born cases remain constant, but are beginning to consistently exceed the number of U.S. born cases. The 53 foreign-born TB cases reported last year in Philadelphia originated from 32 different countries and all 6 World Health Organization (WHO) regions. The Western Pacific Region (which includes Cambodia, China, Lao PDR, the Philippines and Vietnam) have accounted for nearly 38% of the foreign-born cases since 2005.

Nine percent of our cases were resistant to at least one anti-tuberculosis agent, including one case that was multi-drug resistant (resistance to both Isoniazid and Rifampin). The World Health Organization has identified increasing drug resistance as a disturbing global trend in managing and treating TB patients. Drug resistance emphasizes the need for timely reporting of cases



and suspects, effective case management, treatment of latent TB infection and innovation for the development of new tuberculosis drugs in the near future.