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TBeat

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Refugee Health and Tuberculosis

Background

The United States (US) has a long history of humanitarian assistance to displaced peoples; the most common aid to refugees is admission to live in the US and apply for permanent status as a naturalized citizen. This "reflects our core values and our tradition of being a safe haven for the oppressed."[1] Since 1975, the US has resettled 2.4 million refugees and the Refugee Act of 1980 resulted in annual admissions of 61,000 (1980) to a high of 207,000 (1983) with a yearly average of 98,000.

Definitions

The Refugee Act, passed by the US Congress in 1980, standardized the resettlement services for all refugees admitted to the US and is the legal basis for all current programs. It also incorporated the UN Protocol definition of a refugee and clarified other terminology[2] —

- **Refugee**: a foreign-born resident who is not a US citizen and cannot return to his/her country or origin or last residence, due to race, nationality, membership in a particular social group or a political opinion. A refugee receives this status ***prior*** to entering the US.
- **Asylee**: a person who seeks asylum. A foreign-born resident who is not a US citizen and who cannot return to his/her country of origin or last residence, due to race, nationality, membership in a particular social group or a political opinion. An asylee receives this status ***after*** entering the US.
- **Parolee**: a foreign-born person who has been given permission ***upon arrival*** to enter the US under emergency conditions or when his/her entry is considered to be in the public interest.
- **Immigrant**: an immigrant can be any of the above-listed temporary residents. An immigrant can also be a foreign-born person admitted to the US as an actual or prospective permanent resident.
- **Non-immigrant**: a person who can be classified under one or more of the following: undocumented individual, tourist, visitor on business or foreign/international student.
- **Alien**: any person not a citizen or naturalized citizen of the US.
- **Permanent Resident**: any person not a citizen of the US who is residing in the US under legally recognized and lawfully recorded residence as an immigrant.

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Agencies Involved

There are 4 major federal agencies that play key roles in the US refugee assessment and resettlement.[3,4] They are:

- **The Department of State (DOS)** coordinates the policies and manages the oversees processing, cultural orientation, transportation to the US and provides monies to private non-profit, non-government organizations (NGO's) for the initial response and placement activities for new arrivals. These programs provide the immediate and necessary services during the first 30 days refugees are in the US and is a link to the longer term services funded by the Department of Health and Human Services.
- **Division of Global Migration and Quarantine (DGMQ), CDC** has statutory responsibility to make and enforce regulations necessary to prevent the introduction, transmission, or spread of communicable diseases from foreign countries into the US. They oversee the medical examination of aliens in accordance with the Immigration and Nationality Act; monitor the quality of medical examinations and documentation of aliens abroad and in the US; notify State and local health departments of the arrival of refugees in their jurisdictions and oversee the screening of arriving international travelers for symptoms of illnesses that can have public health significance. They are also empowered to detain individuals and wildlife suspected of carrying a communicable disease (quarantine and isolation).
- **US Citizenship and Immigration Services (USCIS, formerly Immigration and Naturalization Services-INS)** has the statutory authority to determine who has meet the requirements for refugee status and are admissible to the US. Arriving refugees have the same rights as legal residents in the US. They can apply for permanent resident alien status after 12 months and after 5 years may apply to become naturalized citizens.
- **The Department of Health and Human Services (HHS)** controls the domestic program of refugee resettlement services which include cash and medical assistance to arriving refugees as well as a range of social services available for up to 5 years for refugees already in the US. These are administered through the Office of Refugee Resettlement (ORR) as well as through NGO's.

In addition to the federal agencies and programs that assist refugees prior, during and after resettlement, there are many private NGO's that play vital roles in each step of the process. There are voluntary resettlement agencies (VOLAGS) in many states and also partnership non-profit agencies known as Mutual Assistance Associations (MAAs). All these groups work together to assist the refugee in a successful adjustment, medical care and new life in the US.

Medical Evaluations and Classifications

A medical examination is mandatory prior to applying for a immigrant visa outside the US and also for aliens in the US applying for adjustment to their immigrations status. Within the US, some 3,000 Civil Surgeons (designated by the US Citizen & Immigration Service) are the only physicians authorized to give medical exams for adjustments in an immigrant's status. Outside the US, medical examinations are performed by almost 400 panel physicians selected by DOS consular officials. The CDC's DGMQ provides the technical instructions and guidance to any physician performing a visa examination.

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Medical Evaluations and Classifications *continued from page 2*

Secure, accurate documentation is necessary on the part of the panel physicians to ensure that refugees receive accurate classification for entry into the US and the spread of communicable disease to the US is reduced.

Any refugee or immigrant seeking admission to the US must have a physical exam and a mental status assessment as part of the application process; this is done in their home country or place of application origin. This is to determine if medical conditions or mental disorders exist that would render the applicant inadmissible or; need follow-up after resettlement. The examination looks for communicable diseases of public health significance which include **infectious tuberculosis**, HIV, syphilis, chancroid, gonorrhea, granuloma inguinale, lymphogranuloma venereum, leprosy, viral hemorrhagic fevers and any new agents deemed important (e.g. SARS).

Applicants are assessed and classified by 5 components—past medical and vaccination history, physical examination, chest x-ray, laboratory tests (syphilis and HIV status) and immunization assessment. Chest X-rays are taken for ALL applicants older than 14 years OR anyone 14 and younger who has a history of tuberculosis (TB), has symptoms of TB or has been exposed to TB (if none of these conditions exist then no TB evaluation is required for children). The applicant's physical exam and chest x-ray determines if the following is needed:

1. further evaluation overseas with 3 sputum collections to check for acid-fast bacilli (AFB) and TB infectiousness
2. follow-up evaluation after resettlement in the US for TB
3. follow-up evaluation after resettlement in the US for non-TB conditions

Medical evaluations follow standard protocols (CDC-mandated) and classify applicants into the following categories based on **TB**:

No class normal findings on exam and x-rays OR abnormal x-ray findings of non-TB conditions, no follow-up needed.

Class B2/TB x-rays suggest INACTIVE TB; no smears needed, no follow-up needed.

Class B Other normal OR abnormal x-rays (non-TB) both with symptoms that suggest TB and 3 sputum smears negative, follow-up needed upon arrival in US.

Class B1/TB x-rays suggest INACTIVE TB with symptoms and 3 sputum smears negative OR x-ray suggestive of ACTIVE TB and 3 sputum smears negative, follow-up needed upon arrival in US.

Class A/TB normal or abnormal x-rays with symptoms that suggest TB and at least 1 sputum smear AFB positive, admission to US denied.

Visas are denied for the diagnosis of infectious TB and other communicable diseases as well as failure to present documentation of vaccinations against vaccine-preventable diseases and mental disorders. Please see US Code Title 8, Chapter 12, Subchapter II, Part II, Section 1182 for a complete list of inadmissible criteria. Waivers may be obtained for inadmissible conditions; DMGQ assesses the applications and has final authority.

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Resettlement and Medical Care

Refugee applications are processed in order according to a worldwide ranking system that takes those identified by US Embassies as Priority One; Priority Two is reserved for special groups designated by the DOS and are based on individual circumstances. Close family members of persons residing permanently in the US are given Priority Three.

The Reception and Placement Program of the DOS welcomes refugees to the US at their point of entry and provides initial services (housing, clothing, food and referrals to medical and social services) during the first 30 days. They then link the refugees to longer term resettlement and integration programs funded by the ORR. These may be federal, state or private agencies and non-profit groups. The DGMQ is responsible for notifying the state and local health departments of the arrival of medically-needy refugees in their jurisdictions—this enables the refugees to obtain a comprehensive health assessment and any follow-up medical care indicated by their pre-admission evaluation. This is where treatment or reassessment of TB and TB-related conditions begins. Typically, medical care is developed and monitored at the state level which often partners with local health departments and private providers for refugee screening, medical care and treatment. Each state has a Refugee Health Coordinator (see Page 5 for a list of State Refugee Health Coordinators in the Heartland region) that serves as the contact point for the DMGQ and other federal agencies; they also coordinate the medical care within their states. State or local health departments often share roles medically assessing refugees; educating health providers, the foreign-born patient and their family; collecting necessary data for reporting requirements; and collaborating with VOLAGs, MAAs and other community-based organizations that help the new refugee with job-training, English-language training, health service referrals and housing.

Footnotes

[1]Administration for Children and Families, US Department of Health & Human Services. "US Resettlement Program-An Overview: History." Office of Refugee Resettlement website; updated June 6, 2002. http://www.acf.hhs.gov/programs/orr/programs/overviewrp.htm

[2]Department of Health & Family Services, Wisconsin.gov. "Definitions of Immigration Status." Wisconsin State Government website; revised December 22, 2004. http://dhfs.wisconsin.gov/international/refugee/definitions.htm

[3]Administration for Children and Families, US Department of Health & Human Services. "US Resettlement Program-An Overview: Public/Private Roles." Office of Refugee Resettlement website; updated June 6, 2002. http://www.acf.hhs.gov/programs/orr/programs/overviewrp.htm

[4]National Center for Infectious Disease, Center for Disease Control and Prevention. "Division of Global Migration and Quarantine: Mission." Center for Disease Control and Prevention website; reviewed November 26, 2003. http://www.cdc.gov/ncidod/dq/mission.htm

[5]Administration for Children and Families, US Department of Health & Human Services. "US Resettlement Program-An Overview: The basic elements of the US Resettlement Program." Office of Refugee Resettlement website; updated June 6, 2002. http://www.acf.hhs.gov/programs/orr/programs/overviewrp.htm

References *continued on page 6*

The MISSION of the Heartland National TB Center is to build capacity with our partners. We will share expertise in the treatment and prevention of tuberculosis by: developing and implementing cutting-edge trainings, delivering expert medical consultation, providing technical assistance, and designing innovative educational and consultative products.

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Source: Office of Refugee Resettlement website; http://www.acf.hhs.gov/programs/orr/partners

Introducing
Heartland Region TB Focal Points

The Regional Training and Medical Consultation Centers (RTMCC) are supported by CDC Cooperative Agreement (COAG) funds awarded to COAG recipients in locations where the RTMCCs are headquartered. The RTMCCs work cooperatively with all states to strengthen the capacity of TB programs and other partners to prevent and control TB through improved training, education, communications, and information dissemination. Each state has designated a ***TB Focal Point*** as the go-to-person for TB trainings and communications within their area. The Focal Points are TB professionals who have a wide range of TB experience within their state. They serve as a liaison to CDC and their RTMCC; providing feedback on trainings, products and medical consultation needs. The Focal Points meet annually at the CDC's TB-ETN conference, networking with each other and serving as a sounding board for new ideas.

Heartland also meets with our Focal Points yearly. We encourage them to assess the TB workers in their state so they can give us critical input on new trainings and products that are in development. They also work closely with us with regional trainings in their state. They are an invaluable asset to their state and Heartland. On Page 6, there is a list of Heartland's TB Focal Points. Please feel free to contact the Focal Point in your own state or area to get updates on TB trainings, new or improved TB educational products or other resources. Your TB Focal Point is here to help you in your efforts towards eliminating TB!

Heartland TB Focal Point List is located on page 7

TB*it*
NEW LUNG HEALTH IMAGE LIBRARY LAUNCHED

International Union Against Tuberculosis and Lung Disease

The World Lung Foundation and The Union have launched a new Lung Health Image Library (LHIL) that incorporates and builds on the former Stop TB Partnership Image Library, which has now closed. The LHIL is a searchable database of thousands of high- and low-resolution photographs relating to tuberculosis, TB-HIV, asthma, child lung health, tobacco control and air pollution. It also includes a wide variety of images of health workers, patients, community health education and social mobilization for lung health, primarily in low-income countries.

Users can search the library by lung health topics; by country or region; or by thematic secondary categories, such as poverty, women, and treatment. Members of The Union and the Stop TB Partnership, as well as any nonprofit organization working in the field of lung health may access and download the images for free.

- For the complete story, please go to The Union website at: http://www.iuatld.org.
- Take a few minutes to explore the LHIL at: http://www.worldlungfoundation.org/library.html
- Information for photographers is available at: http://www.wlf.lpipserver.com/submitImages.asp
- If you have questions or comments, please contact the LHIL manager at: imagelibrary@iuatld.org

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References for Refugee Health and Tuberculosis

Center for Disease Control and Prevention, National Center for Infectious Disease, Division of Global Migration and Quarantine website; http://www.cdc.gov/ncidod/dq

"Controlling the Spread of Contagious Disease." American Red Cross website; http://www.redcross.org/preparedness/cdc_english/IsoQuar.asp

Instructions to Panel Physicians for Completing New US Department of State, Medical Examination for Immigrant or Refugee Applicant (DS-2053); http://www.cdc.gov/ncidod/dq/pdf/ds-forms-instructions.pdf

Office of Refugee Resettlement website; http://www.acf.hhs.gov/programs/orr/programs

US Code Title 8, Chapter 12, Subchapter II, Part II, Section 1182. WAIS Document Retrieval-8USC1182

Wisconsin government, Department of Health & Family Services, Communicable Diseases, DPH Refugee Health Home page; http://dhfs.wisconsin.gov/international/refugee

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Case Presentation (Revised)
Evaluation and Management of Childhood Contacts to Infectious Pulmonary Tuberculosis

Source Case:

A 31 year old male was admitted to the hospital after experiencing gross hemoptysis. He had a 2 month history of productive cough, a 25 pound weight loss, night sweats, and fatigue. A chest x-ray (CXR) revealed bilateral cavitary infiltrates. The initial sputum specimen was 4+ positive for acid fast bacilli (AFB) and a genetic probe assay confirmed *Mycobacterium tuberculosis*. A culture was positive for *M. tuberculosis* which was later reported to be resistant to INH and streptomycin. The patient has a history of heavy alcohol and drug use, is HIV negative but Hepatitis B and C positive. He has a long history of cigarette use and a chronic smoker's cough. The patient resides with his wife and 3 children (2 are step-children).

General Information on Contacts' History

In the course of the contact investigation, eleven children were identified to have had exposure to the source case. All were tested by tuberculin skin test (TST). Of the eleven children, six had positive TSTs (range 11mm to 25mm). One of four children under the age of 5 years tested positive.

Contact #1; High Priority Contact: Active TB

The source's 13 month old niece had a positive TST with 25mm induration. Her chest x-ray had a question of an early infiltrate and adenopathy. These findings were both confirmed by a CT scan of the chest. The child was asymptomatic and was initially started on a daily regimen of INH, rifampin (RIF) and pyrazinamide (PZA). When the susceptibility results on the source case showed resistance to INH, her treatment was changed to RIF, PZA, and ethambutol (EMB).

Contact #2; High Priority Contact: Exposed, No evidence of Disease

The youngest contact, a 7 week old infant, was TST negative (0mm). Her initial CXR was inconclusive and she had a one week history of cough. The physical exam was normal. Because of her persistent cough, initial abnormal CXR and young age, she was admitted to the hospital for a repeat CXR and CT scan of the chest. These were negative, so no further testing was done. She was started on window period prophylaxis with INH. A repeat TST was planned at 8-10 weeks post-exposure and another at age 6 months. She has since been changed to RIF. Both young children are on directly observed therapy (DOT) due to their young age and increased risk for developing life-threatening forms of TB disease.

Teaching Points

- Diagnosis of latent tuberculosis infection (LTBI) or TB disease in a young child is indicative of a recent transmission of *Mycobacterium tuberculosis,* usually from an adult source case. The best way to prevent childhood TB is via prompt contact investigation of persons with contagious tuberculosis. A complete and thorough contact investigation is one of the best methods for identifying exposed children at risk for tuberculosis and protecting them from progression to severe disease by timely institution of appropriate therapy. The risk of developing disease is highest during the first 12 months after infection.
- Twenty to fifty percent of childhood contacts will be TST positive and one to two percent may have active disease.
- Infants and children <5 years of age, even if initially TST negative, are at risk of progressing to severe forms of active tuberculosis, such as meningitis or disseminated disease before a TST can become positive. Tuberculin reactivity takes between two to ten weeks following infection to develop. The incubation period for devastating forms of tuberculosis such as meningitis and disseminated disease might be as short as 4 to 6 weeks. This period of vulnerability, when the TST may not have had adequate time following the exposure to become positive, is commonly termed the "window period." If the TST is placed less than 12 weeks following the last exposure and is negative, children <5 years and others at high risk of progression to TB disease are started on primary prophylaxis during the "window period" to protect them from progression to disease. The TST is repeated 12 weeks following the last exposure.

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Case Presentation, Teaching Points *continued from page 8*

- **(NEW)** Children with a negative tuberculin skin test who are contacts of a person with active, infectious tuberculosis should have a repeat skin test placed to either document that it remains negative which usually indicates the child has not been infected with tuberculosis or to document that the test has converted to positive which signals new infection with tuberculosis. The American Academy of Pediatrics in the Redbook recommends that the repeat test be placed 12 weeks after exposure has ended. The CDC, ATS and IDSA guidelines on Contact Investigation published in December 2005 recommend that a repeat test be done after 8 to 10 weeks. Previously they had recommended placing another test after 10 to 12 weeks. If exposure to an infectious cases continues for longer than 12 weeks, repeat tests should be done at least every 12 weeks with the last test done 12 weeks (AAP) or 8 - 10 weeks (CDC, ATS, IDSA) after exposure has ended.
- All persons, regardless of age, who are contacts should be regarded as TST positive if they have a reaction of ≥5mm induration. A TST can be placed on a child as young as one month although results at this age are unreliable and should be repeated if initially negative. A negative TST after 6 months of age can be safely regarded as a true negative.
- All children and adolescents exposed to a contagious case of TB disease should have a TST and medical evaluation to detect signs or symptoms of TB disease. Children who are TST positive, as well as all children <5 years of age (whether TST positive or negative), should have a CXR and directed physical exam (special attention to examination of lungs and cervical lymph nodes) followed by initiation of treatment for LTBI or "window period prophylaxis" after active tuberculosis is excluded.
- Children <5 years old with negative results from the TST and CXR, identified as high priority contacts (more than incidental exposure to source) should be treated with "window period prophylaxis." A TST should be repeated 12 weeks following the last exposure, and if the TST remains negative and contact has been broken by treatment of the source case or separation, treatment can be stopped. If the child is less than six months of age at the time of repeat TST or if there is ongoing exposure to the infectious case, treatment should continue. A final TST should be done 12 weeks after the child is last exposed to the source when the source is potentially infectious (sputum smear positive and not yet on therapy). If the repeat TST is negative and the child is asymptomatic, generally both latent TB infection and active disease can be excluded and therapy stopped.
- Decisions regarding the need to continue treatment in immunosuppressed individuals are made on a case by case assessment. Consultation with an expert in the management of TB is recommended to help in arriving at this decision.
- For children receiving "window period prophylaxis," if the repeat TST is positive, the child should be evaluated clinically for evidence of active tuberculosis and if none exists, they should be classified as LTBI and treatment should continue to complete 9 months of therapy.
- Immunocompetent children 5 years of age and older who are TST negative do not need to be placed on window period prophylaxis with INH, but should have a repeat TST done after 12 weeks. If it is negative and exposure has ended, they need no further follow up. If the repeat TST is positive, active tuberculosis should be excluded with a CXR and a medical evaluation before treatment for LTBI is initiated.
- INH given either daily or twice weekly by DOT for nine months is the preferred treatment of LTBI in children. However, if the source case is INH resistant and RIF susceptible, or the child develops intolerance to INH, INH should be discontinued and daily RIF given in its place for 6 months.
- Tuberculosis in a child is usually diagnosed by the triad of: a history of contact with an active case, a positive TST and an abnormal CXR. The diagnosis may be overlooked, especially when there is no history of contact to a case of tuberculosis. Children are more likely to be asymptomatic but may also present with devastating forms of active disease.
- Children usually have paucibacillary disease which results in the presence of fewer mycobacteria in the sputum leading to negative AFB smears and cultures. Cultures for *M. tuberculosis* are positive in <30 to 40% of most reported cases. AFB stains of other body fluids are almost always negative.
- Sputum samples are difficult to obtain especially in young children. Induced sputum collections are helpful especially in children who are able to cooperate (usually age four and older).

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Teaching Points *continued from page 9*

- Gastric washings are helpful but are only positive in 30 to 40% and are best collected as a first morning specimen, requiring a child's admission to the hospital. Bronchial washings, with a diagnostic yield similar to gastric aspirates, may be done as an outpatient but are more invasive.
- Children identified as part of contact investigations are more likely to be asymptomatic. If a child is asymptomatic, is a contact, and has a positive TST but the CXR is negative, there is no indication for a CT scan of the chest. A CT scan in such children may show evidence of hilar adenopathy, but when adenopathy is only detected by CT scan and the child remains asymptomatic, this is of no clinical significance. These children do well even with minor CT abnormalities if treated for LTBI with INH for 9 months. There is no benefit to the child, so there is no need to expose them to the radiation associated with the CT scan.
- Anyone who has significant risk factors for tuberculosis and has radiographic or clinical manifestations of disease, regardless of age should be identified as a TB suspect and placed on anti-tuberculous therapy and re-evaluated after two months when final cultures are available to determine their definitive diagnosis. As noted earlier, the diagnosis of tuberculosis in children will most often be made on clinical grounds.
- Investigation of the household and other close contacts of a child with active TB disease is instrumental in the discovery of the adult source with disease.
- Consultation with an expert in tuberculosis (Heartland National TB Center, 1-800-TEX-LUNG) is available for any health care provider caring for a confirmed or suspected TB case involving a child.

References

American Academy of Pediatrics. "Tuberculosis" Red Book: Report of the Committee on Infectious Diseases, 27th ed., 2006.

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THE UNIVERSITY OF TEXAS HEALTH CENTER AT TYLER

HEARTLand NATIONAL TB CENTER

A PARTNERSHIP OF UT HEALTH CENTER AND TCID

The VISION of the Heartland is to provide *excellence*, *expertise*, and *innovation* in training, medical consultation, and product development to reduce the impact of tuberculosis in our region.

Upcoming Trainings

- *Heartland National TB Center—2006 dates*

Date	Course	Location
October 5	TB Update (Midwest TB Controllers)	Des Moines, IA
October 17	Nurse's Role in TB Control; Part 2 videoconference	Various locations
October 25	Contact Investigation (4 Corners Meeting)	Flagstaff, AZ
November 7-9	Nurse Case Management	Dallas, TX
November 14	Nurse's Role in TB Control; Part 3 videoconference	Various locations
November 28-29	Contact Investigation (National Unidos Meeting)	Las Cruces, NM
December 5-8	TB Intensive	Tyler, TX
December 19	Nurse's Role in TB Control; Part 4 videoconference	Various locations

Please go to http://www.heartlandntbc.org/training.asp for contact and registration information for each course. Proposed topics are subject to change; check website for the latest updates.

- *Other*

October 31-November 4, 2006	37th Union World Conference on Lung Health, Paris France
November 4-8, 2006	Annual American Public Health Association Conference, Boston, MA
November 20-21, 2006	The Face of TB: Tuberculosis Conference 2006, Toronto, Canada

Related Links

- TB Education & Training, National Prevention Information Network
- Division of TB Elimination, CDC
- TB Education & Training Resources
- World Health Organization, Tuberculosis
- Division of Global Migration & Quarantine, CDC
- Global Health Facts on TB
- Tuberculosis Research Today
- Stop TB Partnership
- American Lung Association
- International Union against Tuberculosis and Lung Disease
- Office of Refugee Resettlement

In the Works

The following products (algorithms) have been updated and are located on the Heartland website. They are available for printing or downloading.

- Assessing and Managing the Risk of Liver Disease in the Treatment of LTBI (PDF ~ 266 KB)
- Evaluation of Pregnant Patient at Risk for TB (PDF ~ 250 KB)
- Management of the TB Patient at Risk of Hepatotoxicity (PDF ~ 268 KB)

Heartland National TB Center Advisory Committee
Recruitment of 2007 Members

Please give us your feedback…

We are soliciting comments on a process to select members for the 2007 HNTC Advisory Committee under the guidance recently provided by the CDC RMTCC Project Team for our 2007 Work Plan. Please review the CDC guidance and send your comments to:

HNTC Executive Director, Kitten Holloway: kitten.holloway@uthct.edu

Regional News

Heartland National TB Center (HNTC) Advisory Committee

In 2006, 33 members were recruited for the HNTC Advisory Committee. Members are a combination of TB Controllers, TB Focal Points, Program Managers, TB Supervisors and Academic and Public Health Physicians. They represent 12 of the 13 states in the HNTC region. The Advisory Committee serves a vital role in the planning and implementation of HNTC training, product development and medical consultation activities. Many have served as faculty, advisors, reviewers and advocates for HNTC services. We thank them all for their tremendous support and contributions! Please check our website for more information.

Kitten Holloway, MPH, HNTC Executive Director

- 2006 Advisory Committee Members
- Annual Meeting Summary Notes
- NEW Guidance from CDC on Advisory Committee structure
- Membership information for 2007

TB Training and Patient Educational Resources

Many of Heartland's partner states have developed training and patient educational materials for TB workers that they are willing to share. The following are links to each state's TB program. Please check out their resources and available downloadable files.

Arizona	www.azdhs.gov/phs/oids/tuberculosis/index.htm
Illinois	www.idph.state.il.us/
Iowa	www.idph.state.ia.us
Kansas	www.kdhe.state.ks.us/tb/index.html
Minnesota	www.health.state.mn.us/tb
Missouri	www.dhss.mo.gov/
Nebraska	www.hhs.state.ne.us
New Mexico	www.health.state.nm.us
North Dakota	www.health.state.nd.us/disease/tb
Oklahoma	www.health.state.ok.us/program/tb/index.html
South Dakota	www.state.sd.us/doh/tb
Texas	www.dshs.state.tx.us/idcu/disease/tb
Wisconsin	www.dhfs.wisconsin.gov/tb

Please send any corrections, additions or article submissions for the Heartland *TBeat* Newsletter to:

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