



## ***Interim Recommendations for Initial Domestic Medical Screening of Haitians Entering New Jersey, February 8, 2010***

### **Background**

The January 12, 2010 earthquake and multiple aftershocks created devastation and loss of life in the heavily populated city of Port-au-Prince, Haiti and outlying areas. Although the exact number of deaths is still unknown, it is estimated that more than 200,000 people lost their lives since the event. The health status of those in Haiti, especially children, is poor. Even before the earthquake, Haiti had a high prevalence of bacterial and protozoal diarrhea, hepatitis A and E, typhoid fever, dengue fever, malaria, leptospirosis, tuberculosis (TB), and HIV.

Normally, before admission to the United States, all those seeking residence in the United States are required to have a medical examination in their country of origin, specified by the Centers for Disease Control and Prevention (CDC), performed by a physician designated by the Department of State. However, given the urgency of the current situation, it is unclear if all those entering from Haiti will have undergone this initial screening and testing. Therefore, it is imperative that those entering are screened for communicable diseases of public health importance in addition to receiving care for any acute injuries or illnesses. This screening for communicable diseases should be performed as soon as possible after arrival and consist of a general medical screening, as well as screening for TB, vaccination status, intestinal parasites, malaria, malnutrition, HIV and sexually-transmitted diseases. A more comprehensive medical evaluation is recommended following this initial assessment within 30 days of arrival.

### **Initial Medical Screening**

All arrivals from Haiti should have a medical history (if known) and physical examination. Components of the medical history should include:

- History of trauma;

- Symptoms of communicable diseases (i.e., fever, coryza, rash, cough, hemoptysis, diarrhea, vomiting, meningismus, headache, jaundice, night sweats, sore throat, shortness of breath); and
- Past medical and surgical history including any known chronic diseases. Obtain information regarding
  - Specific history of TB and HIV and
  - Medication history.

Components of the physical examination should include:

- Vital signs and assessment of hydration status;
- Height, weight, head circumference (if age appropriate);
- Obvious injuries that may have resulted from trauma;
- A full physical examination with particular attention to signs that may indicate underlying medical conditions such as heart disease, asthma, chronic malaria (e.g., tachycardia, heart murmurs, labored respirations, abdominal tenderness, splenomegaly) or undetected, subtle injury from trauma (e.g., splenic rupture); and
- Assessment of nutritional status (looking for signs of malnutrition or wasting).

If fever is present, there should be high clinical suspicion for possible infectious etiologies. Priority should be given to detecting conditions that require isolation (i.e., typhoid, TB, chickenpox, measles).

Individuals with known chronic medical conditions (e.g., asthma, congenital cardiac conditions, seizure disorders) should be carefully evaluated

and treated, particularly since previous therapy may have been disrupted.

### **Tuberculosis**

The incidence of TB in Haiti is one of the highest in the Western hemisphere, at 306/100,000 for all forms of TB. By comparison, the US rate is 4.2/100,000 (source: Global Tuberculosis Control: epidemiology, strategy, financing: WHO report 2009.)

[http://www.who.int/tb/publications/global\\_report/2009/en/index.html](http://www.who.int/tb/publications/global_report/2009/en/index.html)

Because of the high prevalence of TB in Haiti, in addition to the living conditions, all those entering should be evaluated for TB disease after arrival. This evaluation should consist of a chest radiograph (CXR). Recommended CXR includes:

- Anterior/Posterior (AP) and lateral views for children < 6 years of age,
- Posterior/Anterior (PA) and lateral views for children 6 - 17 years of age, and
- Posterior/Anterior View (PA) for adults  $\geq$  18 years of age.

The following categories of individuals should provide sputum (or other appropriate specimens):

- Those with signs and symptoms suggestive of active TB infection;
- Those with a medical history suggestive of active TB infection;
- Those with CXR findings suspicious for TB; and
- Those with HIV infection.

Three sputum specimens (or other appropriate specimens such as gastric aspirates for children unable to provide sputum) should be obtained for microscopy to detect acid-fast bacilli (AFB), as well as for culture and confirmation of the *Mycobacterium* species. All those diagnosed with tuberculosis disease must be referred for directly observed therapy (DOT).

After acute assessment, all those not diagnosed with TB disease and started on DOT, should be evaluated for latent TB infection (LTBI). LTBI should consist of either a tuberculin skin test (TST) or interferon-gamma release assay (IGRA). Physicians should be advised that some experts prefer TST in children younger than 5 years of age. There are relatively few published reports documenting the performance of IGRAs in young children, obtaining sufficient blood is more

difficult, and there is concern that IGRAs may perform differently in very young children who are at greater risk of a poor outcome if infection is not recognized. Individuals with a negative test for TB infection should have LBTI testing repeated 6 months after arrival.

Receipt of Calmette-Guerin (BCG) vaccine is not a contraindication to a TST, and a positive TST result should not be attributed to BCG vaccine. An individual with a known positive TST should not have the skin test repeated as it may provoke a local reaction.

Elements of the medical history for TB include:

- Previous history of TB;
- Illness suggestive of TB (such as cough of > 3 weeks duration, dyspnea, weight loss, failure to thrive, fever or hemoptysis);
- Prior treatment suggestive of TB treatment (especially if incomplete or discontinued); and
- Prior diagnostic evaluation suggestive of TB.

Children are less likely than adults to present with "classic" signs and symptoms of TB such as night sweats, hemoptysis or cavitory lesions on CXR. Children more frequently present with generalized findings such as fever, growth delay, and failure to thrive. Children are also more prone to extra-pulmonary TB such as meningitis, and disease involving the middle ear, mastoid, lymph nodes, bones, joints, and skin. Clinical symptoms can be subtle. In addition, individuals who are HIV infected can have atypical presentations of TB. The clinician should keep in mind that TB can present with virtually any sign or symptom and should be included in the differential diagnosis of most abnormal clinical findings.

Pertinent elements of the physical exam specific for TB include:

- Thorough pulmonary examination;
- Inspection and palpation of lymph nodes; and
- Inspection for scars of scrofula, and prior chest surgery.

### **Vaccine-Preventable Diseases**

Vaccine-preventable diseases (VPD) are another important public health consideration for this population. Haiti provides BCG, diphtheria, pertussis and tetanus (DTwP), measles/rubella

(MR), oral polio (OPV) and tetanus/diphtheria toxoids (Td) as part of its routine immunization schedule (along with vitamin A). However, vaccination rates are low for most of these vaccines. For example, in 2008, coverage for measles vaccination was 58%, third dose DTP was 53%, and third dose polio was 52%. Moreover, Haiti does not provide a 2<sup>nd</sup> measles dose, hepatitis A, hepatitis B, *Hemophilus influenzae* type b (Hib), mumps, varicella, rotavirus, meningococcal or pneumococcal vaccinations considered part of routine childhood vaccinations in the US.

Individuals arriving from Haiti should receive immunizations according to the recommended schedule in the US for healthy children, adolescents and adults which can be accessed at <http://www.cdc.gov/vaccines/recs/schedules/default.htm>

In general, when data are available for individual, written documentation of immunizations can be accepted as evidence of adequacy of previous immunization if the vaccines, dates of immunization, number of doses, intervals between doses, and age of the individual at the time of immunization are consistent internally and comparable to current US schedules. However, given the limited data available regarding verification of immunization records in Haiti, immunization upon arrival is acceptable. In general, additional vaccines are well tolerated. However, because the rate of more serious local reactions after DTP vaccine increases with the number of doses administered, serologic testing for antibody to tetanus and diphtheria toxins before re-immunizing (or if a serious reaction occurs) can be considered if appropriate immunization is in question. It is recommended that children not receive more than 6 doses of diphtheria and tetanus containing vaccine before the 7<sup>th</sup> birthday.

Serologic testing for hepatitis B surface antigen (HBsAg), hepatitis B surface antibody (HBsAb) and hepatitis B core antibody (HBcAb) should be performed for all individuals. If serologic testing is not available and receipt of vaccines cannot be ensured, the prudent course is to provide the immunization series.

Ideally, adoptive parents, family members and other close contacts of children arriving from Haiti should ensure that they are immunized or

otherwise immune to hepatitis A. Hepatitis A is endemic in Haiti and there has been documented transmission of hepatitis A in contacts of children adopted from countries with a high incidence of disease. Serologic testing of children for hepatitis A IgM and IgG is recommended to identify current/recent or past infection. If a child has no evidence of previous infection, the child should be immunized against hepatitis A according to the recommended immunization schedule. If IgG tests positive, indicating past infection, no immunization will be required for the child. If IgM is positive, indicating current/recent infection, all close contacts and family members should be immunized. Children or their close contacts with symptoms consistent with acute viral hepatitis should be evaluated promptly.

#### **HIV and Sexually Transmitted Infections (STI)**

The national HIV prevalence rate among adults in Haiti (ages 15 – 49) is 2.2% and the number of adults and children (ages 0 – 49) living with HIV at the end of 2007 was 120,000. The estimated number of children under the age of 14 living with HIV in Haiti is approximately 6,800. Of 372 pediatric admissions, 44 (11.8%) had HIV-1 antibodies and 45 (13.5) of 333 of their mothers were HIV-1 seropositive (Adrien et.al, Int conf AIDS. 1989 June 4 – 9;980). Individuals from Haiti may come from populations at higher risk of infection; screening for HIV should be performed for all individuals. Transplacentally acquired maternal antibodies in the absence of infection can be detected in a child younger than 18 months of age. Hence, positive HIV antibody test results in asymptomatic children of this age require clinical evaluation, further testing (follow-up testing and HIV nucleic acid testing), and counseling of guardians.

An RPR or VDRL with reflex confirmatory test (MHA-TP/FTA-ABS) should be performed for all arrivals including children. Other screens for STI including gonorrhea and chlamydia should be considered as appropriate.

#### **Intestinal Parasites**

In a nationwide survey on intestinal helminthes in 5,792 urban and rural school children conducted in Haiti in 2002, 34% of stool tested positive for intestinal helminthes with the following parasites identified: *Ascaris lumbricoides* (27.3%), *Trichuris trichiura* (7.3%), *Necator americanus* (3.8%), *Hymenolepis nana* (2%) *Taenia* sp. (.3%) and *Strongyloides stercoralis* (.2%).

(Champetier de Ribes, et al, Bull Soc Pathol Exot. 2005 June; 98(2):127-32).

Most experts recommend performing three stools for ova and parasite (O&P) testing collected on three consecutive mornings on all individuals, regardless of symptoms. In addition, strongyloides serologies should be considered for all, especially those with eosinophilia, since stool O&P have poor sensitivity for this infection and it can be chronic and lead to serious morbidity especially in the immunosuppressed. It is reasonable to treat individuals presumptively. Further information is available at [www.cdc.gov/ncidod/dg/refugee/rh\\_guide/ip/index.htm](http://www.cdc.gov/ncidod/dg/refugee/rh_guide/ip/index.htm).

If gastrointestinal tract signs or symptoms are present, send stool specimens for culture, and stool antigen testing for giardia, cryptosporidia (*E. histolytica*, if accessible), and rotavirus.

#### **Malaria**

*Plasmodium falciparum* is the only malaria parasite species that causes malaria in Haiti, where it is endemic. It has been reported that up to 75% of the population of Haiti lives in malarious areas, especially at altitudes < 300 meters above sea level. Therefore, it is recommended that all symptomatic individuals be screened with a malaria smear. Reliable data to support presumptive treatment are not available. Treatment guidelines can be found on the CDC website.

#### **Mental Health/Substance Abuse**

Because of stigma in Haitian culture around mental health, many individuals may be reluctant to discuss or admit to mental health problems. Likewise, individuals in Haiti may not have fully explored such issues, even prior to the earthquake. The experience of the January 2010 Haitian earthquake would be expected to impact greatly on many of the individuals exposed. Clinicians should consider potential mental health issues. When mental health referrals are warranted, added care should be made to explain and arrange such referrals to the patient and his/her caregiver in a culturally sensitive, supportive, and non-stigmatizing way.

#### **Other**

Other screening tests can be considered as appropriate including complete blood count (CBC) to evaluate for anemia and eosinophilia, blood lead concentrations, and newborn screening including measurement of thyroid-stimulating hormone concentration (TSH).

#### **Requirements for School Entry**

Individuals arriving from Haiti should receive immunizations according to the schedule recommended by the Advisory Committee on Immunization Practices (ACIP) which can be accessed on the CDC website at <http://www.cdc.gov/vaccines/recs/schedules/default.htm>.

Any child attending any public or private school, child care center, nursery school, preschool or kindergarten in New Jersey must be immunized in accordance with 8:57 – 4, *Immunization of Pupils in School*. Children transferring into a New Jersey school, preschool, or child-care center from out-of-State or out-of-country shall be allowed a 30-day grace period in order to obtain past immunization documentation before provisional status is granted. Given the conditions in Haiti, it is unlikely that written documentation of immunizations will be available. Therefore, as discussed above, it is highly recommended that individuals are appropriately vaccinated upon arrival. In accordance with 8:57 – 4.5, a child shall be admitted to a school, preschool, or child-care center on a provisional basis if a physician, advanced practice nurse or health department can document that at least one dose of each required age-appropriate vaccine(s) or antigen(s) has been administered and that the pupil is in the process of receiving the remaining immunization(s). A chart outlining the vaccines required for school attendance can be accessed on the NJDHSS Vaccine-Preventable Disease website at <http://www.state.nj.us/health/forms/imm-7.pdf>

Any individual with signs or symptoms consistent with a communicable disease such as diarrhea, fever or rash should be excluded from school and other congregate settings. Assessment for active TB should be completed prior to school attendance or admittance to other congregate settings.

## **Additional information and references**

Centers for Disease Control and Prevention available at [www.cdc.gov](http://www.cdc.gov)

Immunization Schedules

<http://www.cdc.gov/vaccines/recs/schedules/default.htm>

Malaria Information

<http://www.cdc.gov/malaria/>

Immunization Action Coalition

Vaccine Information Statements

General - <http://www.immunize.org/vis/>

Haitian Creole - [http://www.immunize.org/vis/vis\\_haitian\\_creole.asp](http://www.immunize.org/vis/vis_haitian_creole.asp)

*Interim Recommendations for Initial Domestic Medical Screening of Haitian Orphan Parolees.*  
January 25, 2010, Department of Health and Human Services. Updated February 1, 2010.

New Jersey Department of Health and Senior Services available at [www.state.nj.us/health](http://www.state.nj.us/health)

NJDHSS, Communicable Disease Program, Tuberculosis Program

<http://www.state.nj.us/health/cd/tbhome.htm>

NJDHSS HIV Rapid Testing Sites

<http://www.state.nj.us/health/aids/rapidtesting/location.shtml>

NJDHSS School Immunization Requirements

<http://www.state.nj.us/health/cd/vpdphome.htm>

<http://www.state.nj.us/health/forms/imm-7.dot>

New Jersey's Family Centered HIV Care Network

<http://www.state.nj.us/health/fhs/hivcare/index.shtml>

Refugee Health Information Network – Health info in various languages

<http://www.rhin.org/>

World Health Organization (WHO) available at <http://www.who.int/en/>

## Summary of Medical Screening – February 7, 2010

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### PERFORM HISTORY AND PHYSICAL

Complete history, review of systems, and physical assessment with a focus on infectious diseases of public health significance

### EVALUATE FOR TUBERCULOSIS

Perform a chest radiograph and other diagnostic studies to rule out active disease. Perform a test for latent tuberculosis infection (TST or IGRA).

### ASSESS IMMUNIZATION STATUS

Assess and update immunizations for each individual and administer age-appropriate vaccines if records are not available.

### SCREEN FOR HEPATITIS B INFECTION

Perform HBsAg, HBsAb and HBcAb. Immunize if appropriate. Can initiate vaccine series if follow-up not guaranteed or serology is not practical.

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### SCREEN FOR INTESTINAL PARASITES

Screen asymptomatic and symptomatic individuals. Consider presumptive treatment if not previously provided. Assess for eosinophilia.

### SCREEN FOR MALARIA

Screen all symptomatic individuals for malaria with a blood smear.

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### SCREEN FOR HIV AND STIs

Screen all individuals for HIV and syphilis. Consider testing for other STIs as appropriate.

### OTHER

Perform other screening as appropriate including lead testing, mental health evaluation, hearing and vision screening.