











## Section 9: Laboratory Status Report

specimens continue to be submitted to the BOL, they were mostly from influenza-associated deaths, those with severe life threatening illness, outbreaks submitted by CHDs and from ILINet, the Florida influenza-like illness network of sentinel physicians. ILINet, in collaboration with the Bureau of Epidemiology, is designed to detect influenza virus strain changes.

Between April 25, 2009 and December 31, 2009, the BOL received 13,873 clinical samples for testing in response to the 2009 influenza pandemic. Of those specimens, 5,076 were positive for 2009 influenza A H1N1 influenza virus, 757 for seasonal influenza A, and 36 for influenza B. The Tampa and Jacksonville Laboratories continue to participate as collaborating laboratories for the World Health Organization Influenza Surveillance Network, accepting specimens from over 100 sentinel physicians in the state of Florida.

### **Revised Florida Guidelines for the Use of Nucleic Acid Amplification Testing for Tuberculosis (TB)**

In January 2009, the CDC updated the guidelines for the use of nucleic acid amplification testing (NAAT) for TB. Since 1996, this test has been standard practice at the BOL, and now the CDC recommends the use of NAAT to become standard practice throughout the U.S. to ensure TB elimination. In collaboration with the Bureau of TB and Refugee Health and as a first in the Nation, the BOL recently rolled out the HAIN Genotype<sup>®</sup> MTBDR*plus*, a commercially available line probe assay that detects mutations associated with the majority of cases of rifampin (*rpoB*) and isoniazid (*KatG* and *inhA*) resistance, which is integral to the diagnosis and early detection of drug-resistant cases within our state. The HAIN test allows detection of multi-drug-resistant TB within one to two days instead of the traditional three to six weeks in highly infectious patients. This provides the FDOH with test results much faster, which enables caregivers to interrupt transmission of drug-resistant TB much earlier. This enhanced capability fosters more appropriate treatment regimens avoiding the mistake of initiating treatment with ineffective first-line drugs.

The increasing threat of multi-drug-resistant (MDR) and extensively drug-resistant (XDR) TB not only has a human price (more patients are dying of drug-resistant tuberculosis compared to patients with drug-susceptible TB), but also has an economic impact on healthcare. It is estimated that preventing a single case of MDR TB would save the U.S. healthcare system more than \$250,000 and the average estimated hospitalization cost for treating a patient with XDR TB is \$600,000, not including costs of outpatient care and related health interventions.

### **New 96-well Plate Method Development**

A new 96-well plate method was developed for a Metabolic Toxins Panel (MTP) in urine by Liquid Chromatography/Tandem Mass Spectrometry. Staff scientists from the Chemical Terrorism Laboratory Response Network Level 1 Laboratory in Jacksonville (one of only ten laboratories nationwide designated for surge capacity by the CDC) converted the testing of MTP from a single-test analysis to a high-throughput method with results sent to the CDC Chemical Laboratory Response Network. This will greatly improve analysis response time for monofluoroacetate and monochloroacetate samples from a five-day to a two-day turn-around time.

### Discontinuation of Clinical Chemistry and Hematology for A.G. Holley State Hospital

As of October 7, 2009, the BOL in Lantana discontinued clinical chemistry and hematology testing for A.G. Holley State Hospital. These specimens are now sent to LabCorp, the laboratory contracted by FDOH for these tests. Because of this, there is a slight delay in the turn-around times of the laboratory results, which was approved by A.G. Holley senior medical staff. However, staff from the BOL in Lantana continue to draw blood from patients. Staff will be shifted to other functions within the laboratory, including the send-outs of these specimens to LabCorp as a service to A.G. Holley State Hospital, and will record the results received into patient charts. This testing was discontinued at the BOL in Jacksonville and in Pensacola for the CHDs in the spring of 2008.

### 2009 Newborn Screening Morbidity Data

BOL in collaboration with FDOH Children's Medical Services manages the newborn screening program for Florida. The program screens for all disorders recommended by the March of Dimes and the American College of Medical Genetics as well as some with additional disorders, including cystic fibrosis, totaling 35 diseases and conditions.

**Table 1.** Newborn Screening Morbidity Counts, Florida 2009

Conditions	Count
Live Births	221,632
Confirmed Diagnosis by Florida Referral Centers	
Biotinidase Deficiency	0
Partial	6
Congenital Adrenal Hyperplasia	5
Congenital Hypothyroidism	68
Cystic Fibrosis	
2 mutations	23
1 mutation	10
Ultra-High IRT/No mutations	1
Galactosemia (G/G)	1
Variant	1
Sickle Cell	
Sickle Cell Anemia (SS)	130
Hemoglobin SC Disease (SC)	74
Sickle Beta Thalassemia (SA)	8
Disorders detected by Tandem Mass Spectrometry	32
Hearing Loss recognized through NBS Follow-Up Program	197

