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### 3 Big Accomplishments 2007-2008

#### **Implementation of Cystic Fibrosis:**

The Bureau of Laboratories (BOL) Newborn Screening Laboratory in Jacksonville screens more than 300,000 specimens annually for 35 genetic disorders on blood samples from newborn babies using protein electrophoresis, tandem mass spectrometry (MS) and DNA mutation analyses. Early detection is the key to newborn screening and the laboratory has implemented procedures for early detection and reporting to Children's Medical Services (CMS), hospitals, physicians and birthing centers as part of Florida's effort to ensure that all newborns identified through the screening process receive adequate and prompt medical care and follow up. Results are reported within 24-48 hours. - With cystic fibrosis as the 35<sup>th</sup> disorder (since September 2007), Florida is now screening for all disorders recommended by the March of Dimes and the American College of Medical Genetics. Since September 17, 2007 and as of June 30, 2008, 676 babies were referred to Cystic Fibrosis Centers for an evaluation and 40 babies were diagnosed with cystic fibrosis; as of October 28, 51 babies were diagnosed with Cystic Fibrosis.

#### **Electronic Laboratory Ordering and Reporting:**

LabWare<sup>®</sup> Laboratory Information Management System (LIMS) is the software used by the Bureau of Laboratories (BOL) with its 5 laboratories located in Jacksonville, Lantana, Miami, Pensacola, and Tampa to manage clinical laboratory tests (excluding newborn screening and HIV) and environmental water tests. The LabWare LIMS was implemented in January 2007 to replace BOL's antiquated laboratory information management system. Enhanced security features ensure the confidentiality of patient data, and state-of-the-art software technology ensures a stable and dependable application. LabWare LIMS integrates with laboratory instruments, which eliminates manual data transcription for improved data quality. LabWare LIMS includes automated electronic ordering and reporting capabilities that result in improved accuracy, timeliness, and quality of data to BOL customers. - An average of almost 5,000 samples per day are processed through LabWare LIMS — 1.3 million samples each year. [As of spring 2009, there is paperless reporting to County Health Departments.](#)

#### **Rapid detection of multidrug resistance in tuberculosis patients:**

Tuberculosis (TB) continues to incur significant social, public health, and economic costs in the U.S. Costly TB outbreaks occur and multidrug-resistant and extensively drug resistant TB continues to spread. Altogether, TB related costs approach \$1 billion each year in the U.S. Florida identifies about 1,000 new TB cases each year out of almost 14,000 nationwide. In addition, Florida serves as a gateway to Latin America where multi-drug resistant TB cases are rising. In November 2007, the Bureau of Laboratories implemented, as the first laboratory in the nation, a molecular-based line-probe assay to detect drug-resistant TB within 1-2 days instead of the traditionally 3 to 6 weeks in highly infectious patients. This provides the Department of Health 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. It is estimated that the average TB patient spreads the disease to 20 to 30 other individuals (or 2 per month) and the cost to treat one multi-drug resistant TB patient is more than \$350,000. [As of summer 2009, there is reflex MDR screening for first-time AFB smear positive pulmonary TB patients.](#)