FLORIDA'S BUREAU OF LABORATORIES:

A SUCCESSFUL LAB SYSTEM SERVES THE FOURTH MOST POPULOUS STATE

by *Marie France*, writer

Switzerland is so safe and clean, people often say to Max Salfinger, *Why did you leave your home there?* Precisely because his native land is so safe and clean, Salfinger might reply. "I live for challenges," he said, and "think of myself as an architect, who loves to build new structures, new systems." Actually, he is a medical doctor and research scientist, devoted to easing the pain of things that are neither safe nor clean, such as tuberculosis. Its diagnosis, control, treatment and cure have absorbed him for the last 30 years, in different capacities and in different places.

VISION

A vision of what might be possible has guided his career path since its beginning in Basel, Switzerland, in the 1970s. "Once I realize my dream, I'm ready to move on," Salfinger said, something he did most recently in 2006 when he left the New York State Department of Health's Wadsworth Center in Albany. He arrived there from Zurich in the 1990s, at the behest of fellow research scientist Harry W. Taber, to join in a massive response to a multidrug-resistant TB epidemic in New York City. Salfinger agreed to help Taber create the Wadsworth Center's Mycobacteriology Unit. Together, they developed in 1993 the innovative New York State Fast Track for TB testing, which received an ASTHO vision award in 1996.

Ribbon-cutting ceremony celebrating the expanded conference facilities at the Florida Bureau of Laboratories' Tampa lab, April 2010.

(Pictured left to right) Douglas Holt, MD, director of the Hillsborough County Health Department; Philip Amuso, PhD, associate chief, Bureau of Laboratories and Tampa laboratory director; and Max Salfinger, MD, chief, Bureau of Laboratories

With the TB epidemic under control, Salfinger was happy to remain at Wadsworth because he continued to find challenges there. When Florida called, however, he "couldn't resist the new opportunities," he foresaw "to help build something good into something better."

As chief of the Florida Department of Health (DOH) Bureau of Laboratories (BOL), he would keep TB in his crosshairs. Florida identifies about 900 new cases each year out of almost 12,000 nationwide, Salfinger said, and is a gateway from Latin America where multidrug-resistant TB cases are rising. In 2008, Florida's public health laboratories became the first in the nation to use a molecular-based, line-probe assay to detect drug-resistant TB in highly infectious patients within one to two days instead of the traditional three to six weeks. Test results now arrive much faster, Salfinger said, and caregivers can halt transmission of drug-resistant TB more efficiently. The method also fosters appropriate treatment regimens, bypassing the use of ineffective first-line drugs.

STRUCTURE

Florida's public health laboratories are part of one vast health service network. The potential embedded in such connectivity attracted Salfinger immediately. Through the DOH, the BOL's five public health laboratories are linked with 67 county health departments. Unlike New York City and Los Angeles, a big city like Miami does not operate its own public health laboratory.

The size of the contiguous system also impressed Salfinger. Florida is the nation's fourth most populous state, and its public health facilities serve 18.5 million residents as well as 85 million visitors each year. The STD, TB, and HIV clinics run by the county health departments served 1.8 million clients in 2009. The same county health departments are engaged in the Federal Refugee Resettlement Program. Last year, they offered health services to 23,000 new arrivals, far and away the largest refugee influx into the country. California served the second highest number, about 10,000.

This international component appealed to Salfinger, for whom global public health remains a personal mission. "Public health offers fairness in an inequitable world," he said. "We can help those exposed to TB in Sub-Saharan Africa and STD in Thailand without regard to their education, income level or walk of life."

Salfinger could also see the sort of challenges he relishes in the state's sheer sprawl, where the distance between Pensacola and Key West is almost as far as the distance between Pensacola and Chicago. Laboratory

information management system technology would be a priority, Salfinger realized.

INNOVATION

As Salfinger prepared to take up his new post, someone had the "golden idea" of moving the BOL headquarters from Jacksonville to Tallahassee, the state capital. The new location has allowed him to be "a full-time representative on behalf of the public health laboratories" and put him into daily contact with colleagues at Florida's DOH. This relocation has also made it easier for Salfinger to show state legislators and their staff that public health laboratorians "aren't bureaucrats, but actually accomplish a lot for constituents at relatively little taxpayer expense."

Newborn screening (NBS), conducted at the BOL's Jacksonville facility, is an excellent example. Its early detection and reporting procedures support Florida's effort to ensure that all newborns identified with disorders receive adequate and prompt medical care and follow-up. The BOL-Jacksonville tests about 265,000 specimens annually for 34 genetic disorders and screens for all disorders recommended by the March of Dimes and the American College of Medical Genetics, including cystic fibrosis. Results are reported within 24 to 48 hours.

MONEY

With a budget close to $50 million, the BOL works hard to achieve cost-neutrality, Salfinger said, and is constantly on the lookout for new ways to promote efficiency and boost savings. In 2007, the BOL replaced its antiquated LIMS with LabWare®. Most test results are now posted electronically and are available within hours. The drop in hardcopy production has led to significant savings and to enhanced data accuracy, confidentiality and speed of delivery. As a bonus, the county health departments can order laboratory tests electronically.

In 2008, the BOL ceased clinical chemistry and hematology testing. At first, Salfinger said, some disagreed with the decision; since then, displaced workers were reassigned and the DOH negotiated with LabCorp, Inc. to receive a volume discount that saves the county health departments more than $1 million a year.

PARTNERSHIPS

The Florida public health labs work with their DOH colleagues on state issues related to environmental health, disease control, family health, children's medical services and emergency medical operations. They work with state and federal agencies on food safety, environmental protection and disease control. The BOL has been a member of the World Health Organization's Influenza Surveillance Network for more than 25 years.

Law enforcement and national security issues have become more prominent in recent years. FL's BOL is one of 10 public health laboratory systems in the nation that provides a chemical terrorism surge capacity to the CDC. Laboratories in Jacksonville, Miami, Pensacola and Tampa can also test suspicious substances for agents of bioterrorism, 24/7.

Florida's five laboratories—in Jacksonville, Lantana, Miami, Pensacola and Tampa—are positioned to carry out their core functions in collaboration with other institutions. The Tampa lab, on the campus of the University of South Florida (USF), works closely with the USF Center for Biological Defense. The Lantana lab adjoins the A.G. Holley State Hospital and helps train health care providers from all over the world in TB diagnosis, treatment and cure. The Jacksonville, Pensacola, and Miami laboratories participate with medical technology programs and/or infectious disease fellowships at local hospitals and universities.

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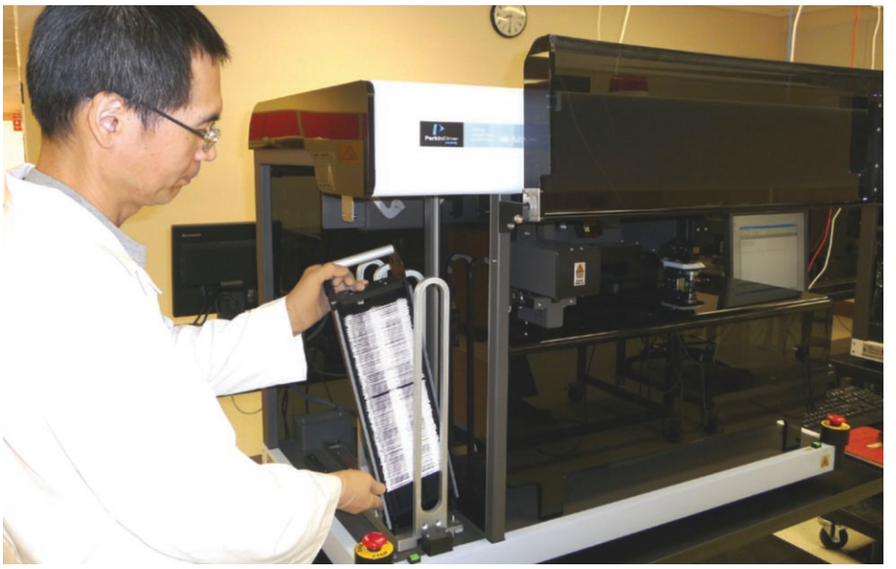

Noel Tuason, MD, chemist II, Newborn Screening Department, Florida Bureau of Laboratories' Jacksonville lab.

Distinctive programs include a chemical terrorism laboratory, the Florida Fast Track for TB testing and molecular epidemiology, surveillance testing for arboviruses, an environmental chemistry lab and an environmental laboratory certification program.

OVERLAPS

The five laboratories overlap in function to provide the redundancies essential in a state where hurricanes are a given. All five test for STDs, enterics, parasites, water contamination, rabies and suspicious samples (except for Lantana). Added redundancy is built in, as HIV testing is done in Jacksonville and Miami, virology testing in Tampa and Jacksonville, and TB testing in Lantana

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and Jacksonville. Redundancy for NBS is in progress. A workgroup is assessing the feasibility of a screening operation in Austin, TX, for Florida's emergency use.

CHALLENGES

"Shrinking general revenue and state-mandated staff cuts are the biggest immediate challenges in these difficult economic times," said Salfinger. He prides himself on avoiding staff layoffs even as he copes with a persistent 10 percent vacancy rate among some 340 employees. Recruitment and retention of top-quality employees are related challenges. "If you want first-class service, you need first-class staff—and you have to pay them accordingly."

DREAMS

To build something better on what's already good remains a strong motivating force for Salfinger. In 2006, the state legislature gave the University of Florida at Gainesville $60 million to respond to emerging pathogens with a brand-new institute that draws on a wide range of disciplines. Salfinger wants BOL to participate with this innovative institute, so that Florida can shed further light on the rise in nontuberculous mycobacteria in the southeastern United States and contribute further to the University of Florida's new portfolio of tuberculosis research. ■

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