Santa Clara County Public Health Laboratory

Tech Service in California's High-Tech Corridor

> " *I have definitely focused my lab to prepare for the unexpected.* "

Director

Patricia Dadone, director of the Santa Clara County Public Health Laboratory, is a Californian through and through. It was while studying at the California State University at San Jose that Dadone recalled, "One of my professors said, 'You know Patty, I think you would like public health more than you would like clinical lab practice.'" And that was exactly right. Dadone finished her degree, completed the state-required internship, obtained a California Public Health Microbiologist certificate, and went to work for public health laboratories in Los Angeles and Monterey counties. She then accepted a position as the operations manager for the Alameda

> " *If I'm not going to provide classic public health testing (STD etc.), I needed to look to the future, and the future is molecular and environmental testing.* "

County Public Health Laboratory and stayed for 11 years before accepting the directorship in Santa Clara County. Applying for the position was a no-brainer, said Dadone. "When I was at

San Jose State, I knew I wanted to be a PHL director and I knew I wanted to be a director in Santa Clara County." Getting the job at the San Jose-based lab, Dadone said, "was like coming full circle." She came onboard in October 1999 and has been there since.

Location

Santa Clara County is home to 1.8 million people, making it the fourth largest county in California. It is home to the nationally recognized high-tech "Silicon Valley" area, which plays a major role in the county's health care dynamics. What was once an agricultural county, Santa Clara County is now a sprawling urban and industrialized area, and home to companies such as E-bay, Hewlett Packard, Google, IBM and other high-technology companies. With a diverse and somewhat affluent popula-

tion, Dadone said, "There is a tremendous amount of international travel coming back and forth into the area by way of the San Jose International Airport." Perhaps that is why the first case of SARS in California emerged there.

Facility

The 6,066 square-foot facility (3,580-sq. ft. of actual lab space) was built in the 1970s and has undergone three major renovations under Dadone's leadership. Today the facility has a BSL-3 suite and a BSL-3 surge capacity room, areas that were renovated from existing BSL-2 space.

Staff

The laboratory staff now numbers 13, (including a full-time courier which "makes us competitive with other laboratories in our area") a major change from the 3.5 employees that were here when she came in October of 1999.

Revenue

Approximately 30% of the laboratory's funding is through federal and state grants as well as revenue from services billed. The remaining 70% of the laboratory's budget is through the county general fund.

Distinguishing Characteristics

▸ A LRN reference laboratory, providing BT testing services to five counties.

▸ High-volume molecular testing capability, encompassing tests for influenza, norovirus, West Nile virus, pertussis and others.

▸ One of the few labs in California that performs pulsed field gel electrophoresis (PFGE) testing.

Highest Volume Testing

The laboratory handles about 25,000 samples/year, including high volume work in the areas of virology, blood lead, Chlamydia and Gonorrhea testing. Additionally, bacterial water analysis is a fairly large volume test for the laboratory. The current goal is to be able to provide additional environmental testing by utilizing the laboratory's Atomic Absorption Spectrophotometer machine currently used for blood lead testing for children.

Notable Success Stories

▸ Re-inventing the lab. Between the time Dadone first toured the laboratory as an undergraduate at San Jose State and the time she became director, much of the facility's work had shifted elsewhere as the result of reorganization at the county level. "Knowing that I wasn't going to get back the work, I went back to the beginning. If I'm not going to provide classic public health testing (STD etc.), I needed to look to the future, and the future is molecular and environmental testing. So the tests that I looked to bring online were types of tests that offered PCR technology. We're very proud of our molecular capabilities."

▸ Surviving 9/11. "The day after 9/11 the laboratory was in the middle of a remodel. The staff were running possible anthrax samples on a single workbench that was held up by sawhorses. We had one single sink, one hood, one water bath and one counter. The staff processed (anthrax) samples with no delays. I have a phenomenal staff. They did what had to be done."

▸ Identifying, by PCR, a new influenza strain later identified as A/California/7/2004 (H3N2), which was added to the national vaccine in 2005.

▸ Computerizing the laboratory with M/LAB software from M/MGMT Systems.

▸ Offering the QuantiFERON-TB Gold® test for tuberculosis. QFT-G

"The second most significant challenge is staffing: even though I currently have no open positions, additional staff is needed to be able to provide rapid service and bring on new testing services."

Goals

"To have the best public health laboratory in California. Public health laboratories no longer need to be thought of as slow and antiquated. Today California's PHLs offer advance-testing services and it is my goal to make sure that I provide

Laura Galli analyzes pulsed-field patterns.

offers the possibility of detecting M. tuberculosis infection with greater specificity than has been possible previously with tests that used tuberculin PPD as the TB antigen. (MMWR, December 16, 2005, Vol. 54, No. RR-15).

Biggest Challenges

"Because the lab has gone through so many changes, trying to reacquaint the community with the services that we provide is a challenge. We need to get the community to recognize and understand that what this laboratory is offering is state-of-the-art."

the best services, using the most current technology, and best practices for the community that I serve. If the lab does not provide the best to be offered, I'm not satisfied." APHL