

SACRAMENTO COUNTY PUBLIC HEALTH LABORATORY: AN EMPHASIS ON TRAINING

by Emily Mumford, writer

The Sacramento County Public Health Laboratory is an important link between its greater metropolitan community and public health, providing testing for private medical practices, hospitals, a blood center, county clinics, jails, a university medical center, TB programs and more. Part of a sizable network of local and county public health laboratories in California, the Sacramento facility exists to help control the spread of communicable diseases.

DIRECTOR

Anthony Gonzalez, PhD, will mark his first year as the laboratory director of the Sacramento County Public Health Laboratory on August 3. The laboratory has been “a place I look forward to coming to each day,” he said. As director, lab administration fills most of the workday, but Gonzalez occasionally gets to help troubleshoot at the bench. “The lab supervisors handle most of it, of course, but sometimes I get to weigh in, which is fun.”

Originally from San Antonio, TX, Gonzalez earned a doctorate in microbiology from North Texas State University in Denton and has devoted his career to laboratory services. “First I worked in commercial and clinical laboratories. Then I had some great exposure to public health, working in the LA County laboratory.” That exposure to public health led Gonzalez to this position at the county laboratory in Sacramento, CA.

“People who work in public health often choose it because it is a good service to the community,” said Gonzalez. “It’s a public service that is challenging and always very interesting. We handle a variety of issues each day in the lab. It’s a rewarding way to spend a career.”

LOCATION

Sacramento gained prominence and wealth during California’s mid-nineteenth century Gold Rush, becoming a commercial center due to the numerous railways stemming from the city and the gold in its hills. Today the Sacramento River is a deep-water channel and port that serves international shipping and helps the city maintain its commercial appeal. Kayakers, rafters and other outdoor enthusiasts are also drawn to the area’s natural beauty.

The oldest incorporated city in California and its capital, Sacramento is an interesting mixture of historic preservation and the modern bustle of the state government. Twenty-five percent of California’s 471,000 govern-

ment employees are based in Sacramento. The city has about 460,000 inhabitants, although the metropolitan area numbers at approximately 2 million.

FACILITY

The Sacramento County Public Health Laboratory is located just south of downtown in an area with a lot of county offices and close to the campus of the University of California Davis Medical Center. The lab is on the second floor of a two-story county building. A health department primary care clinic is located on the first floor. The lab moved into this 11,000+ square foot, BSL-3 facility four years ago.

TESTING

The laboratory performs a considerable amount of Chlamydia/gonorrhea testing. “The routine work keeps us busy—we handle a high volume of TB and STD testing,” said Gonzalez. But the facility also conducts specialized diagnostic testing, including West Nile virus and other arboviral and respiratory viral work. California mandates public health laboratory confirmation for an array of diseases, and Sacramento has the capability to confirm typhoid, salmonellosis, malaria, MDR-TB, rabies, botulism, anthrax, plague, brucellosis, cholera and diphtheria, among others.

To handle all of this work, the lab is organized into six sections.

- **Mycobacteriology/Mycology:** “This is where we do our specialty testing for TB, our mycology,” said Gonzalez.
- **Bacteriology/Parasitology:** “This section handles the clinical specimens we receive—such as urine, sputa, respiratory or wound samples,” explained Gonzalez. The section also handles the samples from foodborne or waterborne outbreaks and parasitology.

- **Serology/virology:** This section of the lab conducts the QuantiFERON® testing for TB; Gen-Probe APTIMA® Combo nucleic acid amplification testing for Chlamydia/gonorrhea; viral cultures for herpes; and, among others, testing for syphilis and rabies.
- **Bioterrorism:** With its BSL-3 rating, this part of the laboratory meets the strict federal safety requirements that allow staff to handle potentially dangerous respiratory disease agents. The Sacramento public health laboratory staff is on call 24/7 to provide emergency testing for first responders in the community and for northern California clinical laboratories in order to rule out potential bio-threat agents. The laboratory is also a member of the Laboratory Response Network (LRN).
- **Lab support:** The facility has a dedicated central support area that helps speed the lab's work by formulating reagents and ensuring that the required supplies are available.
- **Office:** Four employees staff the front office of the Sacramento laboratory. Three of them handle the phones, work with the public and clients and ensure the billing procedures run smoothly. An administrative service officer oversees the budget.

REVENUE

The Sacramento County Public Health Laboratory has an annual budget of nearly \$4 million. Revenue sources include state Medi-Cal, Child Health and Disability Prevention Program, hospitals, grants and other counties and programs within Sacramento County. More than 50% of the annual operating budget is county cost.

STAFF

The Sacramento laboratory has 20 people on its full-time staff. It also has two trainees and three on-call microbiologists. The microbiologists rotate through all of the sections of the laboratory. "This has been a very positive arrangement," said Gonzalez. "Everyone stays well-rounded, familiar with everything going on in the lab."

The laboratory has a mixture of staff at different career stages, bringing a valuable combination of experience and enthusiasm. Several employees have been at the lab for more than 25 years each. "So far, staffing has been stable," said Gonzalez. "It might occasionally be hard to find people who fit specifically into a type of opening at the lab, but it hasn't been a problem overall."

He added, "We have a great staff. They work hard and have good humor, which makes the job easier."

SUCCESS STORY

"One of our biggest successes has been as a training facility for young graduates who want to work in public health laboratories," said Gonzalez. California requires its laboratorians to earn a public health microbiology certificate before sitting for the state exam. The backgrounds of microbiologists can differ, but all must work in a six-month laboratory training program, meet the standards of the curriculum to earn a certificate and then pass the state exam. The Sacramento County Public Health Laboratory is an enthusiastic supporter of the program and interviews candidates for the trainee positions in the fall each year.

This year, two trainees were selected from a pool of applicants that "were all well-qualified," said Gonzalez. "These two trainees have been doing very well with us, and we're all pulling for them on July 31 during the state exam." It's a collective venture to prepare these fresh college graduates for laboratory work. "While conducting routine work, we're able to use the opportunity to show them the ropes. Everyone pitches in to cover the syllabus during the training period." The lab managed to get a stipend to help the students financially during the six-month training session.

"It's great to have fresh graduates at the laboratory, willing to lend a hand," said Gonzalez. It also seems to help with recruiting. "Our trainees are familiar with our program, and staff and can return to Sacramento and work their way up through the laboratory."

BIGGEST CHALLENGE

"Like many facilities," said Gonzalez, "we face a continual challenge on how to be more efficient with our space. I think we are pretty efficient, but it is an endless puzzle as we rearrange equipment and add new equipment to the mix."

GOALS

"I would like for us to have a wider array of molecular testing," said Gonzalez.

But his *primary* goal for the immediate future is to provide ample opportunity for the staff to engage in training programs that maintain and expand laboratory testing expertise. "We want to ensure that our microbiologists continue their training," said Gonzalez. "We participate in APHL teleconferences, local seminars, and we purchase a wide array of scientific publications: all toward the goal of keeping abreast of new technology, changes in public health laboratory science and the disease environment—such as pandemic flu or other emerging infectious diseases." ■