STATE HYGIENIC LABORATORY
AT THE UNIVERSITY OF IOWA

The Next Era

ANNUAL REPORT
FISCAL YEAR 2010
Dear Friends,

The year 2010 was highlighted with many accomplishments by the State Hygienic Laboratory at the University of Iowa. Most notably, we dedicated our new laboratory on the Research Park campus in Coralville. This state-of-the-art facility will not only allow the Hygienic Laboratory to continue its nationally recognized contributions to the quality of life Iowans expect, but also expand our support of scientific advancements and workforce development.

In 2010, we continued our leadership role. Of course, our success is the result of our staff. Our scientists again were the first to confirm the presence of Salmonella in a nationwide outbreak, which helped diminish the spread of illness and suffering. Work such as this provides researchers, clinicians and legislators with a snapshot of the state of health challenges within our borders.

In 2010, we greatly expanded our internship program, which provides college-age students an opportunity to put their knowledge to work at the state lab. This past year, we hosted interns from 13 colleges and universities, a new record for our staff.

2010 will be remembered as a year of transition for the Laboratory. The challenges we overcame and the accomplishments we achieved will serve us well as we prepare to face the next threat to the health of Iowans. Thank you to all who have brought us to this point and to those who will contribute to the next era of the State Hygienic Laboratory.

Christopher G. Atchison, Director

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A day many years in the making arrived on May 5, 2010, on the University of Iowa Research Park campus in Coralville. With the ceremonial cutting of a yellow ribbon, a 82,000 square-foot architectural gem officially became the new home of the State Hygienic Laboratory.

“This is a lab designed by laboratorians to do the work they must do to protect every Iowan,” Director Christopher Atchison told a group of staff and dignitaries gathered for the event.

“I believe we are at the beginning of something great for Iowa, public health and the environment. This new facility provides an unprecedented opportunity to advance the Laboratory’s service, research and educational missions.”

Funded by federal and state appropriations, the three-story, $37.75 million building replaces the facilities that had been located in Oakdale Hall since the 1970s. Oakdale Hall was originally built as a tuberculosis hospital in 1917.

Although the new building is approximately the same square footage of the lab space in Oakdale Hall, its design as an open laboratory allows scientists to easily collaborate for routine work, as well as for environmental and public health emergencies.

“The University of Iowa’s longest and most important commitments to the common good and public welfare of all Iowans are represented in this facility directly behind us, and what a facility it is,” UI President Sally Mason said during dedication ceremonies.

“For too long, the lab has been housed in facilities that did not match the important work that goes on. The leaders and the staff for the lab, nevertheless, have managed to provide excellent services that Iowans need and that all Iowans expect. So we are very, very grateful now that this critical organization is able to work in a building that is commensurate with its tasks and its significance.”

The new building was constructed using environmentally friendly LEED (Leadership in Energy and Environmental Design) principles. The LEED building certification program is the nationally accepted benchmark for the design, construction and operation of “green” buildings. The Hygienic Lab is the third University of Iowa LEED-certified building to be completed.
The prompt detection of Salmonella by Hygienic Laboratory scientists stopped a nationwide outbreak and resulted in a product recall of 1.24 million pounds of ready-to-eat deli meat.

Late in 2009, cases of Salmonella were reported to PulseNet – an international infectious disease database coordinated by the CDC and utilized by the Hygienic Laboratory to conduct disease surveillance. Salmonella is a bacterium that causes foodborne illness with symptoms including diarrhea, fever and abdominal cramping. An Iowa woman reported similar symptoms to her doctor. A critical first step in solving the nationwide outbreak occurred when the woman’s physician ordered a test for enteric pathogens, which was sent to the local clinical laboratory. After isolating Salmonella, that lab sent the organism to the State Hygienic Laboratory for full identification, including DNA fingerprinting using pulsed field gel electrophoresis.

Epidemiological data collected from several of those cases indicated that the patients had consumed Italian-style deli meats. In the Iowa case, the confirmed patient had fortunately stored the suspected product in the freezer.

Scientists in the State Hygienic Laboratory Environmental Microbiology department tested the meat and confirmed the presence of the strain of Salmonella Montevideo in the food. The DNA fingerprint matched the Salmonella isolate from the patient. That critical link between the food and the patient completed the puzzle to identify the source of the outbreak.

Within hours, the product alert was announced. On Jan. 23, a Rhode Island-based company recalled more than a million pounds of ready-to-eat sausage products because of the possible Salmonella contamination. It was later determined that the pepper used in producing the meat was the source of the contamination. “Thanks to the work of the physician who cared for the patient and ordered the test, the local clinical laboratory was able to identify the isolate, and the Hygienic Laboratory was able to link the organism to the deli meat product,” said Dr. Michael Pentella, associate director of the State Hygienic Laboratory. “This resulted in the prevention of further spread of the disease and the resolution of this national outbreak.”

The State Hygienic Laboratory and the Minnesota Department of Health conducted a mock drill to ensure the continuation of newborn screening services during an emergency.
Four researchers from Hohai University, Nanjin, China, visited the Hygienic Laboratory on March 10, to investigate the possibility of a collaborative project between the University of Iowa and Hohai University on research and education about the Mississippi and Yangtze Rivers.

MARCH

A heritage of service

The recent accomplishments of the State Hygienic Laboratory were made possible in large measure by the numerous contributions made over the years by many staff members. This heritage of service was honored with a permanent gift made to the Laboratory during the Reward and Recognition ceremony on June 23.

Mary Richey worked at the State Hygienic Laboratory for 32 years. She helped establish the asbestos program and assisted in coordination of the radiation response field teams. After Richey died in 2006, her family wanted to remember her dedication to environmental health with a gift to the Hygienic Laboratory. A bench located at the employee entrance of the new building and labeled with a tribute to Richey was dedicated during the award celebration.

During a career that saw him advance from a junior lab assistant in the washroom to the supervisor of Central Services, Watkinson witnessed the burgeoning environmental movement and the advent of air, water and soil testing by the lab.

The 23 years that Mona Schultz devoted to the Laboratory were dedicated to measuring the quality of water in Iowa. Schultz brought her 20 years of hospital laboratory experience to the Environmental Microbiology department.

A heightened awareness of environmental issues over the years led to an increase in the volume of testing in the department, which expanded testing from public and private wells to include rivers, sludge and pools.

The service of these three is representative of the history of many employees who made the advancement of environmental and public health science the focus of their careers. On their shoulders, the Hygienic Laboratory continues to build upon this heritage of service.

Helen Richey (right) and Pam Kostle, building coordinator/safety officer, cut the ribbon on the memorial bench purchased for the Laboratory by the family of Mary Richey. Helen Richey is Mary’s mother.

Jim Watkinson surveys the location of the new Hygienic Laboratory building prior to construction.

Mona Schultz greets a colleague at her retirement party.

Mary Richey

Lab scientist Trisha Kreman put her expertise to work more than 6,000 miles from the Hygienic Laboratory in April as part of a project funded by the Centers for Disease Control and Prevention, and the Association of Public Health Laboratories. Kreman assisted the Fiji Centre for Communicable Disease Control in Suva, Fiji, by conducting a laboratory assessment of its influenza surveillance program.

A host of local officials - including state legislators and Board of Regents members - tour the newest public health laboratory in the nation during dedication ceremonies. With the snip of a yellow ribbon, the State Hygienic Laboratory’s new facility officially became the latest tenant on the UI Research Park campus in Coralville.

An ongoing study started at the Ankeny lab in 2009 may help identify areas of the state where children have higher exposures to mercury, cadmium and other heavy metals. Recently the Lab started reexamining samples from the blood lead program to identify possible exposure to other heavy metals and to pinpoint the geographic areas of these samples.

APRIL

JUNE

MAY
Number* of tests performed statewide by the State Hygienic Laboratory in FY10

<table>
<thead>
<tr>
<th>Test Category</th>
<th>Number of Tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental (air, soil, metals, waterways)</td>
<td>115,019</td>
</tr>
<tr>
<td>Infectious Disease**</td>
<td>163,021</td>
</tr>
<tr>
<td>Newborn Screening</td>
<td>286,340</td>
</tr>
<tr>
<td>Drinking Water</td>
<td>27,199</td>
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</tbody>
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**TOTAL TESTS PERFORMED IN FY10 = 591,579**

*Reflects approximation

**Includes testing performed at no charge for public health significance

FISCAL YEAR 2010 FINANCIAL REPORT
State Hygienic Laboratory at The University of Iowa

**Assets**
- Current (Cash & Accounts Receivable) $ 2,561,198
- Fixed, Net of Depreciation $ 3,620,135
- Total Assets $ 6,181,333

**Liabilities and Fund Balance**
- Current (Salaries, Leases & Accounts Payable) $ 1,306,134
- Fund Balance – Grants, Contracts, Restricted Funds $ 1,258,533
- Fund Balance – Net Investment in Equipment $ 3,816,666
- Total Liabilities and Fund Balance $ 6,181,333

Statement of expenses for the year ended June 30, 2010
- Personnel $15,022,610
- Supplies, Services & Repairs $ 5,798,865
- Capital Assets $ 999,896
- Fees, Leases & Overhead $ 572,960
- Other $ 684,247
- Travel $ 223,511
- Total Expenses $23,302,079

Fiscal Year 2010 Expenses

- Personnel (6%)
- Supplies, Services & Repairs (25%)
- Capital Assets (4%)
- Fees, Leases & Overhead (2%)
- Other (2%)
- Travel (1%)

Fiscal Year 2010 Funding Sources

- Fee for Service (58%)
- State & Federal Grants (24%)
- State Appropriation (18%)
- Other (2%)
Mission Statement:

The State Hygienic Laboratory is established by the Iowa Code to protect the health of Iowans through:
- Laboratory and field-based investigations of microbiological, chemical or other threats to human health;
- Recommending methods of overcoming and preventing disease; and
- Supporting state and local agencies in the ongoing evaluation of the state’s environmental quality and public health.